

CHAPTER I

GETTING INTO THE RESEARCH

Chapter I explains the linkage between the interrelated concepts that form the core of this research. It gives the rationale of the research on the findings on issues related directly or indirectly to the area of research. This enables justification of not reinventing the wheel rather beginning something new in research topical issues. Based on the experts opinion, proceedings of development workshops, symposiums and scholarly researches done in the past, this chapter aims to break the ice to relate how development is linked to community-based development and how these are further linked to governance of community based institutions¹ (CBIs). Since governance plays the development actions, various issues of governance are tied up to an understanding of good governance. With sufficient literature, this chapter towards the end focuses on the governance of the CBIs in general to irrigation and community forest² (CF) institutions in particular.

1.1 Development

Before understanding the concept of governance, it is imperative to review the development and its different perspectives, followed by the CBIs approach. It is because the governance concept is also associated with the perspectives of development where people assess, plan and implement different activities according to the agreed norms and values, social ethics and behaviours.

1.1.1 Understanding Development

The word 'development' is widely used as a planning jargon. Since development is person specific, situation specific and time specific concept (Mishra, 1987, p. 5) and a complex and multi-layered concept for discussion, debate and discourse (Devkota, 1999), defining development as a concept is purely relative. Yet, its understanding in historical perspective and the use then can explain its emergence, transformation and consequent use of the term.

¹ CBIs mean the local institutions that are formed and managed by the people as per the need in the local context. These may be saving and credit groups, farmers group, water user group, forest user group, etc. The CBIs in this research only mean the Water Users Association and Community Forest User Group.

² A national forest handed over to a users' group for its development, conservation and utilization for collective benefits.

Ponsioen (1968) explains that the word development was used to designate the growth of energies and potentials latently present in the organism. Later, when this concept was borrowed to social sciences, it lost its original meaning and was used loosely to denote evolution, growth, progress, change, and modernization (Devkota, 1999). Acknowledging these various concepts into consideration, Pimpley (1990, p. 75) opines that development is the term incorporating both the economic and socio-cultural factors in explaining the processes of change and transformation. Therefore, it could be expressed, justified and rationalized only in its temporal, social and cultural contexts on which they had been originated (Aseniero, 1985, p. 55; Goulet, 1971, p. 13). Hence, the development seems to have included entire changes in socio-political, socio-cultural and socio-economic aspects of the societies.

Devkota (1999), a prominent Nepalese Anthropologist, argues that these terms -progress, growth and development have their precise dates of emergence and thus are tied to their own epoch. His findings in social science set-up indicate that development means visible changes in society, culture and tradition and is the entity or thing that changes in a systematic way that may be a culture, a society, a group or even an individual. Development can be observed both as planned and unplanned phenomenon as Cernea (1993) opines that development includes spontaneous change on one hand and induced or planned development on the other.

The concept of development usually falls under the preview of political category and it is always the reflection of one or other political philosophy, salient issues of political culture and nature of power relationships inherent on the socio-historical system of a given community (Aseniero, 1985, p. 51, as cited in Devkota, 1999). Therefore, political science associates development to power exercise, political faith and change in norms and values. In the same context, Gardner and Lewis (1986, p. 25) express that after all, development, both as theory and practice, is essentially polarized series of events and actions which are in some way associated with one or other political discourse and ideological construct.

In a literal sense, development 'process' is understood as a means concerned with the 'progress' or 'course' of a project. 'Process' refers to the dynamic, unpredictable and idiosyncratic elements in development programmes; those things, which are not easily amenable to planning and management, control but which are nonetheless central to success or failure (Korten, 1989; Uphoff, 1996). In the process, the culture of development is undergoing another trend, one that is often touted as participatory, bottom-up, or empowering development as explained by Shrestha (1998). Further, Mandebaum (1990, p. 15) defines development as the 'process by which poverty is alleviated and quality and opportunities for self-fulfilment of all individuals are increased'.

Concepts on development as the process are further explained by Adhikary (1982) and Shrestha (1998). It is a process and result of change induced by planned programs aimed at improving the condition and conduct of everyday human life in society. The tradition of non-governmental individuals, groups, and organizations engaging themselves in development, though, inherent in our culture, has lately diminished considerably (Adhikary, 1982). Further, discussions lead to explain development as process that examines changing information needs faced by development agencies as they shift from simple technology-led project approaches, towards an emphasis on policy change, institutional reform and inter-agency partnership through which outputs are produced.

Development has been treated as multi-dimensional phenomenon by some scholars (Ponsioen, 1968; Alechena, 1982, p. 25; Lapin and Richta, 1982, p. 200) and this covers both objective social conditions and subjective aspirations of people. Few others argue that development in terms of concept and reality should provide opportunities in meeting the most desired basic needs of the poor people (Goulet, 1971, p. 24; Todaro, 1977; UNESCO, 1988, p. 16; Dube, 1988, p. 58). Indeed, development should provide liberation to the people to choose their future according to wisdom of their cultural framework and depth of their indigenous knowledge system (Fernandes and Tandon, 1981; Verhelst, 1992).

Despite clear differences in different approaches to development, Lakshmana et al. (1990, p. xii) try to justify broader perspective of development and define it in the following light:

It is a transition from traditional to modernity, from stagnation to growth, from disorganisation to organization, from chaos to order, from dependency to self-sufficiency and from people bondage to liberation.

Misra (1984, p. 50) explains multidimensional nature of development considering the direction it takes. This eminent Indian social scientist claims:

Development is complex process. It is a process of social change. It is multidimensional and must work upwards, downward and sideward simultaneously. It is the question of 'bottom-up' versus 'top-down'. It is the question of judicious blending of the two to meet the challenges faced by the developing countries.... it has to be initiated not only from "above" and 'below' but also at 'intermediate' level.

The zest of the opinions and expressions above on development explain that it necessarily covers all the areas of socio-cultural, political and economic characteristics of ways of life of both human beings and the societies. Yet various perspectives are essential for understanding what lies inside the word development and these perspectives are explained in the next section.

1.1.2 Dominant Development Perspectives

There are different schools of thought proposed by different researchers and scholars on development. The definition of each school of thought varies with some key substantial differences. Some of the thoughts are explained below as the perspectives on development.

i. Economic consideration perspective

Dalton (1971, p. 7) analyses different dimensions of problems of economic development in small-scale societies. The theorist points out the outstanding contribution of economic anthropology in which development is best studied within the framework of comparative economic systems and historical times. The belief that the usual methods of evaluating development by applying abstract economic indicators are not adequate in the words of several scholars (Belshaw, 1976; Cochrane, 1976; Meadows et al. 1972; Epstein, 1977; Gore, 1985). Epstein (1962, p. 1) argues that it is different to apply the tools of economics to measure the level of development of those small-scale communities mostly comprising non-market economy. In his opinion, market economy differs because it is not based on the expression of unitary social relationships. With this realization, Devkota (1999) stresses that all attempts of economic infrastructures should be coupled with the appropriate social and cultural infrastructure for generating broad based people-oriented development policies and practices building social capital along with physical capital.

ii. Paternalistic perspective

When both Dell (1977) and Sylwyn (1979) bring this perspective into consideration, they find paternalism inherent at different levels ultimately fostering the culture of dependency. Mishra (1987), an eminent Nepali Sociologist, analyses this vision with reference to the dependency-domination prospective categorized with its blurred features of national domination over regional affairs and regional domination over societal affairs. Goulet (1971, p. 24) postulates that the dominant vision of a scholar and technical expert also remains paternalistic and consequently, oppressed surrender their own culture, values and their accumulated knowledge and wisdom before the oppressor. In such circumstances, the inferiors not only suffer in their economic improvement but also bound to loose the authenticity of their own cultural capacities (Kothari, 1990, p. 52).

iii. State-centric perspective

Usually, the state has the primary responsibility for development activities. However, under this perspective, government provides little consideration to the needs of the people. In state-centric approach, Pimpley (1990, p. 75) explains that development operates on too much bureaucratic, inflexible and 'top-down' framework worked out by centralized agencies and implemented by lower level functionaries. It is characterized with too complex channels of communication. State control over development corrodes democratic values and process of decision-making thereby reducing the power of 'common citizen', and the state control

gives rise to a 'culture of silence' with its attendant corruption. Considering the weaknesses of this perspective, Galtung et al. (1982, p. 111) consider that this notion might lead to a self-colonization of the nation.

iv. Quality of life perspective

The emergence of the concept of 'quality of life' has provided a fresh thinking about the ultimate goals of development. The result of this vision is that, what constitute a satisfactory quality of life must be solely left to be defined according to the frame of reference of a particular culture within its own values to a scale (Dube 1976, p. 56). Dube (1988, p. 49) in his final analysis of quality of life identifies a balance of satisfaction among biological, derived and integrative need of people in the context of their social setting. Muthayya (1987, p. 54) explains group harmony and effective participation as concepts of quality of life in development. According to Mandebaum (1981, p. 2), the people judge what quality of life they aspire to, and the quality of life, it is becoming realized, and it is not to be measured or even primarily by the index of nation's Gross National Product. The economist argues that when people's basic material needs are available, their aspirations for development are likely to turn towards their quality of life. In this context, Rogers (1993, p. 1) defines development considering material and social advancement.

v. Basic needs perspectives

After 1985, development was seen with basic need perspectives too. International Labour Organization brought this approach in the front thinking that this will contribute to the overall development of the nation. The approach suggested that within the framework of economic growth, appropriate measures should be taken to ensure the basic needs of the poor people (Streeten, 1979, p. 18; Jazairy et al., 1992, p. 11). However, it is severely criticized by Goulet (1985, p. 4) who argues that the Third World elite governments get greater bargaining power in the name of basic human needs, but they do little for the poor of their own countries. Evidently, Gran (1983, p. xiv) asserts the ways the world discusses human needs must change, as well as the ways it discusses politics, economics and just society. The human economist inclines to believe that, 'man can not live by bread alone if he has enough bread'.

vi. Equity perspective

Equity approach considers more fair distribution of the resources available among different sections of society. However, there are certain difficulties pointed out in this approach as maintaining equity demands more brainstorming work. Meier (1984, p. 37) expresses that the common theme that animates all criticism to equity approach is that its benefits have failed to 'trickle-down' to the poor of the world, and thus there must be a new equity strategy. According to Wilber and Jameson (1988, p. 11), development in this approach was

not success as mere growth was unable to reduce mass poverty aiming to maintain an equitable society.

vii. Interventions-led perspective

The 'catching-up' and 'big-push' theories of economic growth provided sufficient basis for the notion that the state to be occupied as key agency for planning, creating, controlling and directing the process of change and development (Robertson, 1984). Jagannadham (1990, p. 66) while discussing these initiatives explains mechanical operation of democracy and centralized planning. This prevailing reality provided a sufficient background for the foundation of alternative paradigm to many scholars viz. (Nerfin, 1975; Galtung, 1980; Rahman, 1984, Kothari, 1990; Blair, 1981; Paget, 1983). However, this paradigm is also criticized. For example, Verhelst (1992, p. 62) argues that even seeing strategies for alternative development follows the notion of Euro centrism because it tries to mobilize indigenous culture as a tool for development and, therefore, lacks a previous vision.

viii. Social and cultural friendly perspective

In the whole enterprise of development, economics dominates rest of the social values, disciplines and institutions (Devkota, 1999). Therefore, many development initiatives in poor nations are dominated by economic growth base and technological change, which according to Misra (1981, p. 59) do not accord with native cultural values and preferences of the people. Recent evidences from developing nations show that there are new problems emerging from old realities. Thus, the validity of economic growth model has been questioned in the works of several scholars viz. (Verhelst, 1992; Aseniero, 1985; Galtung et al., 1982; Goulet, 1985; Kothari, 1990). This could have partly been responsible for erosion taking place at all the sphere of personal pride, self-image and loss of self-confidence, which all together pushes people into the heavy cultural garbage. It is also agreed that the normative structure of society is becoming weak and many social organizations are being dysfunctional (Dube 1988, p. 5). Reviewing the current mode of economic development, Kothari (1993, p. 10), rightly says "... state has gone astray, a society has lost its mooring, and a system has lost its capacity to predict what is to come next and what to prepare for it".

ix. Rights to development approach

From this development perspective, people are at the centres for sustainable development. The rights-based definition of development sees it as a comprehensive economic, social, cultural and political process. It is an approach to development is a conceptual framework for the process of human development that is normatively based on international human rights standards and operationally directed to promoting and protecting human rights.

Rights-based approaches bring the promise of more effective, more sustainable, more rational and more genuine development processes (UNHCR, 2008).

A rights-based approach to development is a conceptual framework for the process of human development that is normatively based on international human rights standards and operationally directed to promoting and protecting human rights. Essentially, it integrates the norms, standards and principles of the international human rights system into the plans, policies and processes of development. The norms and standards are those contained in the wealth of international treaties and declarations. The principles include equality and equity, accountability, empowerment and participation. It also includes the various elements like non-discrimination, attention to vulnerability and empowerment (*ibid*).

1.2 Community Based Development

Preceding sections broadly explain the concepts of development and underlying perspectives considering global school of thoughts in these areas. In most of these perspectives, community is considered an important entity for triggering the fruits of development. Therefore, it is further essential for us to acknowledge community based development thoughts before we link up these concepts and approaches into a governance of CBIs.

1.2.1 Concept of Community Based People-centred Development

Community based development and people-centred development approaches have similar meanings and are understood as having similar context. Scholars such as Misra (1981, p. 52), Korten and Klaus (1984, p. 4), and Pimpley (1990, p. 75), have treated community based development approach as bottom-up and people-centred development. This approach is comparatively recent one and is considered pro-poor, pro-*dalit*³ and pro-marginalized section of people as people form the element of the community and the development initiatives for the people are the initiatives for the community. Misra (1981, p. 52) defines people-centred development with this broader perspective as:

People-centred development has meaning only when it is endogenous, centred on man, multi-dimensional, integrated and inter-disciplinary, and when implies a prior awareness of particular cultural characteristics of the people concerned, in other words, an affirmation of their cultural identities.

On the other hand, Korten and Klaus (1984, p. 4) opine that people-centred development remains slightly a different matter of conceptualization. They express that just as

³ The term *Dalit* refers to '*Pani Nachalne*' (untouchable) group or caste from which water is not accepted according to Hindu social structure.

methodologies of production-centred paradigms focus attention on the production system and its health, those of people centred development must concentrate on people and their well-being. Pimpley (1990, p. 75) focuses on this approach is efforts of development by the people themselves in identification of goal, formulation of strategy and mobilization of human and material resources for achievement of these goals.

Focusing on the people's priorities at the centre, Setty (1994, p. 77) suggests that there is a need to get down to the people, get into their frame of reference, understand their priorities, formulate programmes and projects congruent and in consonance with their image of development, of course, with an injection of innovations and technologies that would accelerate people's development in real sense. Planning, then, can be expected to be closer to reality, closer to what people think and want, and closer to needs of poor people on just, equitable and a sustainable basis as Maskay (1996) observes. Another scholar Dahal (1996, p. 7) in this context opines that development means people's choice, to allow the people to participate and decide what is best for them considering the need to continue the assessment of the rights to development. It also includes the regaining of diversity and plurality of social values, culture, institutions, and identities of each nation and people and reinventing the ideals of genuine interdependence based on social justice, cooperation and independence.

To see contextual understanding of the approach at organizational level, South Asia Partnership (SAP), defines it as equivalent to the all-round development of peoples on a continuing basis. According to SAP (1994, p. 88):

People-centred development is understood as an approach to development where people are at the centre stage. The development efforts would give priority attention to the poor, the disadvantaged and the marginalized, i.e. those whose circumstances are worst in a given community.

This concept builds that the overall purpose is to help those people to take charge of their lives and that of their community and help fashion its future by their self-reliant efforts. These conceptual definitions give a new perspective and vision in development that is explained in the succeeding paragraphs.

1.2.2 Approach of Community Based People-centred Development

The approach of people-centred development was emerged when top-down development approach has failed to participate poor and marginalized in the development process and discourse. The 'top-down' strategy starts with centrally controlled planning and decision-making process in which entire responsibility of development undertaking lies in the hands of the state. As a result, development in the contemporary world has effectively by-passed the poor and there has been much of development of bureaucracy but very little of the

people who live specially at the grassroots level (Pitt, 1976; Bhatt, et al. 1987). In fact, the development practices adopted during the past years clearly show that there were some errors in the development concept, which ultimately could not address the people's voice. These failures could be related to the efforts of working with the conventional tools of democracy using media of communication that were alien to the experience of common village-folk which had no place in their culture. According to Cernea (1985) and Chambers (1988), social fabric remained unaddressed with government's programs centred to serve the political and economic objectives.

Long (1982) and Mair (1984) opine that operational development policies should not be imposed on people 'from above' but start 'from below' wherever people love and work. Therefore, the 'bottom-up' strategy is mainly concerned with needs, resources, problems and aspirations of the poor section of the society (Chambers, 1983, p. 184). The synonymous approach 'community based development' has been explained, observed and viewed by different scholars where they present the essence of the approach. Chambers (1983) emphasize on 'people are primary', Cernea's (1985) focus on 'it is one who came first', 'better development with own culture and social institutions'⁴ highlighted by Verhelst (1992) and Mukharjee (1991), 'posses and utilize local system of unique knowledge and genius tradition' as expressed by Geertz (1983); Brokensha et al. (1980); and Messerschmidt (1995), etc are some of the initial expressions to explain this approach.

These concepts are further explained by Devkota (1999) who claims that community based development approach has not yet emerged as a full-fledged school of thought within the discipline of humanities and social sciences. Hence, it is likely that the approach has been formulated as a synthesis of various ideas comprising central aspects of concepts such as 'development-centred on man', 'putting people first', 'putting last first', 'development from below', 'grassroots-up development', 'culture-based strategy of development', 'participative development', 'development as liberation and empowerment', 'small is beautiful', 'local is lovely', 'indigenous knowledge systems and development', and so forth. Most of all now agree to focus the process of development to be internally generated 'from-below' rather than externally imposed 'from-above'. In this connection, Chambers (1983) provides a new development approach, which, he claims, starts with 'bottom-up' than the 'top-down' model of development. According to Chambers et al., (1989), the implications of indigenous knowledge system in the field of rural development have been persuaded with a greater zeal from the "farmer's first" approach. The approach suggests that the local experts are no so much researchers as farmers themselves.

⁴ These express the organization of social, economic and political activity, which is followed by the majority of the members of the society, a system of religion, a political and economic system and the more general patterns of community norms and values.

In this approach, infrastructure and cultural recognition are also considered significant. Salman (1990, p. 260) says that it is a common assumption that for any development, we need to prepare an infrastructure, the base. Such a base of any society is made of history of place and people, their institutions, values, ethos, forms of social organizations, indigenous knowledge systems and social solidarity, social insurance and social forecasting systems. These systems are supplemented by Whisson (1985) and Robins (1986) who highlight the accountability of priorities, needs, motivations and aspirations of people as they themselves experience them according to the definitions of their culture and meaning systems during the development initiative. Similar expressions are observed by Colletta (1990, p. 87) where he explains 'cultural based strategy of development'. He suggests that for any development to become successful there is a need to introduce new knowledge, skills and attitudes within the framework of existing knowledge base, cultural pattern, institutions, values and human resources. Debating for the cultural factors in development, Belshaw (1976, p. 222) points out the need to increase the pool of knowledge available to the culture, capacity of the members of society to generate new knowledge and problem solving skills.

In the culture focused community based development approach, people can lead their own desirable way of life in consonance with change and development when it is compatible with their on-going obsession of 'culture identity and social obesity' (Rahman, 1974; Freire, 1970; Schneider, 1968; Goulet, 1985). It is possible to achieve desired development by utilizing the 'positive vitality of social structure and functions' of a given community (Taylor et al., 1965; Bhave, 1986), which are again moulded by the broader framework of people's own culture (Foster, 1962). This sort of perspective provides an opportunity to the people to have a unique vision of the quality of their own life, which in no other ways is obtained without prescription of their own world of values and traditions (Dube, 1988).

1.3 Community Based Institutions and their Significance

In this section, it is imperative to discuss institutions, social institutions, social process, social groups and needs before reviewing the community based institutions.

a. Institutions

An institution consists of a concept like idea, notion, doctrine and its structure like law, folkways, customs, and orthodoxy (Jha, 1994). Institutions are defined as established forms of procedures. In truly sense, an institution is a complex organization of collective effort established in social heritage and meeting some persistent needs. Institutions are more focused to change and this process of change is considered as 'cooperation in change' (Goodenough, 1963) while Nair and white (1994) mention it as 'transactional process approach'.

The institutions mediate in peoples' coming together and facilitate to carry out various forms of co-operative activities including exchange and sharing of goods and services among their families, neighborhoods and kinsmen. Messerschmidt (1995:5) asserts that most of the indigenous co-operative associations are like formal cooperatives in overall purposes working together to achieve mutually desired economic end. But they are structurally less formal based on traditional concepts of mutuality and community. In most cases, the economic ends are embedded within wider social and sometimes religious activities. Giddens (1979: 146) argues that the study of actors in relations to their institutions by any means cannot be viewed as antagonistic alternative to the study of the system, but it should be taken as a necessary complement to it. It means that the study of practice is not an opposed alternative to the study of the system or structures, but a necessary balance to it.

b. Social institutions

The total pattern of social institutions within a culture serves to maintain orderly relationships among individuals and groups, to regulate the production and distribution of wealth, and to provide a setting for the breeding and socialization of new members of the society (Jha, 1994). Social structure means the whole network of social relations in which the members of a given community are involved at a particular time. Evans-Pritchard (1950) links social structure to the interpretations of groups, explicitly excluding interpersonal relations. This clearly helps to infer that elements of social structures, therefore, include the pattern of kinship, descent, and affiliation, the techno-economic system and politico-legal system.

Viewing wider perspectives of social structures, Nadal (1957), Spencer (1885) and Durkheim (1893) express that structure is a property of empirical data of objects, events or series of events-something they exhibit or prove to possess on observation or analysis; and the data are said to exhibit structure in as much as they exhibit a definable articulation, an ordered arrangement of parts. Structure indicates an ordered arrangement of parts which can be treated transposable, being relatively invariant, while the other parts themselves are variables. In this sense, social structure refers to an arrangement of persons, social institutions refers to an arrangements of activities. Social organizations are the arrangements of activities of two or more persons, which are adjusted to give a unified combination of the activities (Brown, 1952).

c. Social process

Society is a system of social relationship which refers to the relationship that exists among people (Rao, 1990). Such relationships are among the most obvious features of society. Sociology must analyze and classify social relationship because they represent social facts and social data. Jha (1994) considers a society as networks of relationship; it is based on social interactions, and has sense of mutual awareness among the member of the society.

Society exists only there where social beings behave. It is complex form of individuals in which both are interdependent to each other

In the opinion of Berger and Luckmann (1967: 61), society is a human product and it is an objective reality while man is social product. People are both created and creators, products and producers, symbol and agents of their own world in which they are tied with their own social structure. Generally, practice emerges from structure, it produces structure, and it has capacity to transform structure (Ortner, 1992:1).

On the other hand, social relationships represent the functional aspects of society. Analyzing and classifying social relationship is obviously a difficult task. Social relationships involve reciprocal obligations, reciprocal statuses, and reciprocal ends and means as between two or more actions in mutual contact. They refer to a pattern of interaction between these individuals (Rao, 1990). Thus social relationships may be studied by the kind or modes of interaction which are called social process.

Social processes are fundamental ways in which men interact and establish relationships. Social process is the manner in which the relations of the members of a group, once brought together, acquire a distinctive character. Social processes mean the various modes of interaction between individuals or groups including cooperation and conflict, social differentiation and integration, development, arrest and decay. To clarify this, Rao (1990) asserts that the society contains hundreds and perhaps thousands of socially defined relationships. These relationships are beyond measurement. For simplicity, social relationships have been classified and discussed in terms of the 'kind of interaction' they manifest. This kind of interaction or patterns of interaction are called social process. The kinds of interaction or social processes include cooperation, competition, conflicts, contraventions, accommodation, assimilation, isolation, differentiation, disintegrations, and many others processes.

d. Social groups

A social group is a kind of social organization, in contrast to social network, aggregations and classes. Social groups are generally small institutions composed of individual tied together in personal relation. A social group may be thought of number of persons, two or more, who have some common objects of attention, who are stimulating to each other, who have a common loyalty and who participate in similar activities (Jha, 1994).

In order to refer a group, Thomans (1950) considers having a number of people who interact with one another in accords with established pattern. This is sometime phrased as a number of people having established and characteristics social relations. The two statements are, however, equivalent since social relations are themselves patterned forms of social interactions, enduring sufficiently to become identifiable parts of social structure.

Mortan (1968) explains the group in terms of membership contained in the group. The researcher opines that frequency of interaction is one of such criterion of membership of group, the boundaries between groups are anything but sharply drawn. Rather members of given groups are variously connected with other groups of which they are not conventionally regarded as members. There is nothing fixed about the boundaries separating in-groups from out groups, membership group from non-membership groups. Offering own ideas, Mortan (1968) says, group boundaries are not necessarily fixed but are dynamically changing in response to specifiable situational context. A changed situation may bring about significant changes in the rate of social interaction so that one time members objectively leave the group, even though they do not explicitly resign or drop out from their group. Particularly in those informal groups lacking explicit definitions of group membership by self and others, such changes in the rate of social interaction any blur the boundaries of the group. This may be considered one of the functional properties of informal groups: their stability in part depending upon this relative ambiguity of membership.

Parsons (1950) opines just a membership in a group is far from being a self-evident concept and requires explicit sociological criteria if it is to be conceptually identifiable, so with membership of the group. Therefore, the term 'group' has often been stretched to the breaking point, and not only in reference group theory, by being used to designate large numbers of people among the greatest part of whom there is no social interactions, although they do not share a body of social norms.

e. Needs

The concept of needs and the relationship between these and socio-cultural system is one which has been particularly important in functional social theory. Unfortunately, many discussions of needs introduce a confusion between individual physical and psychological needs and social ones. In order to avoid this confusion, some functionalist theories refer to the social set as 'necessary conditions', 'functional prerequisite' and so on. The concept of needs has not been applied with any great analytical precision, and its application is indeed problematic since we do not possess the means of distinguishing analytically or empirically between for example 'wants' or 'desire' and needs, or on the other hand between needs and limiting conditions beyond which survival is impossible.

It is widely accepted by now that the community based development endeavours if initiated by CBIs are more sustainable because they are locally based, culturally sound and initiated through grassroots level and guided by the approaches like 'listen to and learn from people'. Several scholars in this context opined that the governance of CBIs is more effective than institutions influenced from outside. Therefore, before entering into the section of governance, it is important to understand the concepts of CBIs, the substance in it and it is

necessary to review some of the previous work carried out by different researchers and scholars about the importance of CBIs especially to promote the governance.

The CBIs and Community Based Organizations (CBOs) have similar meanings. Organisations and institutions are both identical and can be used interchangeably. According to Gautam (2004), people in different communities if organized themselves to initiate and process their entire development can be taken as CBIs. Under this preview, CBIs are locally based and autonomous institutions delivering goods and services to the people. If created rationally, they would be an effective instrument for fulfilling the interests and aspirations of diverse ethnic groups and communities in an ethnically pluralistic society of a country like Nepal (Shrestha, 1996).

CBIs have to struggle for local capacity building so that development becomes self-sustaining (Clark, 1991). They can play a catalytic role for socio-economic change only if they have governance. It involves a three-fold task: fostering the process of democratic governance, enabling lasting community participation in the development process and strengthening of popular values and institutions by legitimate means (Dahal, 1996).

CBIs have brought positive changes and there is space for them to be proud of their achievements in helping to cement human and political rights in many societies and in democratising the informal political process by training grassroots activists, building stronger local institutions, promoting micro policy reform, and undertaking education for citizenship. In Nepal, the CBIs are more popular and successful compared to other organizations due to local norms, values and peculiarity of the rural context (Dahal, 1996). Despite these ideas, some controversies exist, and many CBIs do not democratise their own structures that makes them less effective in development process and, poses a particular problem for 'downward' accountability to members and beneficiaries (Bebbington and Thiele, 1993).

There is a vast gap between 'develop from above' and 'built from below' approaches. Community based development is later modality which is bottom up, process oriented, participatory, people-centred and innovative (Devkota, 1999). The CBIs are developed from 'built from below' approaches. It strongly takes in hand the various diversities related with culture, location, social setting and ecological variation. Moreover, it accounts experiences from the implementation, relationship, contextual, dynamic, unpredictable and idiosyncratic elements in all projects (Korten, 1989; Uphoff, 1996).

A study in South Africa shows that when CBIs are responsible for all aspects of the project (design, management, monitoring), costs per beneficiary are less than half of what the costs are when the CBIs are not decision makers (Tang, 1992). Experience and studies have shown that those CBIs with clear lines of responsibility, open decision-making processes, and direct

accountability to the community improve service provision, make effective use of resources, and are more sustainable (Ostrom, 1993).

In such context, CBIs have been playing increasingly important role in the rural communities worldwide in recent years. People now organize themselves in groups either to work for the socio-economic development of their own or to promote the same in poor communities (Shrestha, 2000). The normative level is simple: development should be community based (Korten and Klaus, 1984; Cernea, 1985).

There are other scholars studying the institutional arrangements of CBIs. Krishna et al. (1997) express the important characteristics of such institutional arrangements aim at sustainability of farmer organizations include institutionalizing learning process of institution building, increasing benefits to members, continuing adjustments in the organization to cope with new demands, making reorientation and structural changes in the bureaucracy in favour of participatory management, providing legal support and protection for farmer organizations, etc.

Despite the significance of CBIs, the inadequate information is often considered as the most significant limitation on its capacity to play a part in the development enterprise. CBIs need information on market opportunities, on what support resources are available, and on how to use these resources productively and efficiently (Krishna, 2000) to unfold all of their significant potentialities. Shah (1998) in an assessment of community-based natural resource management in India stressed the need to appreciate the short and long-term benefits by members where disadvantaged members have a position of dignity in the institution and the institution observe its own rules and regulations.

Many community oriented development programmes have collapsed because of their inability to enlist the strength hidden behind the popular organizations of the people (Chambers, 1985; Korten, 1989). The CBIs are considered as the vital engines for any type of planned development work. Cernea (1985, p. 11) expresses that the high-yielding social organizations are not less important than high yielding crop varieties. The scholar further observes that intensified agriculture cannot occur without intensified human organization. Further, Loubser (1982, p. 131) expresses that our culture and identity can grow only when we have control of those institutions that save our lives and out-look.

Colletta (1990, p. 84) expresses that emergent 'middle rung' institutions that have been emerged among the traditional societies could be used as the mechanism for the creation of demands among the local people as these institutions maintain a link between past and present useful for affecting development. At the local level, people have sufficient knowledge about their situation and resources available for their betterment. Only there may be a problem of identification of those resources and their mobilization in a systematic manner. Setty (1994, p. 74) and Messerschmidt (1995, p. 5) acknowledge the significance of

indigenous knowledge of the CBIs. Nevertheless, Jain et al. (1985) argue that to generate development from CBIs, the transfer of power must take place from the grips of government institutions to the hands of people institutions.

1.3.1 Social Participation in CBIs

Social participation is the core principle of CBIs where scholars link it with empowerment. According to Miller (1983, p. 190), direct participation consists of mobilization of community resources such as manpower, money and materials to carry out government programmes. This is a more people oriented process which intends to increase community's direct control over social, political, economic and environmental factors determining all aspects of quality of life of the people (Cohen and Parcel, 1989).

It is now widely believed that participation is to be regarded as both means and an end in which people should learn to take responsibilities for their own development (Ghai, 1988; Oakley et al., 1991; Uphoff, 1996). Further, Oakley et al. (1991) argue that to be any participation authentic, people must deserve capacity for enhancing a self-sustained development at the local level.

Goulet (1971) opines that empowerment when applied in the context of development is autonomy of choice, self-determination, and open mind-ness, as well as involvement in social discussion and collective action, which are built in CBIs. The approach leads to a type of development, which is more respectful to poor people's cultural values, self-insight, position, priorities and interests (Oakley et al., 1991, p. 3). CBIs provide platforms for creating their own development. Social-cultural factors are essential ingredients of participatory approach in CBIs and in this context, Brush (1986, p. 220) focuses on the role of cultural factors in determining social phenomenon and understanding the local perspective that are essence of CBIs.

Thus, a wide number of thoughts have been emerged in explaining the links of community based development through CBIs. Freire (1970) championed a 'pedagogic theology of liberation'; Korten (1990) propounded a 'learning process approach', and Bhatt et al. (1987) suggested for 'building from below' strategies of development policies, planning and actions.

1.4 Governance

Having discussed on the concepts of CBIs and the key substance in the understanding of CBIs, now the understanding is linked to governance concepts that are the subject of consideration in this research. Following paragraphs provide basic background of evolution of governance and the change in the use of the word governance to good governance.

1.4.1 Concepts on Governance

The concepts related to governance have been explained by different scholars, governance experts, development thinkers, social scientists, economists and development institutions in specific contexts. The term 'governance' is commonly used to explain the authority given to the government to move toward avowed goals, reduce the inherent cleavages among social, cultural, ecological and political systems and communities, concert sound policies, mobilise resources and maintain a sufficient level of legitimacy and credibility before the public (Maskay, 2000). Robinson (1996, p. 347) express that governance applies to the exercise of power in a variety of institutional contexts, the object of which is to direct, control, and regulate activities in the interests of people as citizens, voters, and workers. It is the 'exercise of political power to manage a nation's affairs' (World Bank, 1989, p. 60).

Maskay (2000) expresses that governance is a process of accelerating development in the interest of majority of people. It enables them to objectively realize their self-worth and facilitate economic and social transformation. The scholar opines that it gives primacy to the people, and emphasizes on benefits to the masses in the developing process.

United Nations Development Programme (UNDP, 1999) viewed governance as the exercise of economic, political and administrative authority to manage a country's affairs at all levels. In its experience, governance comprises mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences. Earlier, it viewed that the goal of governance initiatives should be to develop capacities that are needed to realise development that gives priority to the poor, advances women, sustains the environment and creates needed opportunities for employment and other means of livelihoods (UNDP, 1994). Then, UNDP (1994) further specifies that:

Governance is, among other things, participatory, transparent and accountable. It is also effective and equitable. In addition, it promotes the rule of law. Governance ensures that political, social and economic priorities are based on broad consensus in society and that the voices of the poorest and the most vulnerable are heard in decision-making over the allocation of development resources. It has three legs: economic, political and administrative. Encompassing all three, governance defines the processes and structures that guide political and socio-economic relationships.

The institutions of governance in the three domains (state, civil society and the private sector) must be designed to contribute to sustainable human development by establishing the political, legal, economic and social circumstances for poverty reduction, job creation, environmental protection and the advancement of women (UNDP, 1994). The World Bank (1992) defines governance as the manner in which power is exercised in the management of

a country's economic and social resources. Prior to that World Bank (1992) explained governance as the tradition and institution by which authority in a country is exercised for the common good including the process by which those in authority are selected, monitored and replaced, the capacity of the government to effectively manage its resources and implement sound policies, and the respect of citizens and the state for the institutions that govern economic and social interactions among them. Similarly, the Asian Development Bank (ADB), for example, sees the principal elements of governance as accountability, transparency, predictability, efficiency and participation (Pandey, 1999).

Governance includes the state, but transcends it by taking in the private sector and civil society. All three are critical for sustaining human development. The state creates a conducive political and legal environment. The private sector generates jobs and income. Moreover, civil society facilitates political and social interactions activities (UNDP, 1997). Shrestha (2000) further writes about governance as:

Governance consists of predictable, open, and enlightened policymaking, a bureaucracy imbued with professional ethos acting in furtherance of public good, the rule of law, transparent processes, and a strong civil society participating in public affairs. Poor governance, on the other hand, is characterized by arbitrary policy making, unaccountable bureaucracies, un-enforced or unjust legal systems, the abuse of executive power, a civil society unengaged in public life, and widespread corruption. Governance fosters strong state capable of sustained economic and social development and institutional growth. Poor governance undermines all efforts to improve policymaking and to create durable institutions.

The above expressions, and the opinions of Manandhar Gurung (2000) reveal that it is realized that governance becomes pertinent where interests of individuals, communities or societies conflicts over the nation or nature. Further, governance has become the call of the day in response to the changing reality to ensure sustainability as well as to make development meaningful to its increasing poor people.

Nepalese legal make up in governance is the Local Self-Governance Act (LSGA, 1999), which points that governance:

-) Gives opportunities to the country's people to be involved in the democratic process of the government,
-) Institutionalises socially equitable development process with the involvement of indigenous people, socially deprived and disadvantaged communities in the planning processes and mobilisation of resources in their respective areas,
-) Develops locally responsible and capable institutions for planning and implementation of programs, and

-) Promotes local leadership to be able to meet local requirements on a daily basis.

Having understood these concepts, it is also essential to internalize the crises in governance. It can be obvious assumption that when governance is poorly managed it manifests itself in numerous visibility that hinders each individuals economic, social and everyday life, most of all to the vulnerable people. The governance crisis can be seen most clearly in the growing distance between the government and people, or the leaders and the led. The gap between the routine rhetoric of the rulers and the grim reality facing the people only exacerbates the problem (Pandey, 2001 p. 48). The crisis of governance if unchecked will halt the economic, social and wellbeing of the people, quite contrary to the very precept of sustainable development (Manandhar Gurung, 2000).

In the given context, SAP-Nepal (2002) views that Nepal is going through a crisis of governance, both at the national and the local levels, specifically acknowledging then situation of the country. At the local level, age-old self-reliant communities have collapsed along with their modes of production, mainly, as a result of the emergence of the centralized state. People have not been able to participate even in a newly restored democracy. It further argues that the self-governance of local communities is weakening with increasing inefficiency of public services, corruption, and lack of transparency and exclusion of the minorities from the functioning of the State. Relating the current crisis of governance from policy evaluation perspective, Manandhar Gurung (2000) rightly put her views as:

The primary focus of governance or sustainable development is that people in concern 'own' the development process. Ownership develops out of the degree of involvement and participation of the largest number of stakeholders from planning to strategy development, implementation, and all the way through to monitoring. As the LSGA had not been in place to realistically involve people from the respective areas, nor alternative mechanisms are in place to get the stakeholders to participate in the process, sustainable development is still a far-fetched goal. Large numbers of people from different ethnic groups, disadvantaged groups, people from Terai⁵, etc are still marginalized by the caste groups in almost every decision-making body.

In dealing with governance crisis from policy perspectives, Manandhar Gurung (2000) further pinpoints the challenges that confront in realizing LSGA as presented below:

-) Conflicts in rules and regulation.

⁵ 'Terai' means the flat area lying to the south of the Churia range and extending to the Indian boarder. Geology and soil composition consists of recent alluvial plain, boulders, gravel sands, clay and fine loamy deep soils.

-) Non-representation of different groups in all stages in decision-making process.
-) Inadequate clarity in the rights, roles and responsibilities of local bodies.
-) Centralized budget allocation for the local development.
-) Ineffective monitoring.

1.4.2 Governance to Good Governance

The concept of governance in the later days has been advocated by new phrase 'good governance', which as a concept has been explained by different scholars and institutions in different ways. Good governance has roots to ancient civilization and revolutions. Precisely, the history relates to practices in western world. Developed nations prepare different practices, techniques and tools to support developing nations run their government in a people-centred way. Good governance has been a technique of such kind, which has emerged recognizing the need of keeping ceilings to the ruler's activities upon the people. Practice of being governed by representatives selected or elected by the people has been found to emerge from Greeks and Romans.

After the establishment of the United Nations (UN), it has provisioned so many documents, charters, manifestos, etc. for human rights protection, implementation of political declarations, and other socio-economic and political reform-ensuring rule by the people for their own good. These UN initiatives have slowly proved to be supportive for transparent, equitable and accountable practices by the governments. Governance and Development, a document by the World Bank in 1992 stated that good governance could be central to sustained development or central to create environment for the same.

In 1993, British government put forward the concept of good governance for development cooperation. Among many, some of the elements of their concept were legal government, participatory approach, press freedom, transparent decision-making process, accountability, effective implementation, etc (Pandey, 2001, p. 350). In the later years, UN summits highlighting the significance of different elements as discussed above to persuade the global nations to work for the good governance.

Good governance frames policy, maintains law and order, and protects property rights in order to buttress production and investment in the country (Dev Raj Dahal, 1995). The core idea of good governance is that in the development process, the support and involvement of all agencies like central government, constitutional bodies, corporations, local government, Non-governmental Organizations (NGOs), International NGOs (INGOs) and finally the allied civic societies is must (*ibid*). Therefore, good governance is a system, which opposes all the ills and evils associated with politics, economy/finance, administration, judiciary, social services and human rights (Pro Public, 1999). In this context, the South Asia

Human Development Report, which took its theme for 1999 as the Crisis of Governance in South Asia (UNDP, 1999), has conceptualized good governance in three dimensions i.e. good political governance, good economic governance and good civic governance. Sufficient budget allocation for the essentials of the poor, progressive taxation, well-targeted subsidies for the poor and equitable access to credit and land are considered as major aspects in good governance.

If governance would have been practiced popularly, the emergence of good governance was not needed. It means good governance should have something in addition to governance. Among other things, it is participatory, transparent and accountable. It is also effective and equitable and it promotes the rule of law. Good governance ensures that political, social and economic priorities are based on broad consensus in society and that the voices of the poorest and the most vulnerable are heard in decision making over the allocation of development resources.

WB relates the issues of accountability, rule of law and transparency while some others consider democratization as significant feature and equitable development as the foundation for governance. Efficiency and accountability of public institutions and service, advocated by WB, seem to be oriented towards improving the climate for business, financial management, public enterprises reform, environment and resource management and women and development. The WB has furthered identified reforms in public sector management, predictability and the rule of law, and the protection of the freedom of press and human rights (World Bank, 1989, pp. 60-62). Therefore, WB's document in Sub-Sahara Africa (1989) considered public sector management, accountability, legal framework for development, information and transparency as the elements of good governance.

In the view of Development Assistance Committee of Organization for Economic Cooperation and Development Countries, good governance is the practice with the characteristics including participatory development, human rights and democratization. IMF has its similar understanding but partly contextualized to its work. Accordingly, good governance entails surveillance over macro-economic policies, transparency of government accounts, effectiveness of public resources, management and the stability and transparency of the economic and regulatory environment for private sector activity. UNDP (2003) also has consolidated different definitions of good governance and has identified 15 elements as core characteristics of good governance like decentralization, institution-building, and human development. Other include: participation, rule of law, transparency, responsiveness, consensus orientation, equity, effectiveness and efficiency, accountability, strategic vision, legitimacy, resource prudence ecological soundness, empowering and enabling, partnership, and spatially grounded in communities.

The Danish International Development Agency is involved in electoral reforms, local self-help government and training of public and police officials on democracy and human rights to explain that it is supporting good governance. For German Society for Technical Cooperation (GTZ), good governance comprises elements of rule of law, human rights, political participation and market friendly economic order and development - orientation of state action (Heinz, 1994, 32). The United State Aid for International Development (USAID) policy documents focus on the promotion of sustained economic development, increase of democratic participation, protection of human rights, legitimate government behaviour and the augmentation of fundamental human values, such as civilian control of military, protection of minority rights, political tolerance, peaceful resolution of conflicts, etc (USAID, 1991, p. 13). The Country Strategic Plan of USAID for Nepal for the fiscal year 2001-2005 aimed to contribute to governance by

-) Focusing on critical improvements in governance of key resources (water, other natural and human resources including health and human rights),
-) Strengthening essential policy, institutional and decision making mechanism, and
-) Targeting assistance to a few key sectors of manageable interest (health, hydropower, democracy, and natural resources).

The Department for International Development (DfID) is involved in Nepal in 'enabling the state' program to promote a virtuous state-a-state with strong pro-poor governance. DfID has also been contributing to strengthen democratic policy, macro-economic stability, strategic policy framework, service delivery, access to justice, national security, rule of law, transparency and accountability mechanism in areas of good governance. The Embassy of Finland has created a local fund for 'Democracy, good governance and human rights' to foster the democratic process, promote good governance in the public institutions, including local authorities and civil societies, enhance and secure social and gender equality and human rights and alleviate poverty for a more equitable and sustainable development of the country (Dahal et al., 2002, p. 96). Norwegian Agency for Development Cooperation (NORAD), Netherlands Development Organizations (SNV), INGOs like Care/Nepal, ActionAid Nepal, and Friedrich-Ebert-Stiftung (FES) in Nepal are directed towards generating local knowledge⁶, modernizing state institutions, creating and developing pro-decentralization societal forces to a critical level until they are capable of applying enough pressure for reforms and redefine state-society relationships for good governance (Dahal et al., 2002, p. 96).

Governance is important phenomenon of the present context. It is one of the success indicators of development which enhances program quality and project's overall

⁶ Knowledge possessed by local people about ecosystem processes, community organisations and structures.

performance. It provides space to society to groom and be matured to address cropping needs and challenges. Ample examples from elsewhere reflect that only well-governed institutions are institutionally sound that contribute for sustainable development.

The study on governance of community based institutions contributes in sociology. Sociology studies social relationship. It is a matter related to people and its linkage with people directly or indirectly. Governance promotes collective efforts of people in the society. People make society and society make social relationships. Therefore, governance is the meeting point of all relationships like the community based institutions viz. forestry and water.

1.4.3 Understanding Good Governance in Nepalese Context

The concept of good governance in Nepal emerged because of the failure of the politics leading to instable government. However, the ancient Nepal seems to have contained good governance practices. The time between 1941 and 1959 saw many reforms, which were taken as the initiatives for good governance. While the Constitution of Nepal, 1959 was focused to ensure good governance. Constitution of 1963 could not contain the elements such as participatory development. The Constitution of Nepal 1991 was a milestone towards directing the activities with the concept of good governance. It was considered document of good governance rather than that of political one. This ensured human rights protection, rule of the law and other elements deemed necessary for good governance. Further, the Interim Constitution of Nepal 2007 contains provisions to maintain rule of law and build socially inclusive state.

Nepalese scholars present their understanding on good governance through contextual explanations. According to Gurugharana (1996), it involves accountability of government officials and the civil service for public fund, transparency in government procedures and investments, predictability of behaviour and relational decisions and a free flow of information aimed at ensuring economic development and rule of law where by the government and institutions are subject to rules and regulations, which are clearly understood and generally approved by the citizenry.

Many other scholars explain that fair and free election for government's legality, establishment of rule of law, transparency in government's actions, participation and access of people, human rights protection, corruption free society, and power devolution are important elements for good governance.

The above sections have provided different definitions and examples of governance and good governance. Still there are other institutions, scholars and development workers, which explain other elements to denote good governance. As for example, RECOFTC (2002) explains rule of law, compliance of rules and decisions, transparency, accountability,

decentralization and devolution of power and authority, defined roles and responsibilities, participatory decision making, gender sensitivity, equity, representation and power balance, bi-directional flow of information horizontally and vertically as essentials of good governance.

A useful review of the issues surrounding governance of Water Users' Associations⁷ (WUAs) is presented by Osmani (2001, as cited in Mott MacDonald, 2001). This raises a number of fundamental issues such as the importance of a sound legal basis for resource management, comprehensive participation, including minority groups for reasons of both efficiency and equity, autonomous nature of organizations and accountability.

The result of good governance is development that gives priority to poor, advances the cause of women, sustains the environment, and creates needed opportunities for employment and other livelihoods (UNDP, 1997). Asian Development Bank identifies four basic elements of governance viz. accountability, participation, predictability and transparency. Accountability is meant for making public officials answerable for government behaviour and responsive to the entity from which they derive their authority. Accountability also means establishing criteria to measure the performance of public officials, as well as oversight mechanisms to ensure that the standards are met.

In the Nepalese context, a leading organization in the field of good governance Pro-Public, a NGO, puts legitimacy, greater public participation, government and accountability, efficient and effective public sector management and cooperation between government and civil social organizations as critical to good governance. Pro-Public further considers transparency in government services, accountability of the government with the people, access of people to government services, creation of corruption-free society, decentralization of power, and protection of human rights. Based on the above discussions, good governance also incorporates legitimacy/ democratization/pluralism, accountability, transparency, honesty and probity in public affairs/corruption control, decentralization/devolution of political and managerial power and people participation. Similarly, its other elements include: rule of law/independent judiciary, human rights, equity and equality, gender mainstreaming in the development process, empowerment of marginalized and disadvantaged groups of people including women to have access to and control over resources and to influence decision-making processes, and developing of feeling of ownership over the programmes by the people.

⁷ WUA is generally defined as an organization of water-users that manages, allocates and distributes water from a common source in the most efficient participative manner to benefit all the members. In the general sense, the main objective when establishing WUAs is to involve the end beneficiaries, the water users, in the management of irrigation water whereby, the transfer of irrigation activities to the water users is the ultimate goal.

After making sufficient discussion, it is also necessary to explain whether there is poor governance or not. Some people call it bad governance as well. In this context, it is obvious that when good exists, poor does too. There can be several characteristics that can be pointed for poor governance after analysis of good governance. Some of the characters of the poor governance could be miss-management of resources and programs, corruption, whimsical, nepotism and favouritism, disregard for the concerns of many, decisions to benefit the few, red-tapism, etc. Others also might include negligence of vulnerable group, failure in delivery of services, excess state control and increasing inequality.

1.5 Elements of Good Governance in CBIs

Based on the preceding sections, the common indicators have been found out for the purpose of research and analysis in this work. These indicators are representative of all sorts of indicators put forward by different scholars, institutions and development practitioners. These are considered as the pillars of governance and more specifically good governance what new change has been documented.

Majority of the literature about governance is related to state government. There is little literature available to discuss about the key elements of governance of CBIs. In the proposed research, six elements viz. transparency, accountability, rule of law, equity, participation and predictability have been considered for analysis of the CBIs under research. These institutions under research include Kamala Uttarahini WUA (KUWUA) and Nandababa Community Forest User Group⁸ (NCFUG). Under each element, different secondary elements are used for analysis. The details of each element are presented below:

1.5.1 Transparency

Transparency in any CBI can be evaluated or observed based on how they have the system of recording their documents including financial matters. A transparent mechanism is characterized by systematized recording system; the records of which and any other issues are disseminated to all the stakeholders through systematized communication approach. Transparent observations are verified through the planning and public auditing plans and reports, decision minutes, rules and norms, awareness of these information and provisions among executives and general beneficiaries or users.

Pradhan (2000) highlights the importance of transparency in reference to irrigation where he presents that transparency of irrigation related activities are important and take place in the annual General Assembly (GA) meeting of the WUA. The Scholar further indicates that:

⁸ A group formed for developing, conserving and using the products of a handed over national forest for collective benefits. It is a registered, autonomous and corporate body with perpetual succession. It can acquire, use, sell or transfer or otherwise dispose of movable property like an individual and sue or be sued in its own name like an individual.

During GA, rules and regulations and statement of income and expenditures would be discussed. The elected members of the WUA would be accountable to the GA. The participation in the GA would make the members know about the system. Under such system, water rights are made transparent.

Concentrating in auditing of WUA, Yoder (1994) says that instead of externally audited accounts, members of the traditional *Raj Kulo* Irrigation System of Palpa, Nepal appoint an audit committee composed of irrigators representing various interest groups to examine all financial records and verify their accuracy. In addition, the Scholar clarifies that this has proven effective in eliminating fraud and ensuring members' confidence in the handling of funds. On most irrigation schemes, at least one tier of WUA keeps a bank account. In some cases, they jointly manage with the District Office—this is required at the time of rehabilitation and sometimes continues after the project is completed. As they are unable to collect cash, the money in these accounts is usually just the residue from the contributions for construction (Mott MacDonald, 2001).

In case of community forest, Chaudhary (2004) expresses that effective democratic forms of governance rely on transparency among others and transparency is expected to increase the institutional capacity for the Community Forest User Group (CFUGs). The researcher explains the concept acknowledging the fact that transparency refers to the availability of information to the public and clarity about government rules and regulations. Bhatta and Gentle (2004) also state transparency of CFUGs as one of the key elements of developing a successful community forest and view that transparency needs to be achieved in the following areas:

-) Income and income sources
-) Expenditure details
-) Provisions mentioned in Forest Operation Plan⁹ (FOP) and constitution, annual programme and committee's decisions
-) Sales and distribution of forest products

In the general context of Nepal, normally the elite members of the society are found to take all positions of the executive committee (EC), and make decisions regarding harvest, product distribution and mobilisation of fund accrued where the weaker sections are not informed of the provisions. The other (ordinary) members of the group are least involved in the overall process and have virtually no idea whatsoever related to harvest, and the financial matters of their community forest.

⁹ An approved plan prepared with the objective of developing and conserving a demarcated forest and of using, selling, and distributing its products while maintaining the ecological balance.

1.5.2 Accountability

Clarity in roles, responsibilities and understanding of them by the executives ensures that the responsible authorities are accountable to whom they should be. When responsibilities are realized, it can be expected that there will be reflection of needs and concerns of all type of beneficiaries and this will promote mutual trust, a driving force for social cohesiveness. It is obvious that key executives need to be engaged in other things either personal or related to the institution. Therefore, they need to travel out from their place. In such cases, to avoid things are halted or postponed, it is essential to delegate the responsibilities with justified power to the fellow executives. Further, delivery of services as well as operation and maintenance (O&M) tasks need to be made in time to assure that people continue to have positive faith in the institution and executives.

In case of irrigation, Vermillion (1994) identifies four vital elements for accountability in achieving effective irrigation management: (i) clear and sustainable water rights, (ii) irrigation infrastructure compatible with the water rights and with local management capacities, (iii) clear and recognized responsibilities and authority, adequate financial and human resources, and (iv) accountability and incentives for the managing entities.

Subramanian et al. (1997) expresses that new WUAs should build on existing community management arrangements as far as possible and their leaders should be accountable to the members. Further, Mott MacDonald (2001) expresses the challenges otherwise would be faced if there is poor accountability. In its report, it expresses:

There needs to be a clear division of responsibilities between agency and users' associations, different levels of WUAs, and between WUAs and users for accountability. Furthermore, failure of management at one level will affect management at other levels. Thus, quality criteria are also needed, particularly with regard to water distribution. These are difficult to define since the availability of water in the source is both unreliable and unpredictable.

In case of CF, Gautam (2005) highlights that the roles and responsibilities that are clear both in constitution and in operational plan of CFUGs support in enhancing accountability of the executives and the users. In such case, every user is accountable with management committee. Maharjan et al. (2004) explains increased accountability of the user group members in community forest as a tool for enhancing governance practice in community forest promoted by Strengthened Actions for Governance in Utilization of Natural

Resources¹⁰ (SAGUN). Accordingly, public auditing is critical to accountability. Bhatta and Gentle (2004) explain the following in accountability aspect:

-) User committee in their roles and responsibility
-) General members in their roles and responsibility
-) Responsibility of group towards the marginalised and poor households
-) Equitable distribution of forest products and benefit sharing

1.5.3 Rule of Law

Rule of law establishes the system in any institution. It is the key element to identify the degree of institutionalization of any institution or informal groups. Presence of rules guides the dos and don'ts in the system and some established norms function as strict rules. However, there is tendency of violation of the rules. Nevertheless, if the institutions have made enforcement mechanisms clear, the level of violation will be comparatively less. For this, there are provisions of fines and penalties. Further, rule of law provides mechanisms of sustaining the institution through election of the members in the executive as well as through the provision of membership to the users.

Users' adaptability to new circumstances is a major factor in the success of WUA in irrigation systems. Ostrom (1994b) points out those institutions are 'robust' if they can change according to rules that their members have defined in advance on how to formulate and change operations and governance procedures. According to Ostrom (1992) while establishing new WUAs, some concerns need to be accounted so that the rules are flexible enough according to the need of the members.

-) Service area boundaries and individuals with rights to use water should be clearly defined.
-) Costs and benefits should be proportional (i.e. those who receive more water should contribute more resources and vice versa).
-) Physical conditions and user behaviour should be monitored by a group accountable to the users.
-) Sanctions proportionate to the severity of the offence are imposed by users on those who break the rules.
-) There should be easily accessible conflict resolution mechanisms.

In order to make the WUAs work better, efficient with its rules and community norms, the role of local agencies is considered important. The LSGA highlights the role of Village

¹⁰ SAGUN was a project implemented by RITI PVT Ltd and Care Nepal under the technical guidance of DoI and financial assistance of USAID. SAGUN has main three components: irrigation, forestry and hydropower.

Development Committees¹¹ (VDCs) and District Development Committees¹² (DDCs) in different aspects related to rule of law. As the Water Resources Act (WRA, 1992) made water resources of Nepal as state property, the LSGA, made the provision that the local irrigation systems are to be managed by the VDCs. According to Mott MacDonald (2001),

The VDC has some role in irrigation. It is not normally formally involved since management of irrigation at a local level is the responsibility of WUAs, but the LSGA gives certain responsibilities to them for planning and implementing projects as well as resolving dispute. The VDC may assist, for example, financially and with conflict resolution. The DDC also has responsibilities for planning, implementation and management of irrigation projects covering more than one village.

The Irrigation Regulation (1999), states that District Irrigation Office (DIO) now Irrigation Divisional Offices with which WUA is registered, can dismiss or suspend WUA with the approval of the Department of Irrigation (DoI), thus keeping WUAs at the risk despite their autonomous characteristics. The new irrigation regulation reinforced the establishment of officer-centred WUAs, which, however, would not be conducive for community resource management activities. Pradhan (2000) states that WUAs would act only as the extension of the DoI.

However, some contradictions in the roles assigned to local bodies are identified. This provision directly interferes with the concept of polycentric society and community resource management at the grassroots. The users groups have only superficial existence under the provisions of these legal systems. As for example, the LSGA (1999) gives VDC certain responsibilities for management and dispute resolution, which can be seen to overlap with the WUA rules and established norms. WUA has to take account of VDC pressure. Since there are some complex tasks in the regulatory framework of WUA, VDC is also sometime not able to take responsibility of managing the system (Mott MacDonald, 2001). The complex tasks, which are somehow related to rules that cannot be easily accomplished by VDC include:

-) Maintaining headwork, canals, and any other structures
-) Employing gate operators, watchmen, etc as required to operate the system
-) Collecting labour and other resources for management, for canal cleaning, payment of operators, and purchase of other supplies, etc
-) Providing water in appropriate time and quantity to users

Like the VDC and DDC's role identified by LSGA, the Irrigation Regulations (1999) expand the role of WUA and District Agriculture Development Office (DADO). Together, WUA and DADO

¹¹ VDCs are called *Gaun Bikas Samitees*. These are the lowest administrative units of the Government of Nepal.

¹² DDC are the apex authority in the district.

are responsible for maintenance, operation and management of the component including mobilisation of labour for maintenance. The responsibilities also include providing water in appropriate time and quantity to users, without harming to other users, keeping records of land that is not irrigated, so that Irrigation Service Fee (ISF) can be exempted, and constructing additional structures to increase the irrigable area.

These issues build upon recognizing existing rules, roles, and modes of operation through adoption of polycentric approaches (Ostrom, 1992) and have provision to be resilient over time. It is understood that fines and penalties are essential in addition to the other aspects of WUAs. According to MOPE (2001), in most Farmers Managed Irrigation Systems (FMISs), local people define membership, water allocation, distribution, resource mobilisation, conflict management¹³, fines and sanctions.

Gautam (2005) found that there is a clear provision of membership in constitution and also in practice made in Chandra Nahar Irrigation System of Saptari, Nepal. Membership fee is Rs. 10 and renewal fee is Rs. 5. The WUA has a practice of reward and penalty system too. WUA is practicing the rule of Rs. 10/*kattha*¹⁴ as penalty if the water users denied taking membership. In such a case, WUA blocks the water facility for that farmer. The cost of one share is Rs. 2/*kattha*. If water users use more water compared to total share received, Rs.10/*kattha* fine is charged as penalty.

In Manusmara Irrigation System of Sarlahi, Nepal, ISF is Rs. 2/*kattha*/crop. The penalty for water theft is very strong. Rs. 400, 1000, and deprivation from water facility for one year is scheduled in case of water stealing for first, second and third times respectively. This rule is applicable in case of *mul paini* (main canal) level only. Similarly, ISF is Rs.2/*kattha*/crop, and types of penalties are late fee of ISF, O&M, illegal timber harvesting and destruction of *paini* bund in Manusmara Irrigation System (Gautam, 2005).

Similar findings are also observed in Panchkanya Irrigation System of Chitwan, Nepal by Gautam (2005). The WUA has formed different rules and regulation to operate the irrigation system in favour of poor water users. Among them, membership fee is Rs. 10, share is Rs 3/*kattha* (Rs. 3/*kattha* plus Rs. 5 for certificate if the water users have more than 1 *bigha*¹⁵ of land), Rs. 10/*kattha* as O&M fee. The water users are strictly following these rules. It is also restricted to throw garbage, dead animals in the *paini* and construct toilet at the *paini* bank in order to protect it from encroachment. The WUA was able to penalize in case of water stealing or violation of water turns. Rs. 500, 1000, 1500 respectively is being charged as penalty in case of

¹³ Guiding conflicts towards constructive rather than destructive outcomes

¹⁴ Kattha is a unit of land which equals to 0.0339 hectares (ha)

¹⁵ One *bigha* equals 0.67 ha

water theft for the first, second and third time respectively. Similarly, in order to conserve the *paini* bank and to safeguard the physical infrastructures, Rs. 500 to Rs1000 is set as penalty. It is also restricted to cultivate black gram and harvest grass from the *paini* bank. Rs. 500 is being charged in case of grazing of livestock in the *paini* bank. It showed that the WUA was successful to enforce the rules and regulation.

Certain provisions of community forest related legislation and policy documents are at loggerhead, hampering smooth functioning and implementation of community forest activities based on environmental governance. The circulars issued from the Department of Forest (DoF) for clarifying issues often counter legal and policy documents. This situation adds strength to the critique of the argument that 'custodial element' induced by the nationalization of forests still persists in the departmental actions. This has hampered good governance options of the community forest (Shrestha et al., 1998).

As in WUA, rules and regulations are important considerations described as elements of governance in community forest. There are rules on representation, participation, executive body and constitution. Usually, community forest is reported to be founded on the democratic principles of participation. Each household that chooses or is permitted to join is represented in the Forest User Group (FUG). A smaller user group committee is elected to a four or five-year term and acts as an executive body to perform administrative functions. The FUG meets on an annual basis in a GA meeting where rules are created and management decisions are made. Forest users draft a constitution and FOP that detail the rules of the community forest.

Acharya (2001) explains that rule of law promotes good governance ensuring that political, social and economic priorities are based on broad consensus in society and that the voices of the poorest and the most vulnerable are heard in decision-making over the allocation of forest resources.

1.5.4 Equity

Equity is the subject of concern only when there are resources available for use among the stakeholders or when these demand some popular contribution in terms of cash, kind or labour. It is accepted that any input to institution and the resultant output should be distributed to all the local users in a justified way. It means when there is access to and control over the resource that is being in use, only then we can conclude that there is equity promoting good governance in the resource governing institution.

In case of irrigation, the degree of performance in irrigation systems is viewed to be effective depending upon the stakeholders' group dynamics such as cohesiveness,

cooperative attitude, nature of task, and the degree of flexibility in defining role structure to the extent of local social capital development (Uphoff et al., 1991; Ostrom and Ahn, 2003; Uphoff, 2004). Therefore, primary resource is the social capital that needs to be used in the WUA and this can take the resource form of cash, kind or labour contribution and the existence of social capital enhances equity. The resources need to be distributed equally in different phases from planning, maintenance to operation. Pradhan (2000) considers O&M to have implication on water allocation and distribution. The collective contribution of the community is the basis for the mobilization of the resources from the members of the community for equitable benefits.

As access and control are key concepts in equity, it is essential to understand its mechanism. For ownership, control and management, Gilmour and Fisher (1991) advocates groups' equal say in decision making as the key mechanism, which however, has been in less practice before the influential users. As for example, as ownership of irrigable land has already been skewed in favour of the rich, through their greater political influence they are able to capture the greater benefit from new investment and a larger proportion of the available water (Mott MacDonald, 2001) posing challenges for equitable resource use.

The relationship between upstream and downstream farmers is important to maintain equity among WUA users. In this context, Yoder (1994) explains the importance of upstreamers having some plots downstream so as to create a common goal with downstreamers. Ostrom and Gardner (1993) found the most equitable water distribution where large farmers had land in the tail, that is, where asymmetries in landholdings and location in the irrigation system offset each other and emphasized the mutual dependencies among irrigators. However, that heterogeneity of assets can also yield complementarities between water users, particularly where leadership and entrepreneurship are needed (Ostrom, 1992b).

Unless the benefits of increased control over irrigation can be demonstrated, WUAs are likely to see shared management as an obligation that they have little incentive to fulfil (Mott MacDonald, 2001). Therefore, providing space for all users to have greater control over irrigation is necessary to get participatory contribution for equitable resource sharing. Pradhan (2000) further specifies different factors that contribute for the ineffectiveness of WUA for collective activities and for maintaining equitable benefits. He finds the role of WUA crucial for achieving this.

Yet, policy issue pertaining to governance and management of irrigation systems is getting the fundamental information related to institutional arrangements through appraisal, design, operation, and modification of rule-ordered behaviour for all users (V. Ostrom, 1980). Equity, therefore, sometimes demands flexibility of stringent rules so that the rules can be sustained for a workable time. It is in this context, Chambers (1988) expresses that

poorly adapted services have resulted in deteriorating structures and systems that have not been sustainable over time.

According to Mott MacDonald (2001),

"WUAs can contribute to better irrigation system performance because of their advantages over a public agency, on the one hand, and over un-coordinated activity by individuals, on the other. Change and adaptation may be a good indicator of organizational sustainability for WUAs. It is generally easier for irrigators to have a sense of ownership that is, a personal stake; in a WUA if it started spontaneously among them than if outsiders brought the idea".

Similar findings for equitable resource mobilisation are also recorded from other irrigation systems of Nepal. For instance, in Chandra Nahar Irrigation System, WUA has practiced equitable maintenance by raising Rs 2 per *kattha* per crop. As a result, poor water users are benefited and encouraged to participate in O&M of the *paini* activities. WUA has raised Rs. 43,125 from the selling of 345 cubic feet wood in 2004. It is also successful to raise some amount from granting grass and selling black gram. The WUA raised Rs 1430 from application. WUA has raised road cess from different vehicles. For this, Rs. 50/day is for Truck; Rs. 25/day for Bus and Tractor; Rs. 25/year for bullock cart; and Rs. 5/year for bullock cart with iron built wheel (Gautam, 2005). Similarly, in Manusmara Irrigation System, WUA has raised Rs. 5 for Tractors, Rs. 15 for Trucks and Rs. 50 for Buses as road cess. The WUA is raising 1 kg (kilogram) paddy per *kattha* or Rs 10 per *kattha* or Rs. 70/day as part of their contribution for the purpose of O&M. In 2005, paddy amounting Rs. 74,000 was collected (*ibid*).

Gautam (2005) found that in Panchkanya Irrigation System, as part of internal resources, the WUA has been providing its land in the contractual basis. Rs. 5/m is given for black gram cultivators and Rs 2/m for grass cutters. Local resources such as labour, cash, kind and material are mobilized based on landholding size. Rs 10/*kattha* is being charged as ISF. Rs.5 per *kattha* per crop for paddy and Rs.2.5 per *kattha* for maize, pulse, banana, and vegetables crops is raised. Early paddy cultivators have to pay extra ISF. Cash is being raised at the rate of Rs 10/*kattha* for the construction of field channel. This is a good example of equitable resource generation. In Piperpati Parsauni Irrigation System, the resources are generated from granting *paini* bank in contract for grass cultivators, fishery in public ponds, and imposing tax from *haat* bazaar, and collection of road cess (*ibid*).

There are similar cases with community forest. With the expansion of community forest, a question of equity in sharing the benefits from, and costs of, community

forest management has been more pressing than ever before. With guidance from the local District Forest Office (DFO), community forest members are able to define how forests are used and they can retain all surplus revenue from the sale of forest products (Khanal, 2001).

In the hierarchical social structure of Nepal's rural communities, the power elites of the community largely dominates FUG decision-making forum. The poorer families are rarely in a position to voice their arguments for forest management activities that maximize their net benefits from the forest and fulfil livelihood needs (Bhattarai, 2001). This study has concluded that from the current practices of forest management, poor users are not actually benefiting when all opportunity costs are accounted for in the assessment of costs and benefits. Rather, community forest may be imposing extra costs due to increased transaction costs of participating in meetings, assemblies, and the costs of collecting products (*ibid*).

Similar ideas have been put other way as well. Several studies have revealed that the poor and marginalized people in rural areas are more dependent on public or community forest than wealthier people of the same area (Hobley, 1987; Jodha, 1995). Similarly, many studies have argued that the present practice of community forest in Nepal is least favourable to the poor than wealthier households and poor and disadvantaged households lost more from the switch to community forest (Bhattarai and Ojha, 1999; Graner, 1997). Most of the studies revealed that the timber oriented forest management objective, passive management of forests, inadequate understanding and consideration of poor people's livelihood opportunities and lack of equity in product's distribution are major problems that jeopardized poor people's livelihood opportunities from community forest (Bhatta, 2002; Chhetri et al., 2001).

It is found that contribution to conservation of forests has varied for different groups of people. Such contribution has come primarily from the lower section of the society, and from women. The physical labour required has come mainly from these groups. Even though poorer people derive a higher percentage of their income from the forest, in terms of absolute amount, they derive less benefit. Households with resources like animals and land obviously derive more benefits from the forest. However, for survival, landless, marginal and small households need to depend more on forest resources. But, because of the diverse forms of natural resources on which a household depends for survival and food security, there are chances of discriminations. Rooted in the existing social structure, discriminations are seen in sharing benefits according to class, caste, gender and political power and particularly, benefit sharing is still not equitable in community forest.

1.5.5 Participation

Participation is more than asking people about themselves. When the people to whom the effects are anticipated engage in the initiatives, it is only possible to go for meaningful participation. People need to be involved in meetings where they will present their interests that affect their everyday life. They can review the previous actions and provide input to the future actions. Women are also key agents of change and need to be involved in any planning or implementation phases. Participation of people in the monitoring and evaluation (M&E) helps them to identify issues and concerns, mitigate adverse directed initiatives and promote good practices in the community. Thus, this enables a sense of ownership among the users/stakeholders. Therefore, participation can be considered motivating element for enhancing governance at the institutional level.

WUAs facilitate social goals such as democratisation and empowerment because they provide an organized forum for the expression of farmers' common interests. Strong WUAs also increase 'organizational density', through meaningful participation (Cernea, 1993). When the people have control over water resources, people incline to participate in the related activities. In this context, Hunt (1990) suggests that 'organizational control of water' is a key variable in farmers' willingness to take part in WUA activities. Therefore when there is no control over the resource, it is difficult to motivate and engage farmers in water related activities as Goldensohn (1994) argues that when WUAs are focused on water but do not control the resource, the organizations are 'emasculated from the start'.

In order to ensure effective participation, there is a pressing need to examine the internal conditions of WUAs. Participation can be clarified by reviewing several key aspects of organizational structure: how the membership is defined, the size of the organizations, the possibilities for federation, and the leadership roles. Likewise, organizational history, including WUAs' age and origins indicate the extent of participation (Meinzen-Dick et al., 1995).

Recognizing the poor level of participation of women in the WUA, certain approaches are suggested by the scholars to enhance women representation and participation from planning to M&E of irrigation institutions. According to Gautam (2005), in Piperpati Parsauni Irrigation System in Nawalparasi, Nepal, Women Sensitization Groups (WSGs) are formed and the roles and responsibilities of WSGs are set to enhance participation by:

-) Encouraging and mobilising poor, women, *dalit* and excluded in the activities related to institutional development for greater participation,
-) Mobilising poor women and *dalit* for the representation in different level of committee as per the WUA Constitution and Regulation, and
-) Making policy advocacy and other matters for the equitable distribution of water to all concerned.

Despite the efforts for maintaining women participation in irrigation activities are increasing, their involvement in institutional management work is still challenging. The traditional roles make it difficult to involve women effectively in irrigation management, and in some cases, such as the Chattis Mauja Scheme in Nepal, women even find their interests being best served by remaining outside the management system. For cultural reasons, women rarely participate in meetings (Zwarteveen and Neupane, 1996). Van Koppen et al. (2001) comment critically on one scheme (West Gandak, Nepal) that had such a stipulation. However, there is little doubt that women's participation in WUAs is very low in most if not all irrigation projects in Nepal, and measures to improve this situation have not been successful (Meinzen-Dick and Zwarteveen, 1997).

Gautam (2004) analyzes the good governance aspects of WUAs and CFUGs in Sipadole VDC of Bhaktapur district where he presents the status of women participation in the EC in 7 CFUGs and 4 WUAs. Though involvement of women in the WUA is zero, the study finds that they participated in canal maintenance, de-silting, forest management and cultural rituals every year. As the most of the users in Nanabu Irrigation Systems are Chhetri in upper area and Newar in the lower plain area, the majority of the EC members are from Newar community, and only male. Contrary to the irrigation, the participation of women in CFUG's EC and in the decision-making activities is found to contribute in making institutions effective.

For the general intensity or degree of participation, it is essential to explore 'what' in participation, e.g., decision-making, implementation, benefits, evaluation, etc; 'who' in participation, e.g., local population, state, foreign experts, etc.; and 'how' in participation, e.g., organizational form, institutional setup, functions, duties, etc.

The concept of 'participation' in the field of irrigated agriculture is relatively a new addition, and the factor which makes it a complex one is its use in many contexts such as participation in management, system organization, development, etc. (Cernea 1985, p. 357). Its use in so many different contexts has caused some confusion as to its exact meaning (Muthayya, 1987, p. 6). The involvement of farmers in the management of irrigation water has only recently been realized. In the past, engineers who concentrated their efforts on the engineering and design of irrigation systems exclusively dominated this field. Such a difference is no longer tenable, since the irrigation system is viewed as a socio-technical process in which human and physical elements are combined to make agriculture viable (Uphoff, 1986, p. 3). Gradually, however, the role of water-users is being appreciated and considered a vital component for the management of irrigation water, especially at farm level (FAO, 1982, p. 2; Uphoff, 1985, p. 363). In regards to water users' participation in the management of irrigation, the term participation does not reveal the water users' frame of mind, their attitude towards the object of their participation, their intentions and their wishes and expectations.

The analysis of un-institutionalized organizations in the past is partly due to the central authorities' unwillingness to delegate control over resources and sharing of power to the local level. The role of the local people are playing and could play in their development was not recognized. The reason behind could be that planning and implementation of activities were considered to be mainly technical and that local people do not have any knowledge in this respect. The programs designed were far away from reality and lacked flexibility to adapt to the local situation. Another reason might be that the development programs were planned to serve the political and economic objective of the government. Participation was sought to fulfil government objectives.

Bhatta and Gentel (2004) identify few attributes related to participation in CF. These include the participation in:

-) key/decision-making position,
-) decision-making process,
-) implementation (project cycle), and
-) benefit sharing process.

Albeit these attributes as prescribed for participation, participation in community forest sometimes has invited controversies. All members of a users' group cannot actively participate in meetings or provide voluntary labour. Some members are bound to be inactive because of their nature, physical condition, or the absence of the head of the family from the village. The active members may feel that, because of their limited participation, the inactive members should not enjoy benefits equal to those of active members. The inactive member, on the other hand, can counter that, as a member of a users' group, social compulsions not under his control should not bar him/her from benefits enjoyed by others, thereby giving rise to conflicts and disagreement (Acharya, 2001). From several discussions with the users and potential users, it is also found that there is low participation of dalits, women and marginalised group of people in the decision-making and benefit sharing. In most cases, the poor, dalits and women are not able to participate in decision-making activities with obstacles that discourage even those who are interested in participating. Further, accounting skills, basic literacy, confidence and ability to deal with government agents discourage them from being a part of decision-making bodies.

Therefore, community forest in Nepal has become a functional and integrated part of many communities while community forest policy has resulted in an improved condition of some forested areas in Nepal, the equitable distribution of the goods and services remains a significant obstacle with problems associated with participation and equity becoming more common and well understood.

1.5.6 Predictability

Institutions are likely to face cropping problems and challenges in the future either because of the funds or from any other managerial support required. The resources, which the CBIs are guarding, will require management plan as they grow. Therefore, the institutions need to have clear plans on where it will be in a foreseeable future. It means clear vision and goals as well as strategies to reach the vision is needed. This demands preparation of programmes, guidelines and directive on which the institution will carryout its activities and the mechanisms of resource collection and mobilization needs to clarify.

Institution should also be familiar with its competencies and areas for further improvement and make provisions on cross learning. Building networks and working through coordination and linkage will also be supportive in ensuring better future of the institution. Therefore, usually, predictability is defined as the consistency and reliability of institutions and their actions based on the institution's stated objectives, policies, rules and regulations, or to be able to fore-tell on the basis of observation, experience, scientific reason or stated processes. Hence, the importance of predictability cannot be overstated since, without it, the orderly existence of institutions would be impossible (ADB, 1999).

Ostrom (1990) explains that the current issues regarding governance are related with a mechanism for a functional co-ordination with the local bodies, as required by the LSGA. Gautam (2005) points out the existence of vision, mission, goal, objective (VMGO), networks and coordination established by Chandra Nahar, Manusmara, Panchkanya and Piperpati Parsauni WUAs of Nepal, hence to have clear predictability to run the WUA through proper execution of plan and meaningful external resource mobilization.

For instance, in Chandra Nahar Irrigation System of Nepal, VMGO has been practiced at branch canal and tertiary level too. They have been producing three-year plan to improve the overall system management to ensure water and improved livelihood of poor water users (Gautam, 2005).

The extent of good coordination with other line agencies also determines the performance of WUA. As for example, Chandra Nahar Irrigation System of Nepal started to coordinate with District Line Agencies (DLAs) to generate resources and technical assistance. It coordinated with DFO in making action plan of Sisau and with DIO for establishing a matching fund. With the support of DIO, WUA has planned to rehabilitate 17 km long service road (left bank of *mul paini*). In order to control the river erosion, DADO extended its supports to WUA. WUA is also affiliated to DADO and National Federation of Irrigation Water Users Association of Nepal (NFIWUAN) District chapter to get more support (Gautam, 2005).

Likewise, in Manusmara Irrigation System of Nepal, VDCs have been supporting by cash in maintenance works. Informal coordination was made with VDCs of Belawa, Renwa and Bhatauliya for the maintenance of block 18, 14 and 19. As a result, Rs. 95,000 was mobilised from these VDCs. DDC has been supporting in the maintenance of service road. Similarly, DADO has supported in the desilting of canals. It was reported that as part of micro-irrigation component, Rs. 60,000 was mobilised to desilt blocks 14, 18 and 21 for the construction of new field divider in block 6. There was informal partnership between DADO and WUA. WSG was able to run literacy class for illiterate women with the support of Nepal Red Cross Society (NRCS). Water users are also benefited from the program of integrated water management run by DIO. Similar observations were recorded from Piperpati Parsauni Irrigation System of Nepal (Gautam, 2005).

While explaining governance in community forest, Maharjan (2004) provides that SAGUN program envisages producing significant changes on a wider scale contributing towards governance as a trend in forest resource management. Thus, predictability in terms of community forest management is explained as common understanding developed on rules and regulations of constitutions and FOP, increased practices of equal treatment to all CFUG members without discriminating lower and high castes or poor and rich. But, Bhatta and Gentle (2004) identify some attributes of predictability in community forest like preparation of directives and guidelines, networking, co-ordination and co-operation and clear goal, vision and objectives of the group.

At the same time, predictability also requires transparency, because without information about how similarly placed individuals have been treated, it may be difficult to ensure adherence to the rule of equality before the law. Finally, a transparent system facilitates governmental accountability, participation, and predictability of outcomes. However, for the predictability in practice, besides legal and regulatory frameworks, consistency of public policy is also important (ADB, 1999).

Apart from the literature review, series of community consultations are carried out to suit the local culture, condition and context while finalizing the elements of governance. As vision guides people to achieve the goal, the destination, the review of predictability of the community based institutions is of utmost importance and can be reviewed through the thorough analysis of vision, mission, goal and objectives as well as planning processes therein.

Identification of research gaps

There are some evidences, which clearly reveal some research gaps. First, the literature reviewed clearly demonstrated that earlier literature has more been focused

on structural social capital to review of governance of irrigation and forestry institutions. In other words, the cognitive social capital has not been taken into consideration however, they are equally important to analyse the governance of CBIs as structural social capital. Second, micro-research to analyse the governance of irrigation and forest related CBIs is not made taking six elements and their secondary and tertiary level elements. Majority of the governance related researches are more focused at macro-level. Third, the proven studies, research and literatures are quiet on in depth analysis of governance of CBIs as well as on forces and factors determining good and poor governance. Hence, this study has made an effort to minimize the research gaps observed in this sector.

1.6 Theoretical Discourse and Conceptual Framework

In order to deal with the principle research questions and in fulfilling the study objectives, I have put efforts to analyse and interpret primary information and data within the purview of two main theoretical perspectives. These comprise '*Structural and Cognitive Social Capital for Participatory Irrigation*' and '*Community Forestry as a Social Process*'.

1.6.1 Theoretical Discourse

Different relevant theoretical perspectives pertinent to the present study were reviewed yet two key theoretical perspectives have been the basis of understanding the theoretical context of this research. These theoretical perspectives include '*Structural and Cognitive Social Capital for Participatory Irrigation*' and '*Community Forestry as a Social Process*' perspective, chosen to ensure these theories correlate the set objectives.

i. 'Structural and Cognitive Social Capital for Participatory Irrigation'

Norman Uphoff, a noted American social scientist, has developed '*Structural and Cognitive Social Capital for Participatory Irrigation*' in 1996 to analyze the governance of farmer's organization (i.e. WUA) on the basis of longitudinal field experience in the Gal Oya irrigation system in Sri Lanka in 1980s and 1990s. The Gal Oya, with its complex network of main canals, supplementary reservoirs, branch canals, distributary canals and field channels, was designed to irrigate about 50,000 ha. However, water distribution was the main problem with unreliable government management and antagonistic attitude towards the farmers. Conflict among the farmers over the scarce water supply triggered the breakage of structures, problem of channel maintenance and irregular distribution. Farmers were unruly and highly uncooperative due to ethnic and socio-cultural variation thus weakening the governance.

According to this theory, social capital can be understood most easily by distinguishing two interrelated categories of phenomena: structural, and cognitive. The structural category is associated with various forms of social organization, particularly roles, rules, precedents and procedures as well as a wide variety of networks that contribute to cooperation, and specifically to mutually beneficial collective action (MBCA), which is the stream of benefits that results from social capital. The cognitive category derives from mental processes and resulting ideas, reinforced by culture and ideology, specifically norms, values, attitudes, and beliefs that contribute cooperative behaviour and MBCA. Norms, values, attitudes, and beliefs that constitute cognitive social capital are ones that rationalize cooperative behaviour and make it respectable. While it is possible in the abstract to have structural forms of social capital without cognitive ones, and vice versa, in practice, it is unlikely and difficult for either to persist without the other.

These two domains of social capital are intrinsically connected because although networks together with roles, rules, precedents, and procedures can have observable lives of their own, ultimately they all come from cognitive processes. Structural social capital assets are extrinsic and observable, while cognitive social capital assets are

not. But, both the structural and cognitive realms are linked in practice (and in social science theory) by the subjective behavioural phenomena known as expectations.

Roles are created by expectations, and at the same time, they create expectations, on the part both of (i) those persons who occupy (act according to) established and accepted roles, and (ii) those persons with whom these role incumbents interact. One can say that roles and rules are objective because they are reinforced by sanctions and by incentives; but objective factors have inextricable subjective underpinnings. Supporting the operation of roles and rules means procedures and precedents as secondary forms of structural social capital. They can be either formal or informal. However, norms, values, attitudes, and beliefs by creating expectations about how people should act, by implication, create expectations about how people will act. Thus, what are subjective impetuses have definitely objective consequences.

According to him, networks, which are patterns of social exchange and interaction that persist over time, are widely regarded as important manifestations of social capital, whether they are formal or informal. Most discussions of networks emphasize that they are held together by mutual expectations of benefit. But, they are crucially sustained by expectations (that is, by norms) of reciprocity. This shows that there is an essential cognitive dimension to networks that derives from mental processes, and not just, from what is exchanged. As discussed earlier, structural forms of social capital are observable and externalized in contrast to cognitive forms. Cognitive are invisible because they are interior, within the mind, though when they are spoken of, they become somewhat external. Both concurrently affect the behaviour of persons, individually and in smaller or larger groups. Roles, rules precedents and procedures within various social structures, as well as norms and values along with their associated attitudes and beliefs, are the mechanisms by which social capital is built up and accumulated, stored, modified, expressed, and perpetuated.

His two decades long longitudinal field experience in the Gal Oya in his book entitled ***"Learning from Gal Oya: Possibilities for Participatory Development and Post Newtonian Social Science (1996)"*** explains that following main elements of structural social capital are required for governance in WUAs:

-) Institutionalization of learning process
-) Increasing diversified benefits to members
-) Adjustments to cope with new demands
-) Record keeping, information systems and training
-) Participatory decision making, M&E
-) Supportive rules, policies and provisions

-) Equity in water delivery schedules
-) Reducing disputes
-) Less breakage of irrigation structures
-) Better use of complementary inputs

Similarly, the main elements of cognitive social capital are required for governance in WUAs:

-) Social norms and values
-) Beliefs
-) Principles
-) Friendship
-) Trust
-) Attitude
-) Social energy

ii. **Community Forestry as a Social Process**

D. A. Gilmour (a forester) and R. J. Fisher (an anthropologist), based on their extensive field level experiences in Nepal-Australia Forestry Project site in Sindhupalchock Nepal explored a theory called "*Community Forestry as a Social Process*". These scientists emphasise the need for flexibility, experimental and exploration to attempt to develop a holistic approach to community forest.

They argue that there is a need for the vital combination of biophysical and social perspectives that must be fully complementary for real community forest. They go on to define community forest as forestry which is locally controlled and which allows the benefits to be distributed locally. They further argue that, for the community forest to succeed, the process of implementation must be essentially exploratory. An approach to community forest that puts community at the centre (rather than forests) must be based on an understanding of the dynamic nature of social processes and the complexity of social structures and institutions. Therefore, they explain community forest as a social process, concerned with the management of forest resources by complex and changing with social institutions and organizations.

Following Fisher (1989), they consider indigenous use-rights as necessary elements of effective forest management and explain the need of regular community consultation as part of the community forest process. Effective community forest management involves processes of information exchange, negotiation and local institution building. In the process, they identify that informal discussions, to consider interest of various groups including women, are effective and have the additional advantage to enable divergent interests to be considered but discourage one off events.

On their book "*Villagers, Forest and Foresters: The Philosophy, Process and Practice of Community Forestry in Nepal (1991)*" they particularly emphasize the following attributes as elements for governance of CFUG.

-) Socio-cultural dimensions
-) Social structures and social process
-) Management by complex and changing social institutions
-) Indigenous use-rights
-) Community control over forest resources
-) Settlement of disputes locally
-) Continuous community consultation
-) Institutional building and consensus building
-) Addressing interests of divergent groups including women

Various elements of the theories explained above have been illustrated in the theoretical framework chart below. The elements in this framework have been utilized in comparing the results from this research in the later sections.

1.6.2 Conceptual Framework

The objectives of this research were met by assessing the six elements of good governance i.e. transparency, accountability, rule of law, equity, participation, and predictability to assess the practice of governance in the CBIs and to identify forces and factors contributing to good and poor governance in these CBIs. Each element has a significant role for the governance of the CBIs. The conceptual framework based on these elements has been the basis of review and analysis. The theoretical framework and the elements in it are compared and analyzed with the findings generated from the conceptual framework in the later sections.

The figure given above explains the secondary and tertiary level elements of each governance element.

Transparency analyzes how information and communication takes place within the CBIs and to public to leave impressions that decisions and related records are made following procedures and making responsible for what has been planned and achieved. When decisions are documented and shared to all who require it, there is little doubt on process.

Accountability as an element of governance has a power to reflect needs and constraints as well as concerns of all groups of beneficiaries in CBIs. Clarity in roles, responsibilities and understanding of them by the executives ensures that the responsible people are

accountable to whom they should be. It also ensures that no single person has the control over the resources.

Rule of law is an important indicator of institutionalization of a CBI and reflects the system within it. Presence of formal and informal rules after its registration and a clear mechanism of enforcement contribute to sustain the institution and make CBI a live institution.

Equity means any input to CBI and the resultant output should be distributed to all the users in a justified way. It means when there is access to and control over the resource that is in use, only then we can conclude that there is equity promoting good governance in the resource governing institution (the CBI). However, the issue of equity emerges when there are resources available for use among the beneficiaries within the CBI. It means participation becomes the driving force for equity in the available resource allocation.

Participation is understood by most people as meaningful and directly observed element of governance because when the people to whom the effects are anticipated participate in the initiatives, they will be able to present their interests that affect their everyday life. An opportunity to speak means the opportunity to lead and influence. When women, *dalits*, *janajatis*¹⁶ and other disadvantaged groups of people meaningfully participate, the constraints to the problems they have been facing can be resolved. Thus, participation enables a sense of ownership on any initiative among the users/stakeholders. Therefore, it can be considered as a motivating indicator for enhancing governance at the institutional level.

Predictability in governance spells the need of a longer term vision for a CBI because any CBI is likely to face new problems and challenges at any time and the resources, which the CBI is guarding, will require management plan as it grows. A clear plan based on initially identified VMGO supports to develop strategies for resource collection, mobilization, and development of a like-minded support relationship with other agencies as well as for the sustainability of the CBI.

1.7 Research Problem and Research Questions

CBIs in terms of good governance are found to be facing several problems at the current practices. It has been observed and expressed that each elements of good governance has certain limitations and specific weak areas. Previous theses, research papers and other similar studies explain that transparency in CBIs is largely affected by poor accounting system. Sometimes there are records but they are not systematized or there is no systematic dissemination and communication of the records and information. While decisions themselves play important role in transparency, their documentation is found poor in these CBIs. There

¹⁶ *Janajatis* represent the ethnic groups in Nepal. There are 61janajatis in Nepal.

are poor plans and no public auditing. While CBI executives are less aware about rules/norms, general users are found to know only the existence of constitution provisions/rules. Therefore, assessing the transparency of the selected CBIs is done in this research.

This research also analyzes the accountability aspects of CBIs having discussed the problems the elements faces. It is found that ignorance of responsibilities and understanding of roles but weak realization reduces the accountability of the users. Occasional reflection of influential people usually limits other users trust upon the committees. Verbal responsibility delegation without power is element of poor accountability in most of WUAs and CFUGs. It means the executives would like to provide opportunities less to the others when they are in the power. Untimely service delivery as well as maintenance/conservation activities but irrespective of need also is common problems in CBIs.

Rule of law is the essence of the CBI but it is found that in many of CBIs, and there is no clear provision in constitution regarding the roles, rules and other functions of different stakeholders and on the election and membership criteria. Some of the CBIs lack norms too. Occasional violation of rules and rules being un-enforced has created problems in proper functioning of CBIs. In some of the CBIs, there is provision of fine and penalties but nobody pays these amounts at agreed values.

In order to maintain equity of the resource distribution, there should be initially availability of the resources. However, in many CBIs, resources are available but insufficient. Equity in labour mobilization has remained an issue of CBIs. Only selected users are found to attend labour work. Many studies also state that CBIs have the practice of resource sharing without established norms and basis where it is the only committee members who have access to and control over these resources.

It is found that the CBIs working with the primary mechanism of involving all the stakeholders in the particular area from conceptualization to regular M&E are successful. However, there are many CBIs of this kind where participation has not been considered a major element of undertaking the institutional activities. As for example, many committees consist of generally well-off users and group decisions are made by involving only the section of the society. Even, it is the only committee who sits to review the performance of the members in the EC. Representation of women is non-existent or poor and their views are also disrespected. In O&M and conservation activities, it is the few people specially the EC members who take effective participation. Further, instead of practicing participatory M&E, it is undertaken by the key EC members.

Development as planned may not always happen because of the changing risks in the locality therefore affecting the realization of targets of the CBIs. Consequently, to meet

the risks that may crop any time, clear strategies are needed. However, in many CBIs, they do not have clear vision or even if they have clear vision, their mission and strategies are unclear. They are also found to be continuing their activities without any programmes, guidelines and directives. Diverse resource sources mean financial and technical assurance of the CBIs. However, when there is resource collection only from community, no one can say that these CBIs will sustain their operation later. It is found that CBIs are not realizing the importance of assessing their competencies. Lack of practice of learning and replication from own and others' past lessons has also left the opportunity to build up for future. Linkage and coordination with like-minded CBIs at different levels is not happening as to the expectation despite its need for achieving greater support.

Given these problems in the selected CBIs, the attempt in this research works has been to first assess the situation and then to generate forces and factors that contribute to good and poor governance in CBIs. However, while assessing each element for both CBIs, it is found that there is varying degree of strength in governance under various elements.

Based on overall research problems discussed above, following are the major research questions. In fact, the research questions have specified the extent of work to be done and clarified the researcher in collecting the information for further analysis.

-) How records are kept, disseminated, audited and systematized and what is the awareness level of these records among users and EC members?
-) How accountable are executive members and users on their roles and responsibilities in power delegation, service delivery and O&M/conservation activities?
-) How constitution and other rules and norms are enforced to establish institutional systems?
-) How are resources including cash, kind and labour collected and how is access and control ensured among all users?
-) What are participation mechanisms of all users including women, *dalits*, landless and poor in decision-making level, leadership review, O&M, and M&E activities in CBIs?
-) How are CBIs preparing for managing emerging risks in terms of clear visions, plans, resource collection, lessons learnt and replication, and linkage and coordination?
-) What are the contributing factors for good and poor governance in CBIs?
-) What are the underlying causes to these forces and factors?

- J What are the areas of strengths of the CBIs in terms of governance elements? Why are they considered strengths?
- J What are the areas for improvements of the CBIs in terms of governance elements? Why are they considered areas for further improvements?

1.8 Research Objectives

Having discussed so many aspects of development, community-based development, governance and good governance together with the elements, it is now relevant to state the overall objective of the present research work for which above literature sections were discussed and elaborated. All three of the objectives have been formed based on the research problem, research questions and the need to assess governance issues in the current practice of CBIs. The overall objective of the proposed research is to understand the governance issues and the underlying principles to contribute to good and poor governance of the CBIs based on these issues.

In sum, following specific objectives were set based on the overall research problems and research questions:

1. To assess the practice of governance in the CBIs taking case of KUWUA and NCFUG
2. To identify forces and factors contributing to good and poor governance in these CBIs, and
3. To explore the strengths and areas for improvements in terms of governance of CBIs

1.9 Rationale of the Study

Both theoretical as well as practical perspectives have been used to judge the present research work. From theoretical perspective, the contribution of this study has been that it has adopted and established a new theoretical base to analyse the governance of CBIs and its forces and factors for good and poor governance. On the other hand, various other theories, which are related to sociology of natural resource management (NRM) have been thoroughly reviewed and analysed in the perspective of present study. This study also focuses on the cognitive social capital dealing with all relevant issues in a very pragmatic way by making socio/cultural and cognitive issues as the main base. The central idea of this research is different from the researches done by the earlier in this field. This study also explored other issues like inclusiveness, capacity building, planning and linkage, monitoring, enforcement of policies for the governance of irrigation and forestry CBIs. From the practical point of view as this study is quite different from the earlier researchers on the topic, it is expected that this study may be useful and realistic for the future researchers, students, and policy makers too. This

study also contributes to analyse the community governance of NRM based CBIs clearly contributing to add on bricks on the identified gaps including a more in-depth analysis, a micro level discussion and underlying forces and factors for good and poor governance.

1.10 Operational Definitions of Key Concepts Used

An attempt has been made below to define some of the key concepts used throughout the study.

Institution: Institution is widely used in the social sciences, in spite of the fact that there are frequent ambiguities in its scope and references. When we refer to a 'social institution', we usually imply, as Leeds (1976) points out, forms of standardized action on behavi Institution is widely used in the social sciences, in spite of the fact that there are frequent ambiguities in its scope and references. When we refer to a 'social institution', we usually imply, as Leeds (1976) points out, forms of standardized action on behaviour linked to a set of complex and interdependence norms and roles and applying to a relatively large proportion of persons within the society or territory. In functionalist theory, the concept of institution in linked to that of human needs or the functional prerequisites of social system. Malinowski (1944) lists seven basic social institutions which respond to biological or psychobiological needs.

Considering the above context, institutions are informal, soft, breeding grounds of value and are focused to fulfil the social needs. They usually run through mores, folkways, values and norms so they are societal centred. They are structural components of the society which have some sorts of social interest.

Community based institution (CBIs): CBIs mean the local institutions that are formed and managed by the people as per the need in the local context. These may be saving and credit groups, farmers groups, water user groups, forest user groups, etc. The CBIs in this research only mean the Water Users Association (WUA) and Community Forest User Group (CFUG).

Governance: The term 'governance' is commonly used to explain the authority given to the government to move toward avowed goals, reduce the inherent cleavages among social, cultural, ecological and political systems and communities, concert sound policies, mobilise resources and maintain a sufficient level of legitimacy and credibility before the public (Maskay, 2000). Robinson (1996, p. 347) as explained above links governance to the exercise of power to direct, control, and regulate activities in the interests of people as citizens, voters, and workers. It is the 'exercise of political power to manage a nation's affairs' (World Bank, 1989, p. 60). Maskay (2000) expresses that

governance is a process of accelerating development in the interest of majority of people. Governance is, among other things, participatory, transparent and accountable. It is also effective and equitable. In addition, it promotes the rule of law. Governance ensures that political, social and economic priorities are based on broad consensus in society and that the voices of the poorest and the most vulnerable are heard in decision-making. According to UNDP (1994), governance defines the processes and structures that guide political and socio-economic relationships. Governance consists of predictable, open, and enlightened policymaking, a bureaucracy imbued with professional ethos acting in furtherance of public good, the rule of law, transparent processes, and a strong civil society participating in public affairs. Poor governance, on the other hand, is characterized by arbitrary policymaking, unaccountable bureaucracies, un-enforced or unjust legal systems, the abuse of executive power, a civil society unengaged in public life, and widespread corruption. Poor governance undermines all efforts to improve policymaking and to create durable institutions (Shrestha, 2000).

Social Capital: The concept social capital is used as the production of social goods that are more than individuals are.

Structural Social Capital: The concept structural social capital subsumes the analysis of roles, rules, procedures, precedents and social networks that help the continuation of the social interactions of the water and forest users. All of these help the water and forest users for their regular engagement for the sustained irrigation and forest management collective action. In other words, they are used as the organizational and institutional arrangements for the sustained irrigation and forest management.

Cognitive Social Capital: The concept cognitive social capital subsumes the analysis of the roles of traditional norms/values/beliefs (that promote mutual cooperation/collaboration/obligation), ideas, friendship, leadership, trust, attitude and social energy for the sustained irrigation and forest management collective action. In other words, these have also been explained in the analysis and discussion as social subjectivities.

Irrigation Organization: Irrigation organization in this study refers to the group patterns of social behaviours and interactions of water users. Planning, decision-making, resource mobilization, communication, water allocation and distribution, and conflict management are the fundamental activities of the irrigation organization.

Water Users Association (WUA): WUA is generally defined as an organization of water-users that manages, allocates and distributes water from a common source in the most efficient and participative manner to benefit all the members (FAO, 1982, p. 8). Osmani (2001) as cited in Mott MacDonald 2001, opined that in the general sense, the main objective when

establishing WUAs is to involve the end beneficiaries, the water users, in the management of irrigation water whereby, the transfer of irrigation activities to the water users is the ultimate goal.

Social forestry: Government of India first used the term social forestry in 1976. It was then that India embarked upon a social forestry project with the aim of taking the pressure of the forests and making use of all unused and fallow land.

Community Forestry: A national forest handed over to a users' group for its development, conservation and utilization for collective benefits.

Community Forest Users group (CFUG): Though local people designate the actors in the community forestry programme, only little attentions have been paid to who are the local people (Chhetri & Pandey, 1992). In fact, CFUG popularly known as of the local forest users (individual/households) who are more or less recognized and accepted as member in flexible groups, who have rights of varying degree to control and use of various patches of forest within a definite geographical area (Tamang et al., 1992) Gilmour and Fisher (1991, p. 68-69) opined that the word 'community' is the basic concept in community forestry, but is used very loosely. The primary connotation is a vague notion that community forest means something like 'people's forestry'. This acknowledges that community forestry activities are aimed at providing direct benefits to rural people and that 'the people' should have a substantial role in decision-making. At this level, that is, as a statement about the philosophy behind community forestry, there is nothing wrong with the term. However, 'community' is often used as if it was a sociological term, which adequately defines the recipients. 'Community' has a number of connotations: it suggests a group of people who share a set of common interests (residence, kinship, religious affiliation, etc.). It is implied that members of a community may act jointly in respect of these common interest. Individuals may be in number of communities, depending on which sets of interest are relevant in a given situation.

1.11 Organization of the Study

This study has been organised in the form of eight chapters and other sections including pre-introduction, references and annexes.

As discussed above, chapter I explains the linkage between the interrelated concepts that form the core of this research. It gives the rationale of the research on the findings on issues related directly or indirectly to the area of research. Based on the experts opinion, proceedings of development workshops, symposiums and scholarly researches done in the past, this chapter aims to break the ice to relate how development is linked to community-based development and how these are further linked to governance of CBIs. Since governance plays the development actions, various issues of governance

are tied up to an understanding of good governance. With sufficient literature, this chapter towards the end focuses on the governance of the CBIs in general to irrigation and community forest institutions in particular.

Chapter II explains irrigation development and community forest development in Nepal in two parts. In the first part, an attempt has been made to explain different water sources in Nepal and prevailing climatic conditions. Historical overview of irrigation development and management are provided. Recognizing the importance of understanding institutional make up and current irrigation policy, brief highlights are presented before explaining the current irrigation status in the country. At the later section of this part, information on FMIS and WUA as CBI is explained with the irrigation related governance issues. In explaining the community forest development in Nepal, second part of this section provides information on the current situation of forest resources. It then logically provides the process that evolved community forest in Nepal with rationale and stated objectives. In order to promote CF, there are legislative and other policy documents and provisions, which are reviewed in the succeeding sections. Having discussed these provisions, the importance of understanding the present coverage of community forests in Nepal has been realized. An effort has also been made to present community forest conditions and associated governance issues.

Chapter III begins with an introductory background on the selection of the research area followed by some the initial process and procedures like entry into the community, the permission, organization of informal meeting, the rapport building, selection of research assistants and involvement in discussion and community level activities as part of rapport building. Then the chapter briefly discusses unit of analysis; design, size and selection of samples; data sources: tools and techniques used for data collection and data analysis and interpretation. Finally, this chapter goes on to discuss limitations, encounters and experiences during the fieldwork.

Chapter IV deals the profile of study district, study VDC, and study village where CBIs are located. It is accredited that geographical, economic, demographical, social, cultural aspects used to create impacts on governance of CBIs.

Chapter V gives the general overview of CBIs. The overview mostly focuses physical characteristics and institutional aspects.

In Chapter VII, the governance of the CBIs viz. KUWUA and NCFUG is judged based on its six pillars/elements viz. transparency, accountability, rule of law, equity, participation and predictability. The succeeding sections describe and analyze the governance situation of both KUWUA and NCFUG based on these elements and its

associated secondary level elements. Where possible, comparisons have been made with the theoretical framework postulated in the first chapter.

Chapter VII establishes the key essence of the research based on the analysis of the issues and concerns that have been explained in the above chapters. By analyzing the contextual outcomes, the chapter initially presents the identified forces and factors promoting good governance in the selected CBIs providing space for further use in similar other CBIs to understand the similar context. This section in the chapter follows to forces and factors creating poor governance in CBIs.

In Chapter VIII, within the scope of the research, numerous issues have been reviewed and documented. Yet, there are many other issues that are yet to be covered. At the end of the research, it is useful to recap the process of the research and let others know its essence. Therefore, this chapter provides a brief summary of the main findings especially on the characteristics of governance in two CBIs under research and associated forces and factors. In the mean time, the findings are connoted to conclusions. As mentioned earlier, the research has limitations and therefore, towards the end of the chapter, there are recommendations for future direction in researching similar issues.

CHAPTER II

DEVELOPMENT OF IRRIGATION AND COMMUNITY FORESTRY IN NEPAL

This chapter explains irrigation development and community forestry development in Nepal in two parts. In the first part, an attempt has been made to explain different water sources in Nepal and prevailing climatic conditions. It has laid foundation to discuss the irrigation potential and its development approach. In this context, historical overview or irrigation development and management is provided. Recognizing the importance of understanding institutional make up and current irrigation policy, brief highlights are presented before explaining the current irrigation status in the country. At the later section of this part, information on FMIS and WUA as CBIs is explained with the irrigation related governance issues.

In explaining the community forestry development in Nepal, second part of this section provides information on the current situation of forest resources. It then logically provides the process that evolved community forestry in Nepal with rationale and stated objectives. In order to promote community forestry, there are legislative and other policy documents and provisions, which are reviewed in the succeeding sections. Having discussed these provisions, the importance of understanding the present coverage of community forestry in Nepal has been realized. An effort has also been made to present community forestry conditions and associated governance issues.

2.1 Irrigation Development in Nepal

2.1.1 Water Sources

Nepal is blessed with plenty of water resources. It has an estimated water surface area of about 576,011 ha (Pyakurel and Suvedi, 2000). This water regime is mostly due to its unique physical setting between the Tibetan plateau and the Gangetic plain along the southern slope of the Himalayas, which itself has a rich water regime.

The mean annual precipitation in Nepal ranges from more than 5,000 mm along the southern slopes of the Annapurna range in Central Nepal to less than 250 mm in the north central portion near the Tibetan plateau. The Southeast monsoon during the months of June to September influences much of Nepal's rainfall. The humid monsoon air stream blowing from the Bay of Bengal is forced to rise as it meets the Himalaya. As a result, heavy rainfall occurs on some sections of the southern Himalayan slopes (*ibid*).

Because of unique physical setting and precipitation patterns, water sources are distributed above and under the ground. The surface water is available as snow and glaciers, runoff, and lakes out of which snow and glaciers are key to the runoff of the major rivers of Nepal and dominantly influence the hydrological behaviour. They act as reservoirs and release water after they melt.

Source of rivers during the dry season explains their nature-rivers with glaciers and snow as their sources are more dependable compared to other types as they carry sufficient flows in the dry season also. Mahakali, Karnali, Gandaki and Koshi Rivers are of these types, which are developed into basins.

Bagmati, Rapti, Kamala and Mechi Rivers have their sources in Mahabharat¹⁷ range and easily dry during the winter season. The third-grade Rivers originating from the Churia¹⁸

¹⁷ The second range arising north of the Indo-Gangetic plain, up to 2,700 m; geology and soil composition consists of quartzite, dolomite, limestone, phyllite, schist, granite, loamy skeleton.

¹⁸ The first range arising north of the Indo-gangetic plain, up to 1,000 m, geology and soil composition consists of clay stone, sandstone, conglomerate and loamy skeletal. The term Siwaliks is used throughout the Himalayan region. Churia (or chure) is a Nepali word for Siwalik

range are Tilawe, Bhangeri, Sirsia, Manusmara, Hardinath, Sunsari, Banganga, etc. They have either very low amounts of water or dry up during the low flow season. All of these rivers in Nepal drain into the Ganges River.

Comprising rivers of all of these three kinds, it is estimated that there are nearly 6,000 rivers in Nepal (Pyakurel and Suvedi, 2000). The total length of all streams and rivulets exceeds 45,000 km. The total annual runoff from the territory of Nepal is 4,877 cu.m/sec. The total drainage area of all rivers amounts to about 191,000 sq. km, 74 percent of which lies in Nepal only. About 80 to 85 percent of annual surface runoff occurs during the monsoon period. The mountainous terrain along with the summer monsoon produces disastrous floods in Nepal. Surface water is estimated to occupy 2.7 percent of the country area of which 97 percent is occupied by large rivers. Two percent of all runoff is contributed to the lakes (*ibid*).

Further, Nepal is also rich in ground water. Groundwater is abundant in most of the Terai and the inner valleys. The *Bhabar*¹⁹ is the major zone for recharge of aquifers in the Terai. The groundwater resources have not been fully assessed but ongoing studies show that a good potential for groundwater extraction exists, especially in the southern lowland plains and inner valleys of the hilly and mountainous regions. Much of the Terai physiographic region and some parts of Siwalik valleys have deep or shallow aquifers, many of which are suitable for exploitation as sources of irrigation water.

2.1.2 Historical Overview of Irrigation Management in Nepal

There is insufficient information about the evolution of irrigated agriculture in Nepal. However, it is said that irrigation development probably started as early as the first agricultural settlement. Many authors agree that the history of irrigation development in the hills of Nepal dates back centuries. Some of them represent the world's oldest irrigation systems built and operated by farmers (IIMI, 1991). Historically, irrigation development in Nepal has fallen under the domain of religious trusts, individual initiatives or community efforts. Some ancient irrigation systems and their institutions are still working in the Hills (Poudel, 2000).

During the *Lichhavi* dynasty (464-782), farmers' customary practices and religious laws for water use were first recognized. Since then, the legal tradition and local administrative structure have permitted FMIS to operate without interference from an irrigation agency or other administrative unit. The *Malla* kings (782-1768), however, made repair and maintenance of the irrigation canals by their respective users

range. Locally, the word chure is used to describe a single hill crest, and Churia to describe a group or a range of hill crests.

¹⁹ Zone along the southern churia front where groundwater of Terai is recharged. The zone is usually only suitable for rain fed agriculture.

mandatory once every year. Non-compliance with this rule was punishable by the state agencies. Water use into the service area was regulated turn by turn-based on water distribution schedule and rotational practices (*ibid*).

The importance of irrigation water was also recognised during *Shah* Dynasty. In the 16th Century, Ram Shah, the King of Gorkha from 1549 to 1606²⁰, ordered the construction of irrigation canals and wells in his kingdom (Adhikary, 1982). The need for rural institutions to maintain and oversee the distribution of irrigation water seems to have been felt even during that Era when local *panchayat*²¹ were empowered to oversee these matters. Today, those irrigation systems are commonly known as *Raj Kulo*²² in the Kathmandu Valley and the Western Hills of Nepal. Except for those *Raj Kulos*, public sector irrigation development in Nepal does not have a long history (Poudel, 2000).

The Chandra Nahar²³, constructed in Saptari district in 1923, was the first irrigation scheme built by His Majesty Government of Nepal (HMG/N). Because of growing government interest in irrigation development, an Agriculture Council was established in 1926 to administer Nepal's irrigation activities. The Juddha Nahar²⁴ of Sarlahi district began its operation in 1945. The rulers at that time were, however, interested in constructing the canals as a way of collecting state revenues by applying a water tax to the irrigators. The state had developed rules to collect irrigation fee from each farmer who owned land within the irrigated area of government constructed and managed irrigation systems. The amount of irrigation fee collected was fixed based on land size within the service area.

Immediately after democracy began in 1950²⁵, the Irrigation Department replaced the Agriculture Council in 1952 (Shukla and Sharma, 1994). The Irrigation Department was also

²⁰ Gorkha was one of the several small kingdoms of Nepal. The then His Majesty's the Great King Prithivi Narayan Shah (1723-1775) united Nepal into a single Kingdom in 1768 (1825 BS). He was also the King of Gorkha before unification.

²¹ 'Village panchayat' was the lowest level administrative unit of HMG/N during the 'panchayati system' in Nepal before 1990. A village panchayat was made up of several wards (small villages). Panchayati system was a single party political institution where sovereignty of the state was bestowed on the King, who had the absolute power. Although the panchayat system was officially adopted by the state in only 1960, the notion of panchayat for local development and administration was one of the pre-historic institutions in Nepal.

²² *Kulo* means irrigation canal in Nepali language.

²³ Nahar is larger than kulo in size and the volume of water. Generally, all small farmers' constructed canal is known as kulo, while agency constructed canal is named Nahar.

²⁴ It is the second government-built irrigation system in Nepal after Chandra Nahar in Saptari district.

²⁵ Although the kingdom of Nepal was never colonized by external powers, the dictatorial Rana Prime Ministers ruled for about 104 years, starting from 1846. While Rana did not overthrow the Kingship, the office of the king was treated as a powerless institution. Rana Prime ministers used to hold supreme power, for the most part, ruling the country on the tip of their tongue. The Rana regime was overthrown by the country for another ten years. The "Panchayati System" was started by King Mahendra Bir Bikram Shah Dev in 1960. The King became the absolute monarch. Again, the Panchayati System was overthrown and replaced by the multi-party democratic system in yet another popular revolution in 1990. Then, until 2006, there was constitutional monarchy system.

re-organized into the Department of Irrigation, Hydrology and Meteorology. At that time, the Ministry of Panchayat and Local Development, Farm Irrigation and Water Utilization Division (FIWUD) of the Department of Agriculture (DOA), the Water and Energy Commission Secretariat (WECS) and the Agriculture Development Bank of Nepal (ADB/N) were also involved in irrigation development.

It is estimated that the public sector now supports the irrigation needs of only 11 percent of the total cultivated land in Nepal (Shukla et al., 1993; Shukla and Sharma, 1994). It accounts for only about 30 percent of the total irrigated land. The Department of Irrigation (DoI) manages nearly 100 irrigation systems covering approximately 267,500 ha of irrigated land (IMC, 1989). The state also started the rehabilitation, extension, and improvement of FMISs in 1981 (Pradhan and Pradhan, 1996). Many governmental and non-governmental agencies have become involved in assisting the management and improvement of traditionally FMIS in Nepal. The common objective of all of these agencies is to help farmers preserve their organizational and managerial strengths. Assistance to some of the FMISs have decreased the maintenance cost to users and increased the overall efficiency of their irrigation systems. However, in some cases, the local organizational effectiveness has declined due to external intervention (Shivakoti, 1992).

Despite the high priority and enormous investment in public sector irrigation development, many large-scale irrigation projects in developing countries have not been sustainable. Contrary to this, small irrigation systems are very successful in general. The same situation can also be seen in many FMISs in Nepal (Poudel et al., 1994; Gill, 1994; Shukla et al., 1993). They have generally proven to be more effective in terms of their management and performance than Agency Managed Irrigation Systems, AMIS's (IMC, 1989).

Because of this, the Government of Nepal GoN, the HMG/N developed the policy of turning AMIS to FMIS, or to joint-management system between the agency and WUA, depending upon the size and nature of the systems. The process of turning over the responsibilities of agency-built and agency-managed irrigation systems to organized groups of water has been gaining momentum through the Irrigation Management Transfer Project under the DoI (Shukla et al., 1993). In some cases, the state or agency and WUA are jointly managing previous AMISs. Such systems are commonly known as Jointly Managed Irrigation Systems.

Governmental approaches and policies for irrigation development introduced major changes beginning with the Seventh Five Year Plan (1985-1990), which emphasized people's participation in irrigation management. The DoI was established in 1988. In the same year, the government introduced the working policy on irrigation development for the fulfilment of basic needs. This policy encouraged farmers'

However, in 2006, after the popular people's movement-II, the king's power was downsized and he was considered to hold the ceremonial position. The constituent assembly of May 2008 voted to transfer Nepal into a republican state thereby overthrowing king to become an ordinary citizen.

participation at all levels of irrigation development from project identification, design, and construction to O & M. The Eighth Five Year Plan (1992-1996) further emphasized users' participation from inception to O&M of the irrigation schemes, use of local technology and materials and private sector involvement in irrigation management. With the objective of improving the management of all type of irrigation systems in Nepal, GoN (through its line department, the DoI) formulated a national Irrigation Policy in 1992, which was amended in 1996. The government's policy on people's participation in irrigation development has also continued in the Ninth Five Year Plan (1997-2002) and just completed Tenth Five Year Plan (2003-2007). The DoI of the Ministry of Water Resources (MoWR) is currently the major agency involved in the planning, designing, constructing and managing public sector irrigation systems through its DIOs. Now, the state's view on the importance of irrigation management has received new momentum.

2.1.3 Potentiality of Irrigation

The total irrigable land of the country has been estimated to be 2,178,000 ha, of which a net command of 1,091,000 ha receive irrigation water supply. This includes both surface water and groundwater irrigation. About 75 percent of the total irrigated area is under FMIS, whereas the AMISs contribute in irrigating the remainder. One estimate suggests that about 200,000 ha of the irrigated area is under groundwater schemes, of which 75 percent is again under farmer managed Shallow Tube Well (STWs), and the remainder under agency managed Deep Tube Wells (DTWs). About 37,000 STWs and 400 DTWs are installed in the Terai (Bhandari and Pandey, 2006).

It is to be noted that except one system (Banganga system with command area 6,200 ha), all the areas under existing irrigation systems are dependent on transit flow availability at the sources, and therefore, the irrigated area varies from season to season and from region to region. The total year-round irrigated area including the farmers' systems has been estimated to be only 418,000 ha. None of the irrigation systems in Nepal measures the quantum of water supplied to irrigation. The only available data are annual diversion requirements for monsoon and year-round irrigation based on physiographic regions and irrigation command areas splitted into seasonal (monsoon) and year-round. The Agriculture Perspective Plan (APP) estimated the water use for irrigation with a total of 17,000 million m³, which is less than 8 percent of the country's total water resource potential (*ibid*).

Bhandari and Pandey (2006) further found that the year-round irrigation coverage is still only about 38 percent of the potential irrigable land, which also includes the land mostly irrigated by traditional farmers' system. Thus, the withdrawal would have to be gradually increased to cover all the potential irrigable land on year-round basis with a view to increase the food production to feed the growing population. It could, however, be expected that

through modernization of irrigation systems and adoption of improved water management practices, the water requirements per hectare could be greatly reduced. The present focus has been to develop quick yielding small irrigation systems. Despite considerable investments in infrastructure development and well-trained cadre of technicians for design, development, O&M, the public sector irrigation schemes have been performing below expectations.

2.1.4 Current Institutional Arrangements for Irrigation

The DoI since 1988 is responsible for overall design, planning and O&M of the irrigation systems. The MoWR is the lead ministerial institution. DIOs under the DoI carryout irrigation management activities at the district level. Beginning in November 1998, National Irrigation Development Committee under MoWR has been working to evaluate performance of irrigation systems (MoWR, 1998).

Other major agencies presently involved in irrigation development in Nepal are the Ministry of Local Development, through DDC, and the International Fund for Agricultural Development (Shukla et al., 1993). NGOs, INGOs and some semi-governmental organizations are mainly involved in irrigation management studies and irrigation research in all types of irrigation systems. The International Irrigation Management Institute is one of the leading institutions in this field. The Irrigation Management System Study Group, Mountain Resources Management Group, Consolidated Management Systems, and Legal Research and Development Forum, and Water Nepal are some examples among such other organizations.

The GoN is now trying to regulate all natural resource management within its national legal jurisdiction. More detailed Water Acts and Regulations are currently being developed. All plans and programs concerning water resource development activities are supposed to be discussed and approved by the District Water Resources Committee (DWRC) in all 75 districts of Nepal. The DWRC is chaired by the Chief District Officer. The Local Development Officer works as the Member Secretary of the committee. All water and agricultural related government office heads are the committee members (MoWR, 1992). As supported by the national irrigation policies and water regulations, GoN has recently inspired farmers' WUAs to be organized into a NFIWUAN. In addition, FMISs can also be classed as institutions in that they are voluntary associations of farmers who organize themselves to build irrigation infrastructures, and to manage them in accordance with formal or informal rules and procedures.

Other institutions that have direct linkages with the irrigation sector are the National Planning Commission, which prepares plans for all sectors including irrigation; the WECS, which is a consultative body of the government; the DoA, whose function is to increase

agricultural productivity, notably through irrigation; and the ADB/N, which provides concessional loans and channels government subsidies for rural projects.

2.1.5 Overview of Irrigation Policies

The Irrigation, Electricity, and related Water Resource Act of 1967 were the first attempt by the state to introduce specific legislation on water resources for multiple uses (Pradhan, 1994). This Act presented a new role for the state in creating infrastructure development for surplus generation, compatible with the planned mode of development exclusively undertaken by the state apparatus. The rights of individuals and groups to construct irrigation systems were recognized under this Act as well. The Act also stipulated the paramount power of the state over existing irrigation systems if they hindered government actions. The concept of licensing and the payment of irrigations service fees were also incorporated into the Act. This was the first legislation that stipulated government agencies and the authority to control irrigation facilities that received state investment (Poudel, 2000).

To fulfil the objectives of national rules and regulations for irrigation development, the Irrigation Policy of 1996 has defined the following policies expected to help in the better management and improvement of the existing irrigation systems in Nepal.

i. Provisions for WUA and farmers participation

-) Every irrigation system shall have a WUA. The structure of the WUA shall depend on the type and extension of the irrigation system. The WUA shall be given legal status. They shall be developed as multi-functional and volunteer institutions with at least 20 percent female participation in each WUA. The WUA shall be legally registered before any projects are granted to such WUA.
-) All policy and policy implementation process shall have the provisions of the responsible participation of WUA for inspiring them to organize into a national association of WUA.
-) Water-user shall participate in all stages of the construction and rehabilitation projects of irrigation systems, including needs assessment, project identification, construction, O&M, and M&E of the irrigation projects.

ii. Policies for resource mobilization

-) The WUA shall bear a specified share of the cost for all irrigation rehabilitation projects. It shall be part of the total cost estimation for the proposed projects.
-) The WUA shall deposit a cash amount of 0.5 percent of the total cost in a joint account of the concerned irrigation agency and WUA before the

beginning of the project activities. However, such funds shall be transferred to the concerned WUA after the project is completed and handed over to the WUA. Such funds shall be used for the repair, maintenance, and improvement of the concerned irrigation systems.

-) In case any changes are made in the proposed projects and/or the proposed costs, the concerned agency and the WUA shall add or cut the amounts in their shares.
-) In case of discontinuity in such projects due to any unexpected reasons, the GoN shall not invest any more in the same project. In such cases, the remaining amount of the cash deposited by the WUA shall not be returned to the WUA.
-) The government resources for the proposed project shall be mobilized only after 15 percent of the total resources shared by the WUA are used.

iii. Provision for the ISF

-) All WUA are legally allowed to collect an ISF.
-) Farmers shall be levied an ISF for all seasons based on the size of the irrigation field.
-) In case a WUA is not able to collect more than 80 percent of the ISF, the WUA shall be allowed to get only half of the amount.
-) The WUA shall also be allowed to collect the necessary resources for the O&M, and improvement of the irrigation systems from the water users in cash, kind, or labour, or a combination of these resources. However, such provisions must be stated in the WUA Constitution, and the amounts of the resources to be contributed from each member shall be decided upon by the WUA or the farmers' GA according to the existing norms. However, this provision shall be applicable only to those irrigation systems managed by farmers.
-) Landowners shall be responsible to pay the stated resources for their lands under tenancy if land tenancy right are not officially secured by the tenants. The official tenants shall contribute themselves.

The Irrigation Sector Policy, for the fulfilment of Basic Needs in 1998, clearly spelled out the distinction and made it clear that FMISs will be managed by the farmers themselves, but assistance for both physical and management improvement will be provided by the government through the newly established DIOs. After this policy provision, Irrigation Policy was formulated in 1992 and amended in 1996. It is enforced by GoN as a requirement of the national policy to implement and operate irrigation development programs in Nepal. The logic of the policy was to bring about full understanding and co-ordination between the water-users formally organized under WUA and GoN in respect of the construction, renewal, renovation, O&M of all irrigation systems in the country. Hence, the WUAs are envisaged to

play a catalytic role in actualizing the benefits accruing from more than 50 percent of investments in irrigation as proposed by the long-term Nepal APP.

The WRA (1992) is intended for the judicious and effective use of water (Khadka, 1997). It specifies water utilisation issues and states that water in the country is owned by the state. However, the right to use water is granted to the public with certain provisions (Oli, 1998; Khadka, 1997). Accordingly, individuals are entitled, without obtaining a license, to utilise water for their own drinking and domestic use, to irrigate their own land, to run local water turbines and to use for personal transport by boat.

2.1.6 FMIS and WUAs and their Relevance

Nepal is known as the land of FMISs. FMISs continue to contribute significantly to the development of agricultural systems in Nepal. They play an important role in the production of food grains in the country. More than 70 percent of the total irrigated area of the country is served by FMIS alone (Gautam et al., 1992) and these systems produce food grains sufficient to feed 30 percent of Nepali population (Yoder and Upadhyay, 1987; Pradhan, 1989). The size of FMIS varies from less than one ha to as large as 15,000 ha providing the irrigation needs of individual farmers (Yoder and Upadhyaya, 1987). The local farmers have been continuously operating and maintaining these systems over a period of time by mobilizing local and indigenous resources. Good leadership pattern, water management abilities, and mobilization of low cost local internal resources are some of the outstanding skills and potentialities of these systems (Gautam, 1999).

The FMISs are successfully managed and sustained well over time without any help from outside. This is largely due to the ownership feeling among the users, effective organisation in terms of water use efficiency, O&M, resource mobilization and resolution of conflict. The protection of individual and communal rights over the resource (Pradhan, 1989) is an important feature of FMISs. Most of the FMIS are guided and operated by informally, based on their local norms and values. However, due to the limitation of resources put by each member or group, the efficiency of these systems in terms of benefit maximisation is limited (Tiwari, 1986). Still, since FMIS provides an opportunity to have people organized among themselves, thus allocating some benefits for all involved. Thus, they are the reasons for increasing the popularity of FMIS (Curtis, 1991).

The importance of FMISs in Nepal was not realized by the government until the WECS under the MoWR conducted a study and drew attention towards it in 1981, although some independent researchers had highlighted the importance of FMISs before. In 1989, government drafted a policy to support FMISs. A large number of FMISs were not receiving any kind of support from the government (Pradhan, 1989a) as government laid emphasis on the development of AMISs, which were large irrigation projects. This has limited the benefit that could be derived from FMISs. Later, the government has realised the importance of

farmers' participation in managing FMISs. The concern of the government has been to increase the agricultural production through increase in productivity by mobilizing technical and financial resources to the FMISs. In order to increase productive efficiency, some changes in the physical aspects of the FMISs are necessary. Intervention requires changes in the role, rules, interaction and decision-making patterns as highlighted by Bromley et al. (1992).

WUAs need to be institutionally strengthened despite the existence of FMISs for their productive actions. Keeping this view in consideration, since the late 1970s, an increasing numbers of field studies of FMISs has suggested that government management is neither the only nor even always the best option for irrigation. During the 1980s, some projects tried to stimulate the development of WUAs, even within the command areas of AMISs, for example, in Pakistan, the Philippines, and Sri Lanka. Reported successes, especially in the Philippines, led to more widespread policies of transferring irrigation system management from government agencies to local organisation (Subramanian et al., 1997).

WUAs can contribute to enhance irrigation system performance and reduced cost of management through reductions in government staffing needs, cost-saving project designs, increases in ISF collection, and reduced destruction of facility. WUAs facilitate such social goals as democratization and empowerment because they provide an organized forum for the expression of farmers and common interests. Gautam (1999) in this regard, expresses that the federation of WUAs provides an organized forum for expressing farmers' interest and adds to their effectiveness in providing decision-making inputs. Ostrom's (1992a, b) and Tang (1992) recognize clearly-defined boundaries, proportional equivalence between benefits and costs, collective choice arrangements, that is, users' ability to set and modify rules, monitoring; graduated sanctions; conflict resolution mechanisms, at least minimal recognition of rights to organize; and nested enterprises, namely, federations as essential ingredients for success of self-managed irrigation system. The successful WUAs further are either informal or formal but they undertake and practice scheduled meetings, elected functionaries, written rules, accounts, list of members and their water allocation, and members' attendance at work (Martin and Yoder, 1983).

Despite these rules and norms in the WUAs, there are some problems too as WUA which must distribute a limited amount of water to many members and which requires the co-operation of the members for O&M will inevitably experience conflicts. For instance, some members may try to steal more than their allocated share of the water. Members, from time to time, may fail to contribute their required share of the labour and cash to maintain the system. To function well, WUAs need to have an effective way of managing conflicts when they arise.

Some of the indicators of institutionally viable WUA as reported by the Bagadion (1997) include an organisational structure with a strong membership base and a decision making process that ensures participation of that base; strong, committed leadership at all levels, and

at least one leader for every ten members; rules and regulations accepted by the general membership and properly implemented; recording systems for meetings, decisions and other transactions; financial budgeting, recording control and reporting. Other includes: equity of water distribution as planned in water delivery schedules, with rotation of water in times of shortage; maintenance programs and procedures; collection of ISF and payment of amortized construction costs in the case of communal systems; and management of O&M conflicts. Similar findings come from Uphoff (1996) where he presents that reduction in disputes over water; less frequent breakage of irrigation structures by farmers; farmers inputs to better designs for physical rehabilitation; fewer crop failures due to more efficient water use; economies of scale generated through group action; more and better use of complementary inputs such as fertilizer due to improved reliability and equity in water distribution, and improved self-reliance within the farming community are the special characteristics of institutionally developed WUAs.

To achieve the status of WUAs with above features in Nepal, and in improving existing conditions of irrigation systems, which they cannot do on their own, WUAs require agency support. With the support from various donors, GoN has implemented strengthening programs with a view to increasing the institutional capabilities of farmers to develop and sustain efficient, equitable and reliable irrigation management practices. In general, the objective of the government support is to strengthen the capability of WUAs to assume greater responsibility and authority for the O&M of the irrigation system; to assist FMISs in improving their systems and to document the lessons learned. Government intervention programs to support these FMISs have affected the existing institutions at local level. In this process, some existing WUAs have been reorganized and some new have been created. This has brought changes in management practices and has affected the elements of WUAs, viz. water acquisition and system development, water allocation/distribution, system maintenance, resource mobilization and conflict management.

2.1.7 Irrigation-related Governance issues in Nepal

Most of the irrigation institutions in Nepal have similar areas of strengths and weaknesses in governance. Transparency of the rules and regulations as well as the funds, benefit sharing on the equitable basis, presence of accountable practices and rule of law within these institutions are key governance issues. Further, participation of all groups of beneficiaries in the planning and decision making related to the institutions generate other governance concerns. Criticism is on poor means utilized in ensuring transparency while the institutions are making their efforts in promoting participatory decision-making. The irrigation institutions are in safer side with stringent rules and regulations in place but the concerns in the same are on the implementation and waiver to the powerful and influential members of the user groups.

There are different underlying factors for influencing the governance. In order to gain confidence of the WUAs and joint management to succeed, the effortful initiatives are necessary in providing them budgets for O&M works and sharing such information with them. This not only develops mutual confidence but also ensures the successful operation of irrigation projects upon which their livelihood depends. This also contributes to governance, and brings transparency in transactions.

Sharma (2002) highlights peoples' participation as utmost need in the WUAs to ensure greater effectiveness, increased efficiency, and affordable access to the services from these institutions, local resource mobilization, and for developing sense of ownership on the management of these institutions.

2.2 Community Forestry in Nepal

2.2.1 Historical Background of Community Forestry in Nepal

The history of Nepalese forestry has been studied and classified by Hobley (1996) and Pokharel (1997) who identified the three basic elements of privatisation, nationalisation and participation in community forestry. It is well known that prior to 1957, villagers managed their nearby forest to meet local demands of fuel, fodder, poles and timber. The management system was based on indigenous practices of protection and utilisation of resources. These practices were locally developed and regularly revised (Fisher, 1989; Gautam, 1987). But, the forest condition was steadily deteriorating from the 1950s onward due to increased population pressure and demand for timber products (GTZ, 2004).

However, before Rana Regime, many studies suggest that the state of forestry was good despite the fact that there were no proper initiatives, implemented for forest conservation. It has been found that the forests were used to be handed over to the army personnel, high-ranking officials of the palace according to the *jagir*²⁶, *kipat*²⁷ and *birta*²⁸ systems. There was a massive deforestation due to the internal conflict among Rana brothers for power. Those who were defeated in the conflict used to settle in different parts of the country along with their supporters and helpers. Therefore, due to this reason large area of forest was destroyed. Similarly, for the purpose of construction of railway lines, huge amount of wood was exported to India during this period.

²⁶ A type of land, the land taxes of which were collected by the civil servant as their remuneration.

²⁷ A type of non-taxable land granted to a tribal community (*Kirats*) in ancient Nepal

²⁸ Birta is grant of land given to a noble as a reward for a service rendered to the state. It was given to priests, religious teachers, soldiers, and royal family for private use. This led to the emergence of *birta* land tenure. It was usually tax free and inheritable and has no set or agreed time. It was valid until it was recalled or confiscated. The Birta Land Act, 1957 abolished this type of land tenure.

Prior to 1957, about one-third of the forests was under *birta* tenure. *Birta* was the pivot on which the social and political framework of the state rested. Local people could traditionally use the forest for daily subsistence needs but only the elite could exploit them for profit (Regmi, 1977).

By the mid-1970s, the GoN became aware of the costs of deforestation and its inability to respond. The realization on the part of the GoN that protection, maintenance and development of forestlands scattered all over the kingdom are neither possible nor practical through government efforts alone (MoFSC, 1978) brought about a significant change.

The period from 1978 to the present can be considered as the community forest phase, which began with a review of the forestry sector and the relationship between the population and the natural resources of Nepal.

2.2.2 The Coverage and the Condition of Forest Resources

The forest area of Nepal is 5.5 million ha or 37.4 percent of the total surface area of the country. In addition, another 15.7 percent under shrub land, grassland and non-cultivated inclusions has good potential for forestry. Most of the potential land area that is suitable for forestry lies in the hills and mountains (Singh, 2001).

There is a great diversity in forest types and vegetation because of the climatic and topographical variations primarily due to a great elevation range. Land suitable for forestry purposes (1,000 ha) including all forests, excluding private forests²⁹, is called the national forest³⁰. The national forest, which includes grassland, can be divided into several management options: protected forest (within the protected area system, PAS), government-managed forest, community forestry, leasehold forest and religious forest.

2.2.3 Policy Review related to Forestry

The forest legislation of 1957, 1961 and 1967⁴ indicated that all forests, except tree plantation on private land, are considered the property of the state. The Ministry of Forest and Soil Conservation (MoFSC) was established in 1959 to enforce this law. The overall effects of the 1957 Act are subject to debate. It has resulted in the forest administration disrupting traditional local forest use practices with a flood of rules and regulations based on the legislation. It has sought to restore government control over what was now seen as the national property. The Department of Forest (DoF) was charged with policing and licensing forest resources.

²⁹ A forest planted, nurtured or conserved in any private land owned by an individual.

³⁰ All forests, excluding private forests, the terms includes waste, uncultivated, unregistered, lands surrounded by or adjoining forests as well as paths, ponds, lakes, rivers and reverie lands within forest.

The forests were nationalised under the Private Forest Nationalisation Act of 1957 and it is generally believed that heavy deforestation occurred during the years following the nationalisation because people felt that their forest had been taken away from them.

With regard to illegal settling on forest land the Forest Protection Act 1967, Section 7 (2) says "In case any person is found to have reclaimed lands inside a state forest or constructed a house or hut and settled thereon, a Forest Officer of at least the rank of Divisional Forest Officer may direct the cultivation of that land to be discontinued, demolish such house or hut and confiscate the crops as well". The Forest Act 1961 enabled the classification of forests into government, community, and leasehold, religious and private forest (trees and private land). However, it did not specify the modalities for transferring forest management rights at the local level.

This is despite the fact that the foresters themselves officially controlled the resources on behalf of the government. While this question is being asked since as early as 1952 (Gilmour and Fisher, 1991), it was more seriously posed from the year 1975. That was the year when many foresters from all around the country gathered in Kathmandu to share concerns about the degenerating resource in the hills and to seek alternative measures to address the situation. This landmark event gave rise to National Forestry Plan 1976, which saw a need to seek peoples' participation in conservation of the forests and recommended the transfer of resource to the village council (the then Panchayat). Subsequently, the Forest Act 1961 was amended and new sets of rules (Panchayat Forest and Panchayat Protected Forest Rule, 1978) were promulgated. This was to make a provision to handover the use rights of the national forests to the village councils.

The formulation of the National Forestry Plan in 1976 provided a policy base for initiating forestry development work in the hills of Nepal and it was a bold shift in policy towards participatory forestry. This plan was followed by the *Panchayat*³¹, Panchayat Forest Rules and Panchayat Protected Forest Rules in 1978 included the provision for handing over limited areas of government forest to the local Panchayat. This legislation gave formal recognition of the rights of villagers to manage the forest and this could be regarded as the formal launching of community forest in Nepal (Joshi, 1993). However, there are numerous cases where the Panchayat leaders misused their rights and responsibilities, turned their deaf ear to the needs of the local people and used the forest for their own sake.

Only after the enforcement of the Panchayat Forest rules (1978), the Panchayat Protected Forest rules (1978), the Leasehold Forest Rules (1978) and the Private Forest Rules (1984) did non-government management become legally possible. This progressive legislation of 1978 provided authority to the DoF to hand over national forestlands to local communities.

³¹ A territorially based smallest politico-administrative unit during the Panchayat regime.

The initial phase of community forestry was geared towards assigning responsibilities and rights of local forest management to the village level political bodies. It was based on protecting and planting trees to meet the forest product needs of the local people based on the principle of 'gap analysis'. Three years of rigorous study and consultation in the preparation of the Master Plan for the Forestry Sector (MPFS), and the first national level workshop on community forestry held in 1987 laid the foundation for handing over forests to groups of traditional forest users so that they could meet their basic forest product needs and at the same time conserve these forests. Reorientation of foresters was also considered essential for the sustainable management of these community forestry. The MPFS further stressed that participation of local communities in decision-making and benefit sharing was essential for the conservation of forest management.

The MPFS of Nepal of 1989, as the government's official policy, designates forest user group (FUG) as the principal vehicles for local action and stipulates that forest officials should adopt a new role as advisers and extensionists. The Constitution of the Kingdom of Nepal 1990 [section 25(2)] clearly provided that "available resources and means of the country be concentrated within a limited section of society by making arrangement for the equitable distribution of economic gains". It further said: "It shall be the chief responsibility of the state to maintain conditions suitable to the enjoyment of the fruits of democracy through wider participation of the people in the governance of the country and by way of decentralisation" [sec. 25 (4)]. The new Forest Act and Forest Regulations were promulgated in 1993 and 1995 respectively. It had become clear that the Act both legitimised and actively promoted CFUG that it recognised CFUGs as legal entities and provided for their registration and administration.

The provision made in the Forest Act of 1993 stipulating that the use and management of community forestry is done independently by the CFUGs, the marketing of timber being without any doubt a management task. While the Ninth Five Year Plan advocates a simplification of selling procedures, a confusing set of policies and circulars further complicates and obscures them. In unequivocal terms, Grosen (2001) states "presently, community forestry is operating outside the national tax system and there is no legislative mechanism by which HMG can capture any royalty from CF". Forests are one of Nepal's most important assets. It is therefore remarkable that the forestry sector although generating substantial income is heavily subsidized by donors and taxpayers. In the fiscal year 1999/2000 allocation for the forestry sector amounted to Rs 1.44 billion, while the direct revenues yielded a mere Rs 0.37 billion (not taking into account value added tax revenues paid by the formal sector of forest-based industries and taxes by investors in the private forest sector).

From 1978, there have been several legislative changes aimed at facilitating the handing over of management responsibility of the government-controlled lands to local

communities. The process was more or less progressive towards formulation of legal base until the promulgation of the Forest Act 1993. The Forest Act (1993) provided full authority to the users for management of forest resources and can be regarded as one end of a co-management spectrum between the government and forest users. It recognised the dominant role of local people in the decision-making process and provided grounds for benefiting local people from forest management. The emphasis was given for returning the ownership of forest resources to the people. The spirit of the new community forest legislation in Nepal was the development of a partnership between the organised local communities and the government. The community institutions called CFUGs were legally authorised to take management decisions (Karki, Karki and Karki, 1994).

The emphasis on community forestry is a radical change of direction for the development of forestry programme in Nepal. As a result, a further shift in policy took place allowing FUGs, which were smaller than the Village *Panchayats* (now VDCs), to be the social unit for managing CFs. The Forest Act, 1993, further strengthened the FUGs by providing them with legal status and more autonomy to mobilize their funds and resources. Because of these changes, requests for handing over the forests are increasing rapidly where the support from the DoF staff and NGOs is good.

The endorsement of MPFS in 1988 and the political regime change in 1990 were instrumental in the formulation of new Forest Act in 1993 and Forest Regulations in 1995. The focus of the new Act and Regulations was on institutionalising CFUG as an independent and self-governing entity, expanding community forestry not only in the hills but also in the Terai, providing utilisation and management rights to these CFUGs and making DFOs the 'gate keepers' of CFs.

A set of legislation and necessary bylaws (Forest Act, 1993 and Forest Rules, 1995) was subsequently promulgated in line with the spirit of the policy. The operational guidelines (1995) were also prepared to guide the field workers, particularly the Forest Rangers. The new policy accepted community forestry as a process of identifying people with indigenous use rights and as a process of building a consensus regarding protection, management and benefit sharing. A simple operational plan and an accompanying constitution prepared by the user group when finally approved by the DFO, forms the starting point from which the local control begins. The DoF staffs are supposed to play a facilitative role in preparing the plan, the accompanied constitution and in their implementation. Such decentralised philosophy is carried out though it has become an aspect in theory in some areas.

The MPFS was prepared in 1988 and approved in 1989. It provided a 25-year policy, planning and budgetary framework for the development of forestry sector. The long-term objectives of the MPFS were to meet the people's basic needs for forest products on a sustained basis, conserve ecosystems and genetic resources, protect land against

degradation and other effects of ecological imbalance; and contribute to local and national economic growth.

In 1999, the first amendment of Forest Act 1993 was done to allow forest officials to have greater control over CFUG. Whilst the spirit of the Forest Act was to give the power and authority to punish or sanction anyone including FUG members to the general body of the FUG, the first amendment made a provision to penalize FUG committee members by forestry officials.

In 2000, government imposed a ban on felling green trees in community forestry. In addition, over the past 5 years, HMG/N with the recommendation of MoFSC has brought in various operational procedures, ministerial directives and cabinet decisions to control CFUGs particularly restricting on the sale of forest products freely. Many of such decisions deal with matters of interest only from the perspective of the MoFSC.

In 2000, government passed a new policy for the Terai without public debate and deliberation. The policy restricted implementation of community forestry in the Terai and proposed greater involvement of government organizations in forest management. In 2001, second amendment of the Forest Act 1993 was proposed in which power and authority of the forestry officials in the Terai region were proposed to be increased tremendously. Likewise, in 2003, finance ordinance bill was enacted to tax CFUGs' income all over the country.

Kanel (1993) and Kanel et al. (2004) explain some of the key features of the existing Act, Rules and Policies that indicate the provisions related to community forestry in the following points:

i. Forest Act 1993

-) DFO may handover any part of national forests to the communities, who are traditional users of the resources.
-) Land ownership remains with the state, while the land use rights belong to the CFUGs.
-) All management decisions (land management and forest management) are taken by the CFUGs.
-) Each household is recognised as a unit for the membership and every member has equal rights over the resources.
-) CFUGs and forest hand over will not be affected by political boundaries.
-) Outsiders are excluded from access to community forestry.
-) There are mutually recognised use-rights.
-) There need to be equitable distribution of benefits.
-) State provides technical assistance and advice.

-) National forest can be handed over to CFUGs irrespective of size of forests and number of households.
-) Handing over of national forests as community forestry has priority over handing over as leasehold forest.
-) User groups are recognized as independent, self-governing, autonomous and corporate body with perpetual succession.
-) CFUGs can accumulate their fund from grant received by GoN and other local institutions, sale of community forest products and amount received by other sources such as fine, etc. CFUGs can use their funds in any kind of community development works.

ii. Forest Rules 1995

-) CFUGs are allowed to plant short-term cash crops like Non-timber Forest Products (NTFPs) such as medicinal herbs.
-) CFUGs can fix prices of forestry products for their own use.
-) CFUGs can transport forest products under their jurisdiction anywhere in the county.
-) In case of forest offences, CFUGs can punish their members according to their constitution and operational plan.

iii. Forest Sector Policy 2000

-) The barren and isolated forestlands of the Terai, inner Terai and the Churia hills will be made available for handing over as community forestry s. A community forestry operational plan will be prepared and forest products will be utilized based on annual increment.
-) As the main objective of community forestry s is to fulfil the basic needs of local communities for fuel wood, fodder, and small timber, when surplus timber is sold by CFUGs, 40 percent of the earnings from the sale of surplus timber in the Terai, Siwaliks and Inner Terai will be collected by the government for program implementation. Until July 2003, CFUGs paid 40 percent of their income to the government, which was reduced to 15 percent through the financial bill enacted in July 2004.

2.2.4 Situation of Handover of Community Forest

About 1.1 million ha of forested land (25 percent of the total) has so far been handed over to more than 14,000 CFUGs, which constitute about 35 percent of the total population of Nepal. Denuded forested areas have regenerated, the condition of the forest has improved, and the level of forest extraction is decided by the users themselves. Income from the sale of forest products is used in community development, and forest management activities are based on the decisions of the users themselves. Although the primary aim of community forestry in terms of greenery expansion has been more or less achieved, the human dimension as expressed in the Tenth Five Year Plan and Millennium Development Goals³² (MDG) has yet to be fully realized. The challenge lies in increasing the productivity of these forests, streamlining the benefits from forests towards livelihood promotion (particularly poverty alleviation), and strengthening good governance for equitable performance (Kanel, 2004).

There are opportunities to improve the livelihood of the poor through increased utilization of the forest products. The study in the Koshi Hills, Nepal reported that the improvements in forest conditions of the community forestry have not been productively utilized as 87 percent and 43 percent of the FUGs are harvesting less fuel wood and timber, respectively, than the actual productive capacity of the community forestry (Branney and Yadav, 1998). This is largely due to the emphasis on protective measures in the community forestry and in absence of a proper mechanism for sustainable use of the resources.

Under the same policies and the legal provisions, the government forest development agencies have achieved much in the community forestry sector. As of March 2006, there are

³² The eight MDGs are: Eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; combat HIV and AIDS, malaria and other diseases; ensure environmental sustainability; and develop a global partnership for development.

14,258 CFUGs established across the country. They manage 1.187 million ha of forests involving 1,640,239 households (CFD, 2006). Similarly, in leasehold forests 2,524 groups are managing 11,109 ha of forests and 18,496 households are involved (Leasehold Forestry Database, 2006). Likewise, 57 buffer zone community forests are established around the PASs of Terai region, where 19,362 households are managing 15,925 ha of forests.

Table 2.1

Summary of User Groups, Area and Households Involved

Management Models	CFUGs	Area (ha)	HHs
Community Forests	14,258	1,187,000	1,640,239
Leasehold Forests	2,524	11,109	18,496
Buffer Zone Community Forests	57	15,924	19,362
Collaborative Forest Management	1	3,139	33,000
Total	16,840	1,217,172	1,711,097

Source: CFD, 2006

During the last 29 years of community forestry implementation, about 1.2 million ha (or 25 percent of existing forests) of national forests have been handed over to more than 16,840 local CFUGs (CFD, 2006). These user groups constitute about 35 percent of the country's total population.

The community forestry programme has been the major thrust of forestry in Nepal over the last two and a half decades. Following the promulgation of Forest Act 1993, the government, with the strong support of international agencies, accelerated the handing over process of government-owned forest resources to local communities as community forestry. As a result, millions of ha of government-owned forestland have been handed over to CFUGs. These figures show a rosy picture of the success and growth of community forestry in Nepal. However, the success of community forestry should not be understood only by the flourishing local forest, it should rather be judged based on several key indicators including the following (ICIMOD, 1999).

-) Transparency and accountability in the administration of FUGs,
-) Increased benefit sharing on an equitable basis,
-) Participatory decision-making within FUGs,
-) Increased participation of women and disadvantaged groups, and
-) Quality of forest.

2.2.5 Good Aspects of Community Forest in Nepal

The community forestry program in Nepal is proved to be a very encouraging endeavour in the development of a constructive partnership in forestry between people and the government. The essence of the community forestry philosophy in Nepal, from its inception, has been the establishment of a partnership between local communities and the staff of the DoF for the management of locally accessible forests. People's participation in forest management is a natural outcome of decentralized planning. People living near the forest largely depend on the forests for their livelihood and put heavy pressure on forest resources. With the introduction of community forestry as a strategy to jointly manage forests, people who earlier threatened the forest resources become their guards and as a result forest was transformed from others to own property.

The community forestry today forms one of the central themes of all rural development programs in Nepal. The origin in Nepal of this promising approach to effective forest management can be traced back to only a few experimental village communities of the Chautara Forestry Division, Sindhupalchok and Kavre districts. Here, it was realized by early 1973 that technical forestry solutions alone shall not be able to reverse the severe degradation of the forests of the two districts and the related demoralization of local communities heavily dependent on local forest, trees and other woody perennials. With this modest and experimental beginning in the village communities of Chautara Forestry Division, the theory and practice of community forestry has developed rapidly in Nepal. The concept of community forestry was incorporated in Nepal's National Forestry Plan of 1976 and its related forest legislation of 1977. This legislation, the rules, regulations under it, and their further modifications have made it possible for the development of community forestry in Nepal (Gilmour and Fisher, 1991).

There are of course a number of studies, which suggest that the handed over CFs are not completely free of errors. Many of the errors seem to have their roots in the elite members of the community who tend to control the resource in their vested interest thus affecting the aspirations of the poor. This however, is not universally true. There are also a number of studies, which suggest that the local people are managing the forest in a reasonable way and that they are using the resource in the interest of the community members in general. Plenty of room exists for improvement, particularly in the direction of empowerment at the grassroots (Baral, 1999). These concerns have actually been shared amongst the Joint Technical Review Committee on community forestry (MoFSC, 2000), which saw an urgent need to pay attention to the matter. Hopefully, the subject will draw more attention in the future so that community forestry in the hills of Nepal does not only contribute to forest regeneration but also contributes to more equitability. Despite such encouraging signs in the hills, it may be clearly noted that Terai part of the country has largely been ignored.

The community forestry programme, implemented throughout Nepal, is guided by Forest Act of 1993 and the Forest Rules of 1995. The community forestry is an institutional innovation of empowering local communities in managing forest resources for their benefit in co-ordination with the government. These communities are legitimised by the DFO as independent, voluntary and self-governing institutions. The authority assigned to DFO and the CFUGs over the management of these national forests and the relationship among them and other units of state (such as other government, civil society, and private sectors) has helped to resolve exclusion and extraction difficulties inherent in classical forest management regimes. This has led to a governance environment leading to better forest condition and livelihood of local people.

The process of handing over part of national forests to CFUGs and the advisory and regulatory roles to be played by DFO and other units is elaborated in the community forestry directives and guidelines of the DoF. Although community forestry was started in 1978, it has gradually evolved to the present situation. Learning from practices, refining them over time, and legitimising these practices have been the hallmarks of community forestry development in Nepal. Presently, the CFUGs have access, withdrawal, exclusion and management rights over the national forests handed over to them as community forestry. Face-to-face interactions among the members of the CFUGs, joint formulation of operational rules, their monitoring and sanctioning by the users themselves has greatly enhanced trust, reciprocity and reputation among the members of CFUGs and their neighbours. Foresters have further helped in facilitating the process of institution building at the local level.

2.2.6 Present Condition of Community Forestry in Nepal

There are different studies, which explain the present conditions of community forestry in Nepal.

Branney and Yadav (1998) assessed the change of forest condition and management in community forestry during 1994–1997 in four eastern hill districts. The research shows an overall improvement in community forestry condition over the research period. The total number of stems per unit area has increased by 51 percent. The basal area of forest in poor condition has increased significantly by 29 percent. There is lower level of grazing in community forestry (from 94 to 71 percent) than in National Forest during the research period. Fire incidence and illicit felling are also lower. The proportion of 'active' forest management increased from 3 to 19 percent and 'no forest management' has decreased from 97 to 43 percent. Regarding the forest product utilisation, 43 percent CFUGs are harvesting more timber and 14 percent are harvesting less than before the formation of CFUGs. Whereas, 27 percent of CFUGs are harvesting more fuel wood and 47 percent are harvesting less than before. Similarly, 87 percent CFUGs are harvesting a lower level of fuel

wood and 47 percent are harvesting lower level of timber than the productive capacity of forest.

Jackson et al. (1998) undertook a land use change study in two central districts using aerial photographs of 1978 and 1992 supplemented by rapid rural appraisal and information from local villagers. Their study covered 15 percent of the total area of the districts. The community forestry at lower altitude is having beneficial effects on forest cover. Shrub land and grassland are being converted to more productive categories of forestland reflecting the care of communities in managing and conserving their own forest resources. The area of total forestland increased from 7,677 to 9,679 ha (by 37.5 percent) between 1978 and 1992. This was mainly due to 1,352 ha of new plantation, but also because of an increase in the area of mixed forest.

Gautam et al. (2002) carried out a study of land use change in a watershed covering an area of 153 square km by comparing satellite images from 1976, 1989 and 2000. The study shows that the number of forest patches decreased substantially between 1976 and 2000 suggesting a merger of patches in the latter periods due to forest regeneration and or plantation establishment on land previously separating two or more forest patches. For example, the number of forest patches decreased continuously from 395 in 1976 to 323 in 1989, and 175 in 2000 while average patch area increased continuously during the same period. Among the major land use groups, around 81 percent of agricultural and 77 percent of the forest area in 1976 remained unchanged until 2000. Forest lost 22.5 percent of its areas as of 1976 to other classes and gained 37.4 percent from other classes resulting in a net increase of 794 ha in forest area during the study period.

Livelihood and Forest Program (LFP, 2003) carried out a baseline study to understand the livelihoods, aspiration, priorities, strategies and dynamics of households in four eastern and three western hill districts. The study shows that the majority of users feel that forest conditions are improving (93 percent of respondents in the west, and 72 percent in the east), and managing community forestry is a worthwhile endeavour. Despite the abundance of NTFPs, none of the CFUGs are found to commercially exploiting these products.

The Community Forestry Division carried out a rapid appraisal of forest product utilisation, income and pattern of expenditure of 1,788 CFUGs from 12 districts covering both hill and the Terai for the year 2002. These data were extrapolated for all CFUGs in Nepal. The findings are reported in Kanel and Niraula (2004). A variety of forest products are collected, used or sold by CFUGs and generate fund, which is spent mainly on forest and community development activities. The value of forest products harvested and used is calculated by using both user and stumpage price. User price refers to the actual rate the forest users charge while selling the forest products within and outside the group. CFUGs charge nominal fees (below market price) for the use of their forest products, but if they sell them

to outsiders, they charge the market price. Stumpage price is the market price of the products (used by both users and outsiders) at the site, before the forest products are harvested.

CFUGs are contributing voluntary labour in forest protection and management. It accounts for a higher fraction of their contribution than stipulated in forest legislation. Users are involved in forest protection, silvicultural operations and in CFUG meetings. People generally spend whole days for forest protection and silvicultural operations, whereas only a few hours are spent in meetings and assemblies. If eight hours in a day is considered as one-person day and its opportunity cost is estimated to be Rs 65 per day, the amount of CFUG contribution in terms of person days in monetary terms is about Rs 165 million. On an average, more than forty percent (in fact 42 percent) of their contribution is for the protection of community forest. It is even higher in the Hills (48 percent) than in the Terai. It is followed by participation in meetings and assemblies (19 percent) and in forest products harvests (19 percent). The pattern of voluntary labour contribution is different in the Terai region of Nepal. Only one-fifth (21 percent) of their participation is in forest protection whereas, nearly forty percent (41 percent) is in forest product harvesting. Similar to the trend of CFUG expenses, participation in training, study tour and workshop is very low (less than one percent). This indicates their lower priority in human capital development. Their participation in community development activities is not significant (5 percent). They appear to be willing to spend money but contribute less labour in infrastructure development (*ibid*).

2.2.7 Forestry-related Governance issues in Nepal

Analysis of achievements shows that community forestry in Nepal has been successful in designing and implementing policies led by practice and pragmatism. Two-way communication between the CFUGs and the government has helped to be more adaptive. Field level lessons have been collectively assimilated by multiple stakeholders. It has now been accepted by many that local people's participation through decentralisation is essential in the management of natural resources.

There has been reduction in the principal-agent problem at the central level by devolving forest management authority to local communities. However, it has been observed that these grassroots organisations such as CFUGs are facing principal-agent problems at the local level. This has resulted in the capture of decision-making flora and benefits by local elites. Therefore, how to make these institutions more accountable and responsive to poor, disadvantaged groups and women is still a challenge. Exploring the approaches to strengthen more inclusive processes of representation in CFUG committees so that they are more accountable and responsive to forest users is yet another critical issue in community

forestry. Strengthening the relationship and synergizing between and among communities, government and forest management for sustainable benefits from better forest management streamlined towards poverty reduction is another considerable challenge. These challenges should be resolved in a consultative mode so that the cost of transaction or reform are minimised both at the individual as well as societal levels. Many reforms have been guided by either deductive or inductive methods of logic. But since community forestry reforms have mostly been led first by experience and then by legislation, there is a need to follow this pragmatic approach of reform or transformation. In order that the reform approaches are logically consistent and conceptually robust, there is a need to develop a framework for analysis and describe the strategy for reform and action.

The MDGs are articulated in the Tenth Five Year Plan. The Poverty Reduction Strategy Program (PRSP) has only one objective of reducing poverty from 38 percent to 30 percent within the plan period based on the four pillars of intervention. They are: broad-based high economic growth, social sector development, social inclusion and targeted programmes, and good governance. The Forest Sector Coordination Committee (FSCC) under the MoFSC has identified three themes—livelihoods, governance and sustainable forest management- as second-generation reform in the community forestry programme. Therefore, the relationships among PRSP, the second-generation reform issues and the MDGs are very closely interlinked.

The MoFSC wanted an approach to be developed for the protection and sustainable management of forest resources in the Churia range, which could then be replicated in other parts of Nepal where similar condition prevailed. People, especially in Siraha, naturally expected effective outside support in their struggle to improve their living conditions.

The community forestry management is in fact a collective action and coordination of activities in collective actions entails inclusive and adaptive governance. Governance has to be improved for sustainable management of the community forestry, and to enhance the economic and social welfare (livelihood) of the people. Presently, about 60 percent of the development budget of the community forestry programme is provided by many bilateral donors. The way GoN and donor communities participate and undertake partnerships will have implications on the performance of community forestry programme in Nepal. Iterative interactions among these three key themes identified as the second-generation reform issues in community forestry will lead directly to the contribution to MDG goals. However, challenges also lie in all of the three areas.

Coordinated actions based on trust, reciprocity and credible commitment to the rules crafted and agreed by the users can resolve the conflicts and tensions in forest management. This can be mitigated through inclusive and equitable participation, rule of

law, accountable and responsive representatives to the users, access to low cost conflict resolution mechanisms, and above all trust building processes (Ostrom, 1990).

Nested and overlapping governance at different levels are also important for scaling up the transformation or reform. Since the government alone cannot take all the responsibilities of service provision and delivery, civil society and private sector governance reform are important as CFUG governance reform (*ibid*).

There is a unanimous and converging view that community forestry has brought a fundamental shift in forest management paradigm. This shift in mindset is that institutional innovation or reform should precede technical innovation. That is the reason why we think that governance reform is a prerequisite for sustainable forest management and livelihood promotion. This is therefore to mean that the first entry point in bringing about change is to identify and benefit the poor and disadvantaged groups with special focus and emphasis by facilitating them.

There is a large backlog of FOP needing revision. Since government foresters are limited in number and community forests are expanding, it is essential to involve the non-governmental sector in the provision of services needed by the CFUGs. This is also consistent with the polycentric approach of governance as spelled out in the Tenth Five Year Plan.

Community forests are generating substantial amounts of forest products and income. There is also a potential of further generating income from improved management of community forestry. These funds can be better utilised to benefit the poor and marginal groups. Fund mobilisation guidelines need to be prepared in consultation with relevant stakeholders so that income and expenditure of CFUGs become more transparent and geared towards pro-poor activities.

There are multiple avenues of channelling resources through CFUGs in alleviating poverty in the rural areas of Nepal. CFUGs can be assisted to tap these resources for the benefit of poor and dis-advantaged groups.

The history of community forestry in Nepal shows that CFUGs are a better institutional mode of forest management than VDCs. The LSGA and its regulations need to be interpreted in this conceptual mode. MoFSC considers that sharing of revenue generated from community forestry among the CFUGs, local political bodies and the government should be resolved through a consultative process. Accordingly, there is a need to incorporate this provision in the Forest Act and Regulations (MoFSC, 2004).

In order to improve inclusiveness and transparency in governance, District and Village Forest Coordination Committees should be established. These platforms chaired by the local

political leaders will also assist in community forestry plan formulation and monitoring of activities under their jurisdictions.

Some of the accessible community forests are commercially important. Experience from agriculture suggests that micro-enterprises based on food processing and marketing have helped in generating employment and reducing poverty (Scherr et al., 2004). In many cases, the silvicultural system as adopted in the operational plan is timber focused. The pricing system of the timber is well below the market price. However, mainly the wealthy use the timber. Silvicultural systems also need to be reformed so that those products demanded by the poor could be produced in larger quantities. Adaptive and collaborative forest research needs to be carried with CFUGs.

The expansion of community forestry and the number of CFUGs has created a condition for the establishment of various federations. These federations of community forestry users should assist users in democratisation and good governance at the CFUG. Some of them are actively engaged in providing assistance to users but more could be done.

Suggestions for second-generation reforms in community forest were discussed during the in FSCC meeting, and are well presented in Kanel and Kandel (2003). The government has already accepted these strategies, and some piloting is being carried out to assess the viability of the interventions. There is a critical mass of committed government staff in the forestry sector, members of civil society and forest users who agree for the need of such reforms. Some may still resist change, but frequent coaching may be necessary to change their mindsets. The national and international political environments are quite conducive to these reform strategies. We should learn from success as much as from failure. Action, learning and reflection are after all the key features of community forestry in Nepal.

The handing over process compromised several social and technical processes. Similarly, the post formation support provided by government and other service providers remained inadequate compared to increasing demands of CFUGs. As a result, several second-generation issues have emerged in community forestry all around the country. Most of the second-generation issues, as reported by many studies, are related to equity concerns, governance, livelihood, and sustainable forest resource management (Bhatta, 2002; Tiwari, 2002). The impressive achievement must also be seen against a background in which, according the National Forest Inventory Report (1999), the overall forest resource base is continuing to decline and degrade. This has happened because of the fact that the pressure on forest has shifted from one part to the other, from community forestry to national forest (Bhatta and Lamsal, 2000) and this is an indication of very poor governance in the community forestry.

The Forest Act 1993 allowed CFUGs to produce, utilise, and sell surplus forest products independently as guided by an operational plan. However, many resource rich CFUGs emphasised the commercialisation and sale of forest surplus products without seriously addressing internal demands of CFUG members.

The weaker points on community forestry governance revolve also around the decision making process. This process, in most of the CFUGs was captured by wealthier and upper caste male and the interests and concerns of poor, women and *dalits*, who depend more on common property resources for their livelihood, were not adequately considered in decision-making process (Bhatta, 2002; Chhetri et al., 2001; Tiwari, 2002; Warner, 2001). As a result, in most cases, a large amount of CFUG funds are either being deposited in the bank account or invested in non-productive sectors and in some activities, which directly support the wealthier people (Bhatta, 2002; Ghimire, 2000).

The weak governance status of various institutions, including state, market and civil society, is recognised as one of the major obstacles in the country's development. Strengthening this has been emphasized as one of the major strategies in the Tenth-plan. The CFUGs, being one of the largest civil society organizations in the country (which has organised about one third of the total households of the country under its umbrella), have a great potential to improve governance in the society. If their internal governance is improved, it will have many-fold upward effects in terms of improving governance in the country. As the governance within CFUGs improves, they will develop a tremendous potential to advocate for good governance on behalf of people and mobilise constituencies for change. However, the advocacy capacity of CFUGs is constrained by their weak institutional capacity, limited awareness of rights and responsibilities, lack of access to information, illiteracy, and tenuous linkages with other groups and institutions.

CFUGs have proved to be effective institutions and are widely accepted as community development institutions. However, issues related to governance are frequently raised. They include elite domination, low participation of women and disadvantaged groups, low level of accountability, transparency and equity. During CFUG formation process, the users form a part of a wider local community. Both of these users and the remaining local community of the same locality, who are not included in the CFUGs, neither differ in terms of major parameters of development, such as literacy and awareness level, livelihood strategy, poverty level, nor in governance related aspects. Both the CFUG member households and the households in the vicinity of CFUGs broadly share the same social strengths and weaknesses.

Community forestry is considered as one of the most successful development programmes in Nepal and enjoys international recognition. The main reason for this success is its people-centred approach. Community forestry furnishes CFUG with a legally secure institutional

status and gives management responsibility over forests. The users need to be able to manage their own group as an organisational unit and as a social institution in order to implement community forestry actively and sustainably. CFUGs are long-term institutions and they play an important role for social and community development in rural areas of Nepal. Furthermore, their role is more important in the present context of political crisis with no functional government bodies like VDCs at the local level.

To ensure that the concerned CFUGs improve their institutional and organisational effectiveness, there are opportunities to sufficiently deal with governance-related issues. On this basis, their improved ability to actively implement sustainable forest management practices can also be achieved. With this, the optimum utilisation of forests can be ensured, which shall trickle to result meeting immediate needs and promoting local community and broader economic development.

CHAPTER III

FIELD RESEARCH METHODS

3.1 Introduction

This chapter begins with an introductory background on the selection of the research area followed by some the initial initiatives like entry into the community, the permission, organization of informal meeting, the rapport building, selection of research assistants and involvement in discussion and community level activities. Then the chapter briefly discusses unit of analysis; design, size and selection of samples; tools and techniques used for data collection, analysis and interpretation. Finally, this chapter goes on to discuss delimitations, encounter and experiences during the fieldwork.

3.2 Selection of the Research Area

Siraha district was selected for this study because of several reasons. First, the probability of gathering reliable and meaningful data was high in Siraha as I was familiar with the area and people based on my previous professional association in this district. This meant that rapport-building work that was imperative for me, as a researcher for a qualitative research was not a problem. Understanding culture, society, and social behaviours in advance have also provided me a valuable asset to establish rapport with the local people. Second, Siraha exhibits popularity in community forestry management as many I/ (NGOs) have been working in Churia while figures show that Siraha is considered the district with highest deforestation rate (DoF, 1978). Similarly, the FMISs have been facing many challenges that also affected the governance of these institutions. Third, Siraha lies in the Terai region of eastern Nepal. It is neither very remote nor economically very advanced. Thus, it provides a balanced or representative picture in terms of development when compared to many other districts located in eastern part of the country. Fourth, Siraha represents diversity in terms caste and ethnic compositions.

Badharamal VDC was selected as the research VDC. It represents a multi-ethnic setting (both hill migrants and Teraian native people) with different culture and tradition. I realized that this VDC would provide a nice setting to analyse the linkage of CFUG and WUA based on the research problems. Previous affiliation with the project³³ in the same area for a couple of years was an added basis for selection of the area. During the exploration of research site, villagers informed me about the governance situation of various CBIs (both irrigation and forestry) based on their memory and historical development. It has given me a broad overview of the governance situation of many CBIs for the selection of specific cases for the detail study. After the visits of dozens of CBIs and with the help of local leaders, GOs, NGOs, VDC, teachers, and review of available information, selection of two CBIs namely KUWUA and NCFUG was made for the depth study as guided by the research problems, research questions under the stated objectives of the study.

KUWUA is selected because it is a small irrigation system operated and managed by farmers themselves through the mobilisation of local resources. NCFUG, which is considered the large CFUG in the surroundings, has its own specialties and characters (the details about these CBIs are presented in Chapter VI). It is also realized that forest resources are being used in Kamala Uttarahini Irrigation System (KUIS) O&M in every year but interestingly not all forest users benefited from irrigation facilities. Both of these CBIs are in Bandipur where there are aborigines Terai and hill migrants. So, sociologically, it becomes important to know how people cooperate with each other while making optimum use of these scarce common property resources.

³³ Nepal: Guideline for Good Governance Project was implemented by Centre for Agro-forestry Technology, a NGO, under the management of Mott MacDonald and financial assistance of DfID.

However, before the selection of research area for detail study, extensive review of sociological literature related to the present research problem, theoretical as well as conceptual frameworks were made. Several books on fieldwork methods were critically reviewed to be acquainted with the techniques of collection of qualitative data³⁴.

3.3 Entry into the Community

3.3.1 The Permission

When I made up my mind to carry out the field work in two CBIs viz. KUWUA and NCFUG, I approached the district level stakeholders initially to inform about the purpose of my study and then to seek permission to go and work in these CBIs. I approached DDC to get consent from the officials to enter the VDC as the fieldwork was carried out during the highly sensitive period in terms of country's armed military conflict. I also shared my study purpose with DFO and DIO to receive necessary support and cooperation both from local as well as district level.

3.3.2 Organization of Informal Meeting

As discussed earlier, the area and people were not new for me as I was associated with other work in the past. As the objective was very different, I had to maintain some protocol from the beginning. Therefore, I visited the Badharamal VDC Secretary and other key stakeholders at VDC level about my purpose. I also handed over the letter from Department of Sociology/Anthropology of Tribhuvan University of Nepal to the Secretary, as well as the Chairpersons of the KUWUA and NCFUG. In the initials days, I just met some of the key officials of irrigation and forestry, the village social workers, and some key informants. In Bandipur, key station of villagers used to gather was teashop of Dahal Baje where the owner used to prepare very delicious rice pudding. Mostly people used to come in that hotel, I used to have discussion with people about irrigation, and forestry related issues along with local politics. I allocated some time to go and participate in the discussions and learn more from their issues as a participant's observer. It was also added advantage for me to understand the village level issues and concerns before the detail fieldwork formally.

3.3.3 The Rapport Building

In the initial days, I had further sharpened my Maithali³⁵ language, which supported me in order to build the rapport with Teraian people though it was not very difficult to understand

³⁴ Data collected from a qualitative research projects generally from observation, the reading of written materials, or from interviews. Such data are not generally summarised by numbers or analyzed with statistics.

³⁵ Language and culture of people inhabiting the Terai plains between the districts of Rautahat and Morang in Nepal and in about nine adjoining districts of Bihar and West Bengal.

Nepali for them. However, it was found that familiarity with local language has helped to obtain in-depth information. I listened to the historical development of the area, development of irrigation and forest initiatives from ex-chairpersons and other key informants and gained enormous ideas. After establishing a successful rapport with field family and neighbours, I decided to extend relationships with the entire community of Bandipur.

Some formal introduction with KUWUA was organized which helped me to participate in the meeting as an observer. I observed the paini activities at both Chisapani and Uttarahini to see urdi³⁶ mobilisation, process of communication system and job allocation process among the water users while working in paini. Other things observed included: ways of maintaining the portfolio in the absence of EC members, water distribution schedule, the water rotation practices, the mobilisation and management of internal and external resources, networking and coordination, mutual cooperation between hill migrants and Teraians, etc. Likewise, at NCFUG, the ways of distributing the forest resources on annual basis, the process of safeguarding the forest from encroacher, the control mechanism from illegal timber exporter, the daily functions of Tar Pale³⁷ for safeguarding the forest, etc. were observed. I also made transect walk through all plots of forest area along with key officials in order to familiar with the physical condition of the forest.

3.3.4 Selection of Research Assistants

In order to support me to collect data and to ensure that there is a good rapport with the community; I selected two Research Assistants (RAs), one male and the other female. The role of female RA proved to be crucial in getting important information from women. The RAs were educated and have experiences of both irrigation and forestry issues. Each of the RA was assigned for each CBI. These RAs were discussed in detail about the type of the research, its nature, purpose and methods of research undertaking. They were oriented on the approaches of this research and they were informed about the incentives they will get from participating in the research work. Initially, it was like on-the-job training while later they were left independent to collect required information. One of the RAs stayed very near to the house I was staying. Therefore, any new issues and approaches in my mind were also to share with him and necessary planning was done to ensure good information. These RAs were involved in the household's census as well as focused group discussions (FGDs) and key informant interviews (KIIs). Careful inductions were provided to both of the RAs not to

³⁶ Compulsory group labour

³⁷ A person assigned to guard the forest. Tarpale, 'Tar' means wire and 'Pale' means watchman in local language. During the initial days of converting management of Nandababa forest to community from government, the forest was fenced by gabion wire (tar) in the strategic locations where the mobility of livestock was high. Hence, some people were assigned the job as *Tarpale* to look after the forest.

engage in biased information collection. Cross checks of the information collected proved that data collected were impartial.

3.3.5 Involvement in Discussion and Community Level Activities

Together with the RAs, I was involved both in social functions along with irrigation and forestry activities. In the KUWUA Chairperson's house, aged people of Bhajan Mandali³⁸ used to meet fortnightly. This was an opportunity to talk and share different issues related to irrigation and forestry with those people. I participated in Rudri puja³⁹ and Saptaha⁴⁰ organised by people of Bandipur, which helped me to become a friend of them. Sometime they used to invite me in their home if some special food was being prepared. While visiting the houses, it was an opportunity for me to interact with household head about the irrigation and forestry issues with different perspectives.

In order to get rich additional information, separate meetings were organised with irrigation and forestry executives and officials. I was able to attend the meetings conducted at various levels by these CBIs. I was also a sole observer in various meetings while I visited the field for observing field water management situation and process of distribution of forest resources among the forest users, way of conducting meeting, and decision made, etc.

The involvement in discussions and community level activities were supportive to acknowledge and internalise the expectations and emotions of the water and forest users on paini construction, lining, culvert and bridge construction, riverbank protection, forest conservation and protection activities, etc. The major impressions and information were systematically recorded through maintaining field diary.

3.4 Unit of Analysis

The overarching/central units of analysis are the KUWUA and NCFUG. The second units are the water and forest user's households given the fact that they occupy an important place in the sociological research.

3.5 Design, Size and Selection of Samples

A research design is a plan of the proposed work. It is a planned sequence of the process involved in carrying out a study. A research model or design represents a compromise

³⁸ Bhajan Mandali is a group of people who sing religious songs called bhajans. There is a practice of organising bhajans as the last activity of big religious functions. This group usually has its own musical instruments for singing these songs and are respected in the society. It is believed that bhajans provide knowledge to throw light in life.

³⁹ Rudri puja is the especial worship of god Shiva by Hindus.

⁴⁰ The word 'Saptaha' means a-seven day's religious ceremony in which the people sit together and listen the religious story along with bhajan from the group of Brahmins.

dictated by mainly practical consideration. It also provides guidelines to researcher to get answer of the research questions and helps to control experimentation of the practical research problems. The research design is based on qualitative and interpretative approach because thick/deep description of the phenomenon under research interpretation gives the reality of governance of community based institutions. *It is also a recent research trend.* Therefore, there is no specific hypothesis formulated.

The research universe is 870 households for KUWUA and 400 households for NCFUG.

The ever increasing demand for research has created a need for an efficient method of determining the sample size needed to be representative of a given population. In the article "Small Sample Techniques," the research division of the National Education Association has published a formula for determining sample size. Krejcie and Morgan (1970) find that in case of population size known, the formula for determining needed sample size is as follows.

$$S = \frac{X^2 NP(1-P)}{D^2 (N-1) \Gamma X^2 P(1-P)}$$

S = required sample size.

X² = the table value of chi-square for 1 degree of freedom (d.f.) at the desired confidence level (2.71).

N = the population size.

P = the population proportion (assumed to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

A total of 183 samples were taken for KUWUA whereas 150 samples were chosen for NCFUG (see appendix 1). In case of KUWUA, the degree of accuracy was judged at 0.2. However, as some of the samples are repeated in KUWUA, the degree of accuracy for NCFUG was judged at 0.15 that gives the total sample of 150.

The samples were chosen based on two criteria (refer table 3.1): location (head, middle and tail part of the command area in case of irrigation) and accessibility to forest resources (easily accessible to forest resources, accessible to forest resources, and not easily accessible to forest resources). Of the 183 samples, 43, 66 and 74 samples were selected from head reach, middle and tail end of the command area respectively. Similarly, of the 150 samples, 24, 99 and 27 samples were taken from easily accessible to forest resources, accessible to forest resources, and not easily accessible to forest resources category of the forest users respectively. These samples were chosen based on proportional sampling process (see table 3.1).

Table 3.1**Number of Sampled Households and their Basis**

KUWUA	Total HHs	Sampled HHs	Sampled Percent	NCFUG	Total HHs	Sampled HHs	Sampled Percent
Head reach	205	43	23	Easily accessible to forest resources	263	99	66
Middle	316	66	36	Accessible to forest resources	65	24	16
Tail end	349	74	41	Not easily accessible to forest resources	72	27	18
	870	183	100		400	150	100

Source: KUWUA Records, 2004; NCFUG records, 2004

3.6 Data Sources: Tools and Techniques Used for Data Collection

As I began to realize that a sufficient rapport was being established in the community when the research respondents acknowledged my presence in the CBIs, and when the selection of samples were finalized, I began formal information collection. The major part of the fieldwork was carried out during 2004-06 in the periodic basis. I spent a total of 14 months in the field within 4 years (five months each in first and second years and four months in the third year 2006) to collect the field level information.

For this study, both primary and secondary information were collected. The process of governance in other irrigation and forestry institutions in Nepal was reviewed in detail through the literature documented by previous researchers and organizations. I visited DoI, MoWR, DoF, MoFSC, and other concerned agencies and libraries to collect relevant data and information. Some of the secondary data are used to compare and scrutinize the primary data collected as part of this study. The irrigation and forestry Policies, Acts, and Regulations of GoN, and their connection to governance are also reviewed and studied during this stage.

The primary data consist of information collected from the field research, directly or indirectly listening to people, participate in water and forest related activities, involve in the meeting, consultation, and interactions an observer, visits or contacts, interviews and interactions, and personal visits to government offices, etc. Basic information was collected by reviewing meeting minutes of CBIs. A detail fieldwork was carried out to collect the primary information about the area and the governance status of CBIs.

Malinowski (1922) recommended extended period of field work in which the sociologist should attempt to immerse him/herself in the daily life of the people studied, in which s/he should minimize the interfering effects of her/his presence and permit a full appreciation of cultural meanings and the social structure of the group with all its functional interactions between customs and beliefs, which at first sight appear inexplicable and incoherent.

In fact, sociology is a field-based science to explore the dynamics of community and society. The discipline places special emphasis on fieldwork and participant-observation methods focussing on grassroots human condition, social relationships, local institutions, social change and transformation, social behaviours, social interactions etc. Community to community relations and other social realities are the most important areas covered under sociological investigation. However, what is most important is the methodology by which such social realities are explored and conveyed. As Montagu (1960, p. 5) puts it:

The method it has been said is the message ... But with all teachers, it is not the message that determines method, but the method that determines message for the method is the means and the message is the end.

Fieldwork has always remained at the centre of Sociological and Anthropological investigation. Spradley (1980, p. 3) advocates that fieldwork is the hallmark of cultural anthropology. Beteille and Madan (1975, p. 4) point to the central advantage of fieldwork. According to them, it enables us to get a picture of the community in round. These scholars also consider the tradition of field work marked with the degree of personal involvement unmatched among other scholarly pursuits what Berreman (1962) called "impression management" to mean parties involved in encounter are aware of judging by manner in which roles are adjusted and altered on either sides.

In fieldwork, the data and information are based on concrete realities of human situations obtained by "listen to and learn from community/people" based on the real life situation. Therefore, there is always a regular flow of data to information and vice versa. In this process of inquiry, theory guides the fieldwork just as the fieldwork leads to a theory (Yin and Heald, 1975). According to Joshi (1979, p. 74), anthropological and sociological research is based on the interplay between theory and fieldwork. Viewed in this way, the act of fieldwork becomes dialectical rather than a linear process. Bandyopphayay (1985, p. 159) also considers fieldwork as part of an overall dialectical process, when he says:

Broadly, one may note, the field study thus becomes a part of an overall dialectical process a thesis (i.e. a priori hypotheses), anti-thesis (i.e. field experiences) and subsequent synthesis (i.e. new combination to knowledge).

Stressing the importance of genuine fieldwork, Joshi (1979, p. 81) states:

Genuine field work involved living with the villagers, sharing their joys and sorrows, coming an "insider" in a village society for a sufficient length of time, observing village people minutely with the struggle with the manifold problems of life, and combining a questioning attitude with the basic sympathy and respect for the common people all the time.

For Mikkelsen (1995), fieldwork is the actual process of data collection – intertwined with data analysis and possible revision of initial questions. It necessarily brings the analyst out of the office into the field, whereas field study encompasses a number of activities, which are not confined to the 'field' but should be carried out in close contact with the field.

In order to collect primary information from genuine fieldwork, following tools and techniques are used. In this research, variety of participatory tools and techniques were used to verify the information and cross check the information collected from tools and techniques. Otherwise, it is risk sometimes that information is biased and influential thus limiting the chances of being closer to what it is.

i. Household Survey

Once the sampled HHs were selected based on location and degree of resource use (as defined in table 3.1), household survey was carried out to collect some quantitative data on socio-cultural, political and economic situation (see appendix 2). These data was basically collected through the systematic mobilization of RAs. All fill in questions in the survey forms were thoroughly checked for ensuring the consistencies. The information obtained from the survey is analysed and used in chapter IV and V.

ii. Rapid Rural Appraisal (RRA)

RRA was used to gather quantitative information on the history of the area, the institutions and social environment including background information of CBIs, O & M of the system, etc. A clear and concise checklist was used to administer it (see appendix 3) for the discussion with key elites and executive committee members of CBIs. The information and data available from this tool was helpful to know the bird-eye-view of the CBIs as well as to design the tools and techniques for other participatory tools and techniques for detail information collection. RRA was used to know socio-cultural settings and terrains of the study area. The tool transect walk was used as a RRA exercise through the research assistants throughout entire period of the fieldwork. The information obtained from RRA has been presented in chapter IV, V and VI.

iii. Focus Group Discussion (FGD)

FGD addresses a specific topic. Focus groups were organized by involving seven to twelve people using the checklist and guide question (see appendix 4). FGDs were conducted with the executive members of KUWUA and NCFUG, farmers groups, youth clubs, self-help groups,

saving and credit groups, etc covering six primary elements of governance. In addition to that, secondary and tertiary elements are explored for each of the primary elements. This tool was used to crosscheck the information provided by the respondents and to accumulate additional information in relation to research. Efforts were made to arrive at a consensus on these specific issues. A total of 23 FGDs were carried out to covers the issues and concerns of all categories of users on governance of CBIs. The data generated by this technique has been presented in chapters V, VI, and VII.

iv. Informal Interviews

Informal interviews were primarily conducted to collect information about water and forest at the community level. They were made with groups of users (water and forest) irrespective of caste, class and gender. A checklist was used for guiding the informal interviews (see appendix 5). A total of 94 informal interviews provided access to a larger body of knowledge, and provided opportunity for immediate crosscheck on information as it was received from different people in the group and its main purpose was for validity and reliability of the information collected from other tools. Such interviews were organized through informal meetings such as while walking in the study sites, having tea and snacks, and canal O&M as well as forest management activities. The views generated by such informal discussions have been presented in Chapter VI in the forms of quotations, which have reinforced the generalized abstractions of the researchers.

v. Key informant interviews (KII)

Good informants are people who understand the information you need and who are glad to give it to you or get it for you (Bernard, 1994, pp.166). Key informant (KI) interview aim to obtain special knowledge on a given topics. They are not necessarily the 'leaders'. Outsiders with inside knowledge are often valuable key informants who are able to response questions about other people's knowledge, attitudes and practices besides their own. In this research, key informants were used to gather specific data and information in the areas such as village history, history of change in irrigation and forestry development, governance of CBIs and forces and factors determining good and poor governance. It was an opportunity for me to obtain enough information by interacting with EC members of KUWUA and NCFUG, elderly people of different caste and ethnic groups, farmers, school teachers, agriculture and livestock technicians, cooperative officials, Forest Rangers, etc. Apart from these, some personnel form DIO, DFO, FECOFUN and NFIWUAN District Chapters, Local NGOs/Cooperatives, etc were also taken as KIIs.

KIs were selected based on the possessions of the specific knowledge on research variables, willingness to cooperates, vocal in sharing and have a tendency of giving true information worthy of use for analysis. During the fieldwork, a total of 110 KIs were consulted for the detail interview with the help of checklist (see appendix 6). The data collected by the use of KIIs have been mainly presented analytically in chapters V, VI and VII.

vi. Observation

The observation technique has become an important source of information for this research. This method of data collection has helped to gather information on village settlement patterns, dress and ornaments of the local people, local culture and tradition, physical location, topography, hydrology system, natural resources, agriculture practices, canal O&M, forest management, water management, etc as presented in Chapter V. This helped to triangulate the information obtained from the interview. A checklist was used to administer this tool (see appendix 7).

The researcher has stayed for more than nine months in the field in two years time for detail field work. In order to get realistic information to assess the governance of CBIs, researcher has tried to be an insider by involving in the key activities of irrigation viz. canal maintenance, desilting, urdi mobilization and intake maintenance. Similarly, he was also involved in forest related activities such as forest monitoring, forest resources distribution work and tendering and selling process of timber. The involvement of researcher in these activities has eased to be closer and work as an insider.

vii. Case Study

Case study is considered as a comprehensive method for the study of a social unit. A case study is a method of sociological analysis of socio-cultural phenomena to draw inferences and to formulate propositions (Mitchell, 1983, as cited in Upreti, 2001).

During fieldwork, case study method was used to document concrete details of people's inner strivings, tensions, motivations that drive them to action, the barriers that frustrate them, forces that direct them in the process of governance of CBIs. Apart from these, special attention was given to collect information about the six elements of governance. While putting the efforts to collate the information, six primary elements of governance were divided into secondary elements, which were further divided into tertiary elements. However, there were discussions with the communities and users from KUWUA and NCFUG on these elements and as a result, communities identified similar elements based on their own knowledge and experience. To each tertiary element, values were provided from 1 to 3 with 1 denoting the least value (see appendix 8).

Sociological research projected towards the in-depth description of phenomena under investigation. To make the study more focused and collect more detail information, two case studies were selected because wider coverage can't provide depicts of phenomenon. More coverage, the information lean and thin and less coverage gives information more thick and deep. So in this research, I took only two community-based institutions to explore the governance stand.

In sum, with the help of field tested checklist GIs, FGDs, KIIs, RRA, observation and case study, all these tools and techniques are used for the purpose of primary information collection. It was understood before hand that checklist was only to stimulate the minds, not as strict formulas as Mikkelsen (1995) expressed. All these tools and techniques were beneficial for triangulating the information collected from the field. In summary, the types of tools, their numbers and rationale of each tool and techniques is given in the table below:

Table 3.2

Types of tools, their numbers and relevance

Tools	Nos.	Techniques	Relevance (purpose)
RRA	6	Use of checklist and formats	To gain familiarity with social and cultural terrain of the research area
HH survey	333 HHs	Use of survey questionnaire	To collect quantitative data on socio-cultural and economic situation, usage of the natural resources
Key Informant Interviews	72	Checklist administration for discussion	To collect information about water and forest resources, special knowledge on village history and history of change in irrigation and forestry development, governance of CBIs and forces and factors determining good and poor governance
Observation	26 times	Use of daily observation diary	To gather information on village settlement patterns, physical location, topography, hydrology system, natural resources, agriculture practices, canal O&M, forest management and water management
FGD	37	Use of checklist/ guide questions	To identify the forces and factors contributing for the good and poor governance of CBIs, accumulate specific information in relation to research, and to crosscheck specific information provided by the respondents
Program specific case studies	2	Summary from interviews, surveys, FGD and observation	To document concrete details of people's inner strivings, tensions, motivations that drive them to action, the barriers that frustrate them, forces that direct them in the process of governance of CBIs

3.7 Data Analysis and Interpretation

Data analysis being a continuous process of reviewing the information as it is collecting, classifying it, formulating additional questions, verifying information and drawing conclusion, is crucially important in the research process (Thesis and Grady, 1991). According to Yin and Heald (1975), data analysis consists of examining, categorizing, and tabulating or otherwise recombining the evidence, to address the initial proposition of a study.

In other word, analysis means the categorizing, ordering, manipulating and summarizing of data to obtain answers to research questions. It is the process of making complicated things understandable by reducing them to their component parts, on the one hand, and making complicated things understandable by showing how their component parts fit together according to some rules, on the other. Before going for the particular analysis methods, suggested approach by some researchers (Kerlinger, 1986) was used for knowledge management. The approach by Milles and Huberman (1984) included some guidelines in this connection that were considered for this research. They included:

-) Putting information into different arrays,
-) Making a matrix of categories and placing the evidence within such categories,
-) Creating data displays - flow charts and other devices - for examining the data,
-) Tabulating the frequency of different events,
-) Examining the complexity of such tabulation and their relationships by calculating second-order numbers such as means and variances, and
-) Putting information in chronological order or using some other temporal schemes.

A few quantitative data on demographic composition of the HHs, family structures, etc have been manually summarized in the tabular form using mean and percentage. The information obtained from other participatory tools and techniques were analysed through interpretation. Analysing case study evidence is especially difficult because the strategies and techniques have not been well defined in the past. Nevertheless, every investigation should start with a general analytic strategy - yielding priorities for what to analyze and why (Yin, 1984).

The purpose of qualitative inquiry was to produce findings as Mikkelsen (1995) proposed. Collection of data is linked to the analysis, interpretation and presentation of findings. Yet, there are no strict formulas for analysing qualitative data as for analysis of quantitative data originating from structured interviews. The procedures are neither 'scientific' nor 'mechanistic' (Mills, 1973). The collective data were tallied and analysed in much the same ways those of regular survey (Lucas, 1974; Yin and Heald, 1975).

After the analysis of data, interpretations of the findings have been made by looking at the relationship between and among the research problems. Interpretations use the result of data analysis for making inferences relevant to research questions and drawing conclusions.

3.8 Limitations, Encounter and Experiences

3.8.1 Limitations of the Study

As this study is focused on two CBIs, this does not necessarily reflect the scenario of all WUAs and CFUGs of the country. Being a micro level research, the views and ideas of water and forest users as well as the study findings from this area might be different from other areas of Nepal. Though the efforts have been made to answer all research questions with high degree of academic sincerity and hard work, the findings of the study may not be universal and hence may not be replicated widely. However, the main findings of this study could be applicable and valid for the WUAs and CFUGs in the similar geographical condition and identical socio-cultural settings.

3.8.2 Encounters and Experiences

Collecting good and realistic data is prime aim of any study, but it is possible only when one understands the culture and social behaviours of the group he/she is studying. A number of sociologist/anthropologists have written great deals about how they collected data in the field (Malinowski, 1922; Epstein, 1977; Pelto, 1970; Berreman, 1962).

In the study site, many ethnic groups, cultural prejudices are bound to enter into the work. There is a question of "trust" for supplying information to an outsider (the researcher). The local people might have thought that the question to information regarding village life, irrigation and forestry activities, which the researcher knew well before hand. Some people suspected that researcher is there to test their culture, social behaviours and tradition as well as the performance of irrigation and forestry institutions that may cause the negative implications for them later. After a good rapport with community, they were convinced and they shared their culture, norms and values associated with irrigation and forestry governance. In the beginning of the fieldwork, researcher also noted that local people do not invite outsiders to cultural ceremonies with beliefs that presence of the outsiders in such ceremonies is not good sign.

In order to deal with such cultural problems and beliefs as well as mistrust during initial days of study, local RAs were found very helpful. Moreover, through them, I became more familiar in the local context, which enabled me to collect more realistic data related to irrigation and forestry governance.

The higher expectation of the community from me was another experience. The local people anticipated for managing the headwork, which used to be a problem during monsoon and fencing the forest area and control illegal timber export, etc. Maintaining the balance between the study objectives and people's expectation was a good challenge for me. I supported in bringing the small action in the village with the support of District Soil Conservation Office (DSCO) Siraha to construct the conservation pond that also enabled me to win the trust of local people and eased to collect rich information that would have been difficult otherwise in the then local context (especially in the extreme conflict situation).

CHAPTER IV

THE SETTING

This chapter deals the profile of the research district, research VDC, and research village where CBIs are located. It is accredited that geographical, economic, demographical, social, cultural aspects used to create impacts on governance of CBIs.

From administrative point of view, Nepal is divided into 14 zones and 75 districts. The map given below exposes the location of the district along with the research district Siraha where the CBIs are situated. Siraha district is one of the districts of Sagarmatha Zone. Badharamal VDC is the research VDC in Siraha. Bandipur is the village where CBIs are situated.

4.1 Siraha District

4.1.1 Geo-political Situation

Siraha district lies in the Sagarmatha Zone in eastern Nepal. Among the six districts of Sagarmatha, Siraha is the smallest district but with high population density. It is situated between latitudes 26.33⁰ to 26.55⁰ North and longitudes 86.6⁰ to 86.26⁰ East. Balan River of Saptari district borders the east of Siraha whereas Kamala River separates the district in the west from Dhanusha. Similarly, *Churia* hill separates it with Udaypur district in north and Madhubani district of Bihar, India lies in the south. The average length of the district is 42.4 km and width is 29.7 km. The altitude of the district begins from 76m in the south to 885m above sea level in the north. The maximum temperature is 40° Celsius to minimum 2° Celsius. The total average rainfall is 1,467 mm with 90 percent humidity. The monsoon storm is the cause of the rainfall in the district, occurring from June end to early September (DDC, 2004).

There are 106 VDCs, 17 *Ilakas*⁴¹, 2 Municipalities and 6 Election Constituencies in the district (DDC, 2004). Siraha Bazar is the districts' headquarter whereas Lahan, Golbazar, Mirchaiya, Sukhipur, Kalyanpur, and Choarwa are other major market centres.

4.1.2 Population Composition

The total population of Siraha is 572,551 with 101,492 households (HHs). Out of the total population, 294,052 are male and 278,499 are female. The population growth rate is 2.03 percent per annum (DDC, 2004). The population density is 466 per sq. km (CBS, 2001). By religion, majority of people are Hindus. The statistics reveals that 91.65 percent people follow Hindu religion, 1.3 percent Buddhist, 6.47 percent Islam and 0.58 percent follow Christian, Jain and others. The literacy rate of male and female is 55.5 percent and 44.5 percent respectively. Out of the total population, population of dalit is highest and the population composition is provided in the chart below (DDC, 2004). Out of the total

⁴¹ Illakas are the higher political units above VDCs in the district. Neighbouring VDCs are clustered into an Illaka. On an average, 4-15 VDCs are in one Illaka.

population, population of dalit is highest (35 percent) followed by high caste such as Brahmin and Chhetris (29 percent), middle caste such as Danuwar, Yadav, Shah, Mandal (26 percent), Muslims (7 percent) and others (3 percent).

4.1.3 Land Use

DDC (2004) reveals that 80.52 percent population is still dependent in agriculture. The total area of the district is 122,796.9 ha. Out of which, agriculture area covers 71,011 ha, and irrigated land covers 21,003 ha. The area covered by paddy, wheat, maize, and millet is 72,300 ha, 14,390 ha, 300 ha and 1,200 ha respectively. In terms of geographical areas, 94,900 ha is covered by Terai and Bhaber whereas 27,900 ha is covered by Churia and Dun⁴².

The distribution of land is not equitable. The data from DDC (2004) reveals that only 9.52 percent people have more than 5 ha of land and 26.93 percent people have 1-5 ha of land. Similarly, 31.73 percent people have 0.5-1 ha and 31.82 percent have 0.25 -0.50 ha of land. It clearly shows that about one-third population has less than 0.5 ha of land.

4.1.4 Water Resources

The major rivers and rivulets of the district are Kamala, Balan, Khutti, Ghumi, Mainawati, Gagan, Sahaja, Bataha, Jiwa and Bhedawa. There are 15 different irrigation projects implemented within the district (DDC, 2004). Despite of abundant water resources in these rivers and different irrigation projects working for improving the irrigation facilities, majority of the land is still rain-fed. The water flowing in these rivers has not been utilized adequately.

4.1.5 Forest Resources

Siraha is rich in forest resources. However, the rate of forest depletion is in increasing trend. The area covered by forest was 27,707.9 ha but now it is only 14,000 ha due to high level of deforestation (MoFSC, 2004). The community forest area covers 5,068.74 ha. It shows that about 50 percent of the forest resources are depleted within 27 years. This is the reason that the downstream population is threatened by flood every year. People mostly depend in the forest of Churia. The forest resources-based small-scale industries within the district are also worsening due to depletion of forest resources. There are two plywood factories, 50 saw mills, eight *bidī*⁴³ and 36 brick factories (DDC, 2004), which are entirely dependent upon forest resources in a way or the other.

⁴² An alluvial broad flat-bottomed river valley within the Churia range or between the Churia and Mahabharat ranges, also called inner Terai; soil composition here consist of fine and coarse loam.

⁴³ Local cigarette made by leaf, which is very popular in the Terai region of Nepal because of its taste and cheaper price.

4.2 Badharamal: The Research VDC

Badharamal is one of the 106 VDCs of Siraha. The VDC is surrounded by Karjanaha VDC, Kamala River, and Udayapur district in the east, west and north side of this VDC respectively. Kalyanpur and Kalabanzar VDCs lie in the south of this VDC.

According to DDC (2004), the total population of the VDC is 13,266. Out of this population, 6,668 are male and 6,598 are female. Economically active population is 9,716. Likewise, 44.59 percent population is literate and 55.40 percent is illiterate. Out of literate population, 65.41 percent are male and 34.59 percent are female.

There are altogether 2,518 HHs in the VDC. DDC (2004) revealed that among these, 283 HHs possess agriculture land only, 156 HHs possess livestock only, 6 HHs are engaged in the poultry farming only and 1,036 HHs have both land and livestock. Similarly, 17 HHs have both land and poultry, 37 HHs have both livestock and poultry, 420 HHs have land, livestock and poultry, and remaining 564 HHs are not occupied in any job. Likewise, 445 HHs are engaged in other economic activities in which 33 HHs are involved in manufacturing, 210 HHs are engaged into trade and business, 26 HHs are engaged into transport, 161 HHs are engaged in service, and 16 HH are engaged into other economic services. Out of total population of school going age, 53.24 percent have attended the school.

4.3 Bandipur: The Research Area

4.3.1 Emergence of Settlements in Bandipur

The four wards (1-3 and 5) of Badharamal VDC in combination are called Bandipur. It lies in the north west of the VDC. It is aligned on the left bank of Kamala River and it is at the edge of Mahendra highway. The area is bounded by Bhulke River in the east, Kamala River in the west, lap of churia in the north and Kamala East *paini* in the south. It is the major market centre of some of the VDCs of Sindhuli, Udayapur and Siraha. In the beginning, a survey was conducted to make highway from Chisapani (intake of Kamala Uttarbahini Irrigation System-KUIS) but later it was cancelled due to political influence of other villagers. Similarly, Bandipur was planned to be a highway entry point to Katari, Udaypur, but later it was opened from Mirchaiya, a small market place east of Bandipur.

There are two different beliefs about the origin of the name of Bandipur. According to the first belief, until 1953, Bandipur was surrounded by Kamala River thus, it was named Bandipur. *Bandi* means 'closed by others'. Likewise, the second belief is that once upon a time one Brahmin was on the way to Janakpur to meet Sita, daughter of Mithala King Janak. It was said that he stayed in this village and throughout the night, he made *bandana*⁴⁴ with

⁴⁴ *Bandana* means a prayer song. It is entirely motivated by the religious and spiritual perspectives.

expectation to meet Sita. After that, the name of this village was called Bandanapur, which later was named as 'Bandipur'.

According to Mr. Sajan Dhimi, 98, the area is now seeing 6th generation of people indicating the history of Bandipur to be around 200 years. It was said that first settlement of Bandipur was in *Baltiya*⁴⁵. According to other key informants, Danuwars first entered in this area some 200 years back. Therefore, they were the first inhabitants of this area. They used to live in *damar*⁴⁶. People believe that they migrated from Gauripur, Lakhapur, Raghupur and Hakrol of Udayapur, Sindhuli and Siraha districts.

Bandipur is a small part of large *birta* land. A total of 12,000-bigha⁴⁷ land was given to Govinda Shamsar Rana and Madhav Shamsar Rana as *birta* and that land is monitored by Raganathpur *Ma*⁴⁸.

Based on the key informants of the village, the agriculture operations started before the occurrence of big flood in 1903. Likewise, other informants found that it was only in 1953 when the hill migrants came to reside in the place for the first time. In 1953, Bhupati Sharma took the *goth*⁴⁹ from Dubarkot of Udaypur to stay in Dachhin *tole*⁵⁰ of Bandipur. Mr. Amrit Raut, Mr. Raj Kishore Raut and Mr. Chandershau Raut expressed that they invested 50 *Mund*⁵¹ rice to settle the community at that time. In 1955, in order to settle the village, Mr. Parakram Shamsar provided 3 *katha* of land to all for *ghaderi*⁵² in free of cost. In the same year, the *Naga Baba* came from Bhalu *khola*⁵³ and stayed in Chisapani. He was very popular in that area due to his charismatic forecasting abilities. This encouraged other people to stay in Bandipur. It shows that up to that period, the area was thinly populated and farmers depended on rain and most of the land was upland. The crops were maize, *Gahat*⁵⁴, *Kodo*⁵⁵ and some paddy in the lap of *Churia*.

In due course of time, besides *Baltiya* and Dachhin *tole*, other hamlets slowly emerged. Some of them were Chhaghare *tole*, Mahadev Shau *tole*, Bazar *tole*, Danda *tole*, and Bayerbani. The settlement of Chhaghare *tole* was developed with the leadership of Mr. Jit Bahadur Magar in 1960. Poudel *tole* was developed in 1969 under the leadership of Mr Mahendra Prasad Koirala. Similarly, the settlement in Danda *Tole* started in 1977 with the

⁴⁵ *Baltiya* means 'barren or pasture land'.

⁴⁶ Forests mostly have pastureland.

⁴⁷ Bigha is unit of land mostly used in the Terai of Nepal. 1 bigha equals 0.67 ha.

⁴⁸ Land Revenue Office

⁴⁹ Animal shed both temporarily and permanent.

⁵⁰ A hamlet or small settlements (part of the village).

⁵¹ A measurement unit, 40 kg equals one *Mund*, and is used mostly in Terai of Nepal.

⁵² A small plot of land used to make house for residence, usually costing higher.

⁵³ Small rivers and creeks

⁵⁴ A kind of pulse

⁵⁵ Millet that is used to prepare chapatti, rice and used to make local liquor.

initiation of Ms Bimala Devi Niraula. The younger settlements are Jungle *tole* and Kafle *tole*, which were developed in 1990.

4.3.2 Socio-Cultural Situation

i. Household information

Population of Bandipur heavily increased after 1990 due to rapid in-migration. Majority of people in the area comprise those from Sindhuli and Udayapur. The heavy flood of 1984 and earthquake of 1988 caused severe damages to physical and human assets especially in the hills. These were the reasons for heavy in-migration to this place after 1988 from these hills. Even the people from *Terai* districts like Dhanusha and Siraha also came to this place because of cheaper land price, easy access to collect firewood, fodder and grass, feasibility in livestock rising, good transportation facility and regular supply of water in the winter. Since Uttarahini was considered a holy place before settlement began, it became a suitable place to stay in for other reasons.

There are 870 HHs in Bandipur. The total population of the area is 4,908 out of which 2,503 (51 percent) are male and 2,405 (49 percent) are female. The average family size is 5.6 (DL/AP, 2003).

ii. Settlements and housing pattern

The major *toles* of ward 1 include Ratanpur, Baltiya and Bayerbani whereas Bazar *tole*, Danda *tole*, Bankafle *tole*, Khal *tole*, Jilabee *tole* and Chhaghare *toles* lie in ward 2. Ward 3 consists of Kamat *tole* and Dacchin *tole*. Bhulke *tole* lies in ward 5 of Badharamal VDC.

Here, most of the houses are thatched roofed; whereas the construction of houses with corrugated galvanised iron sheets is increasing because of scarcity of *khar*⁵⁶ and *para*⁵⁷ for roofing. Concrete houses are found very few in number. While the hill migrants cover larger areas in a scattered form to make some space available for kitchen garden and livestock keeping, Terain communities have congested houses because of cultural practices. Congestion ensures them that they are safe from dacoits as they can jointly fight against the dacoits if they are closely clustered. New *toles* are also emerging as the family structure is gradually converted into nuclear families breaking up the joint family.

iii. Major caste/ethnicity

In totality, hill migrants are slightly in majority to Terain population. Out of 870 HHs, 459 HHs (53 percent) belong to hill migrants and rests are from Teraian caste⁵⁸. Within Terain caste group, there are varieties of sub-castes. The sub castes are classified based on their traditional occupations. Some include: *Yadav, Gami, Paswan, Sah, Mandal, Mahara, Das, Mahato*, etc. They are also geographically restricted and live in *Pachhim tole* and *Dacchin tole*. *Danuwar* is the third largest group but is almost exclusively found in ward no 1. Similarly, Brahmin, Chhetri, Tamang, Rai, Magar, and Gurung are the major castes within hill migrants. The scenario of caste composition is given in Table 4.1. Majority of the people follow Hindu religion (90 percent), followed by Buddhism (9 percent) and Islam (1 percent).

iv. Education and literacy

For the purpose of formal education, there is only one secondary school, one higher secondary school, one primary school and two private boarding schools. However, the access to private schools is beyond the capacity of poor and marginalized people in Bandipur. Therefore, for them, formal education system of the government is slightly affordable and accessible too. The literacy rate of the area is 42.4 percent but in the sampled HHs, the literacy rate is 49 percent. Fig 4.2 provides education status of sampled HHs in KUWUA.

⁵⁶ Hay, a type of grass used for making roof and livestock feeding.

⁵⁷ Dry straw that is used as animal feed when there is scarcity of green grass especially during the post-monsoon.

⁵⁸ Terai caste includes Mahara, Das, Yadav, Roy, Mahato, Gami, Sah, Paswan, Muslims, Bhagat, Gadari, Mandal/Dusad, Danuwar and others

Source: Household survey, 2004-06

v. Health, community sanitation and personal hygiene

People have poor health and sanitation condition largely depending on the advice of the traditional healers for cure and treatment. Though this has influence on their health, slowly, people have begun not to completely trust on traditional healing and local priest. It shows that people slowly have shifted to the modern medical practices. It is indeed a positive sign. Sub-health Post (SHP) provides basic curative health services through Health Assistants and Auxiliary Health Workers and Nurses. It also provides preventive services to the people mainly on communicable diseases through health education. People now visit private medical shops in Mirchaiya, a nearby market in the east of Bandipur, even for minor cases of diseases. Public health services seem to be poor due to the inadequate well-equipped SHP. The male health personnel except Mother and Child Health Workers (MCHW) handle all the cases reported in the SHP. Roles of MCHW are to distribute contraceptives, feed polio drops and other vaccines to newborn babies. Despite of this situation, the awareness level on family planning practices is increasing.

Majority of the women suffer from anaemia due to inadequate nutritional food. Among the diseases, fever, skin diseases, diarrhoea, acute respiratory infection, worms, and anaemia are common and are caused by lack of proper nutrition and sanitation. However, open defecation in the field early morning and evening is still in practice as is mostly seen in Teraian communities. Therefore, it is rather very difficult for female members to go for defecation during daytime due to the lack of latrines. The adverse effect of open defecation is certainly poor domestic and community environment that causes spread of communicable diseases in the communities. It is, on the other hand, risk of snakebites for those who go away for defecation. Nevertheless, walking outside at night was dangerous particularly in conflict situations. People also realize that their prestige is often threatened when guests are

at their homes if they do not have toilets. People of Teraian community responded that they have no habits of using toilet in the same place several times. It is perhaps due to the lack of education, awareness and ignorance of sanitation at household level.

Usually, people drink water from tube-well using *lota*⁵⁹. The collected water is used only for cooking meal. Water is generally stored in bucket or *ghada*⁶⁰ covered with plate. Jug is used to getting out the water from *ghada*. There is no proper practice of washing hands after toilet and soap is rarely used. *Kharani*⁶¹ is used for hand washing by those who do it. Thus, lack of health education in Bandipur has caused relatively poor sanitation. This is supplemented by absence of first aid services, irrational use of liquor, poverty, ignorance, insufficient access to clean water, insufficient foodstuffs and negligence in personal health and hygiene.

vi. Culture and tradition

Threat to cultural identity of certain social or ethnic groups is an emerging issue in relation to the sustainable development of Nepalese society. The indigenous practices of these groups are disappearing because of acculturation and modernization process in various aspects. Despite multiplying effects of so-called modern systems and values imposed on, indigenous people are still preserving their traditional norms, values and practices in many areas. It is well perceived fact that religious, cultural and traditional values and practices drive the societies that adorn the life style of a particular social group. These factors play key role in socio-economic development and political activities of a society (Gautam, 2005).

The people of Bandipur are characterized as multilingual and multi-religious in nature. However, the major language for communication is Maithali in Teraian society and Nepali in hill society. Their religion is a deep-rooted belief among the people binding them together to perform community activities. It helps bridging up the gap between individuals and bringing them closer. It also encourages them to share and work to fulfil common interests. The temples of Hindu deities such as *Shiva*, *Bhagawati*, *Ganesh*, *Ram-Sita*, *Radha-Krishna* and *Hanuman* are the major holy shrines scattered in Bandipur.

vii. Major festival, local dialects, and customary practices

Bandipur is rich in tradition and culture. People celebrate festivals like *Dashain*, *Tihar*, *Maghe Sakranti*, *Chhath*, *Chaite Dashain*, *Phagu Purnima*, *Siruwa Mela*, *Ekadasi Mela* and *Jatjatin*.

⁵⁹ A pot made of aluminium, mostly used in the rural village to drink water and is used instead of glass.

⁶⁰ A clay vessel to store the drinking water. It is believed that the water in the *ghada* is much cooler and good to drink.

⁶¹ Ash from firewood mostly used to clean the utensils. It is also used for clearing hands after toilet.

Hill migrants are very active, vocal, and open. Compared to hill migrants, Terian caste people have close society. Terian women still hesitate to show their face to elders. Culturally, they are not allowed to speak with outsiders. In past, there was a language problem for communication especially for women. Now, hill migrant women also speak Maithili and Teraian women have no problem to understand Nepali language because of acculturation process.

There are several customary practices in Bandipur. People highly believe in gods and goddess. The customary practices are working as social norms and they are also developed as rules and regulation, which are supporting for the smooth functioning of the irrigation, agriculture and forestry aspects. Most of the customary practices are related with paddy, which proves that they are giving more priority in rice. Specifically, *Byad puja*⁶², *Nawgi*⁶³, *Muthi Katne*⁶⁴, *Hilo Pakhalne*⁶⁵, are still in practices, which further show the relation of the people with irrigation.

Some of the practices of the people of Bandipur are given below.

-) **Worshipping Kamala Goddess:** This function is organized in the month of *Jestha* (May/June) to wish and expect more water throughout the year and to protect the intake from river flood. It is performed by offering sweets, rice pudding, *pan*, nut and also blood by slaughtering goat, duck, pigeon and chicken to Kamala Goddess.
-) **Saune Sakranti:** This festival is celebrated on 15th July (1st of *Shrawan* month) to wish every people about no harm in crops by insects and pests throughout the year.
-) **Dhibar:** This is a local custom celebrated in *Ashadh* (June/July). The belief behind this custom is to protect village and villagers from evils and diseases. *Drum*⁶⁶ is used for the sake of entertainment. Blood is also offered by slaughtering goat, duck, pigeon, and chicken. Papayas and sweets are also offered during this celebration.
-) **Gava (plant of paddy) worship:** There is a custom to organize *puja* (worship) for paddy sapling before plantation. There is a strong belief that such worship also protects paddy from insects and pests and contribute to bear more yield. During this worship, curd, rice, water, leaf of *tulashi*, *latte* and *genari* are offered in the first transplanted paddy and turn towards to north and plant other five plants. People sing a song during this *puja* in order to

⁶² Worshipping of seedbed of paddy in the belief that insects, pests and birds would not destroy the newly germinated sapling.

⁶³ It is practice where the newly harvested rice is soaked in water for a long time and is mixed with curd, sugar, and other fruits and is taken as a ceremony in the symbol of start of new rice.

⁶⁴ It is a practice where one junk of paddy plant is pulled and is kept at the roof for the honour of god.

⁶⁵ A kind of celebration among those involved in paddy plantation in the paddy field where nutritious food is taken to mark the end of the paddy plantation program for that season.

⁶⁶ A musical instrument used for singing a song during paddy transplantation.

make god happier. Actually, this culture was transferred from hills. There is a belief that if men initiate paddy-transplanting work, then production will be high. During this occasion, labours are free to pour mud in the head of other labours, and landowner for blessing to each other.

) **Indra puja:** In order to have more rainwater, this *puja* is performed during the time of drought. There is a strong belief that god Indra will be happy after *puja* and create rainfall if this *puja* is observed. It is celebrated by dancing and singing where women mostly wear men dress and plough too to attract the attention of god Indra.

) **Puja before harvesting paddy:** Once paddy is ready for harvest, people pray to god Laxmi and Bishnu. There is a cultural belief that the new grain should be offered for god along with *pan*, nut and sweet. The paddy cutting during *puja* has to be separated for god. It is initiated in especial holly day. After harvesting the paddy, there is a small feast to have *Nangi*. The new rice is offered to oxen at first for their important contribution in ploughing. Then, the food is offered to god. After that, people are free to use rice for their household consumption. The belief behind this custom is to make god happy and wish to harvest more grain without any natural calamities.

) **Seedbed puja:** In a socially agreed holy day, people plant seed in the bed. During this occasion, people sleep in the mud. It is done to protect newly germinated plant from birds, insects, and pests.

) **Intake puja:** On the completion day of annual *paini* maintenance, *puja* is performed every year in the intake by slaughtering she-goat. It is organised once a year. During this occasion, people organize feast and celebrate it with great joy. The reason behind this celebration is to make Goddess Kamala happy so that she also protects intake from flood and to forget the hardship of people, who worked several days *urdi*⁶⁷ on the *paini* work.

) **Juda Sital:** This event is organized in the month of Baisakh (April-May). During this occasion, people clean their houses, yard and pour water on the head of younger from elders. This function is driven by the belief that if the first day of year is cold, whole year will be cold. Cold is considered a symbol of happiness and joy. People also pour water in the tress too for the healthiness.

) **Siruwa:** This is a new-year festival. On the occasion, elderly pour water on the head of younger people, juniors bow their foreheads to the leg of the seniors as a symbol of granting, and getting blesses for good health and prosperous life. During this festival, colours are also offered to *Bhauju*⁶⁸ by *Devar*⁶⁹.

) **Dhurbandi puja:** This worship event, which can be performed at any day of the year, is observed with the belief that insect and diseases would not

⁶⁷ Compulsory group labour mostly mobilised for O&M of canal

⁶⁸ Sister in law

⁶⁹ Brother in law

hamper the seedlings of crops and *Adhikari*⁷⁰ will be able to prevent stealing. They worship it by offering *pan*, *palm*, sweets, and blood by slaughtering goat.

) ***Jitia pawani***: It is considered a powerful god. This god is worshipped with the hope that one would win over others in any constructive work.

) ***Chauthichan***: This is the day of fasting. During this day, it is obvious that people do not take meal. This is to fulfil their *bhaka*⁷¹. Apart from this, it is also celebrated with expectations to get good bride and wishing for long-life of husband. Some other activities include moving around with *Guru Mantra*, worshipping the snake god and looking at the moon of the fourth night (*Chauthi*).

) ***Biswakarma puja***: On this occasion, people worship all equipments or machines made of metals like steel, aluminium and iron. At the end of the day, the *purmi* of the *Biswakarma* is settled at the riverbank.

) ***Worship of forest god***: Annually, people of community forest worship the god for forest in order to protect it from fire, landslide and erosion.

The communities in Bandipur have different local customs, beliefs and practices some of which are mentioned below:

) Harvesting crops on Tuesday and Saturday is not considered good.

) Germination rate of seeds reduces if the women in menstruation period touch or sow seeds.

) Roof construction in the month of *Chaitra* (March-April) is unsafe. Wedding and other ceremonies should also be avoided in *Chaitra* month. Such ceremonial tasks can be done if the certain days are astrologically fit even in *Chaitra*.

) Thursday is not appropriate for wearing new outfits.

) It is not good to plough farmland on Sunday and *aunsi* (day of dark moon). It is not good to plough farmland on the day before *Mela* (fair) and the day after *Mela*.

viii. Outfits and ornaments

Although costumes and ornaments are observed to be similar among the ethnic groups but the practices of wearing and designs are found slightly different among the indigenous social groups. Teraian people wear *kurta*, *dhoti*, *lungi*, *gamchha* for male and *khadki* and *achara* as well as sari, blouse for female. The dress of hill migrants is similar to dress used in hills.

⁷⁰ Village priest mostly engaged in the worshipping of village in order to protect the village from evils.

⁷¹ Promise made to the god to offer something if someone's dream come to be true.

Uses of ornaments depend on the economic status of the family. Women of poor families of these ethnic groups wear various types of ornaments. In Teraian caste women wear silver made *thoka* in wrist, *pat* in solders, *pairi* and *payal* in leg, *hansuli* and *necklace* in neck, *nathiya* in nose and *kalesi machhariya* in ear. However, in hill migrant's society, they have no special ornaments except *dhungri*, *madaharu* and *tilahari*.

Social evils: Dowry, alcoholism and gambling, and gender disparities are considered major social evils of the society.

Dowry: Dowry system is deep-rooted in Terai community. Since it is a method to earn wealth-led social prestige, this practice has also palpated other ethnicities too. In Mithila culture, the practice of getting late marriage of boys is to get education to the possible extent with the hope that they would be eligible to get attractive dowry from the bride's family. It is another advantage for the boys if they are employed in any enterprises or associated with the public service. Communities have experienced that the system of dowry has created disputes between both the sides resulting in divorce, domestic violence and sometimes murder. In Bandipur, the system of dowry is more practiced in the Teraian societies.

In Bandipur, dowry system has further caused unhealthy practices like taking loan in unjustifiably high interest rate by keeping land as deposit. Its implications are immense in debt/loan, increasing poverty, hypertension and social disorders, etc. It is interesting that despite of such demerit, some women are still in favour of the dowry system. They claim that the system protects property right of women in indirect way. However, some of the men dislike this practice. As a part of dowry, there is an increasing tendency to give land to the daughter. It is believed that those who receive plot of land get love and prosperities in the new house. In such a situation, wives often dominate their husbands and disputes among the brothers have been created particularly about the unequal distribution of the properties.

Alcoholism and gambling: There are other social evils like alcoholism and gambling. Immature thinking, unemployment and poor awareness about future are the major causes behind these practices. As the consequence, at times public places have turned into venues for conflicts, wrestling and unwanted debates. Usually the earning men spend their income in purchasing alcohol or in gambling. This practice forces the women, who earn less, to add financial responsibilities of the household to manage with very less amount of resources. This situation pumps off the family disputes leading the women towards a non-dignified living.

Gender disparities: In Teraian societies, women have very less opportunity for exposure. Hence, privilege of working outside the village for women is always questioned.

There are many evidences of gender disparities in all activities in Bandipur. People generally enrol daughters in the government schools while sons are usually admitted in 'quality' boarding schools. Child marriage of girls is one of the examples of gender disparities. It is mostly seen in Terai communities. Some major reasons behind child marriage include: aiming to keep the daughters virgin before marriage, safeguarding the family from being target of unwanted criticism, poor economic condition of the families and easy to get grooms in early age. Unmarried girls in their late teens face tough questions regarding their character and behaviour. As a result, majority of girls are compelled to quit schools prior to completing high school level formal education.

Men are mostly involved in economically productive sectors and social activities but women are engaged in reproductive and to some extent in community works. Very few women have been involved in productive sector such as working as schoolteacher and maternal and child worker. Communities of Bandipur are male dominated. This can be evidenced even in the families of widow or single women where male but junior member becomes head of the family. Women are restricted to ascertain their individual personality, which is strongly backed by so-called Hindu social norms and values. They are even discouraged for getting organized into groups. Women have no access to educational and economic opportunities. Hence, they are marginalized in terms of decision making both inside and outside the house. The society does not pay due respect to the dignity of girls resulting in less mobility. They are confined to play traditional roles like working for household chores, taking care of children and farming. They cannot often enjoy entertainment and recreational activities.

Women are oppressed, their voices are not heard and their roles are not recognized in these communities. Rather they are deprived of arguing with their superiors even in determining their individual future. The traditional culture originated from Hindu religion has further perpetuated discriminatory practices against women. In fact, women's interests, concerns, and needs are hardly taken into consideration. According to one of the ex-ward chairpersons, three to four cases of domestic violence are reported each month. Other cases are found mostly of the disputes between husband and wife, lending money as loan, division of properties among the brothers, and allocation and distribution of water. The cases are mostly related to husband's discrimination against wife in terms of sufficiency of food, money and care.

4.3.3 Political Situation

There are no serious political conflicts in the area though minor conflicts are often seen during election. Where Communist Party of Nepal-United Marxist and Leninist (CPN-UML) was strongest in Bandipur, Nepali Congress was the chief opponent in the past, which now has changed with emerging influence of Maoists and Madhesi politics. At the latest, the influence of CPN (Maoists) has been notable. Maoist cadres regularly observed the areas and

had their decisions implied in some cases before they finally agreed for cease-fire and joined mainstream politics in May 2006.

Most of the community conflicts are decided by the political understanding where the practice is organizing *panchayati*⁷² to discuss the issue of conflict and resolve it. Any issues that could not be resolved at the local community level by politicians were forwarded to the *Ilaka* Police Office Mirchaiya and District Administrative Office, Siraha.

4.3.4 Economic Situation

i. Well-being of people

The well-being ranking tool has been used to assess the well-being situation of households living in the area based on community's agreed indicators. Out of 870 HHs, 236 HHs (27.1 percent) belong to well-off, 215 HHs (24.7 percent) to medium and 419 HHs (48.2 percent) to poor categories. Well-off categories of farmers have food sufficiency throughout the year. Medium category of farmers has food sufficiency only for 6-10 months whereas poor category of farmers hardly manages the grains for 2-5 months. For the rest of months, poor category of farmers has to manage from off-farm activities. Mostly, dalits and landless people fall in this category.

The medium category of farmers has other means of earning apart from agriculture. In hill migrant community, they practice *parma system*⁷³ in agriculture season and make them free of involving in productive work. Some women get loan from Small Farmers Development Programme (SFDP) in affordable rate and invest in small business targeted to weekly *hatiya*. Very few of them have some other source of income like vendor shops and weekly *hatiya*, selling grain, milk, and vegetables. Goat raising is one of the sources of income of hill migrant women.

Majorities of landless people have very small patch of *ailani*⁷⁴ land. They have very simple houses, majorities of which are thatched. They mostly work as either *haruwa* or *jan*⁷⁵. In order to run their livelihood, majority of the poor people have to travel long in government

⁷² Panchayati is a local informal meeting, which acts as judges in the court. Here, the local people along with community leaders come listen the issues and concerns of both conflicting parties and try to resolve them in a social ground. The penalty may be fixed while managing the conflicts but it is very rare.

⁷³ Exchange of group labours mostly used during the peak agriculture period. It was originally started for the maximum use of available water for paddy transplantation in the rotational basis.

⁷⁴ Communal land owned by GoN and taken care of by the VDC. Ailani is mostly situated along the river banks hence mostly used for grazing purpose. Many landless have now started to live in such land that also has invited the local conflicts among the people.

⁷⁵ Agriculture labourer, haruwa work on yearly contractual basis whereas Jan works on daily contractual basis in wage labour.

forest to collect firewood and sale it in Rs. 30 per pile. Some people collect firewood, bamboo, wooden log and sale those materials in the local market while some people are engaged in brick factories, filtering sand in the bank of Kamala River, collecting the boulders and collecting firewood of *sal* (*shorea robusta*) leaf. Majority of the poor cultivate others' land as sharecropper and on contractual basis.

ii. Local markets

In Bandipur, good market facilities are available for selling agriculture commodities. As the area is at the edge of Mahendra highway, there is good transportation facility. Transportation is even not problem in the inner villages. All the toles are linked with rural road networks.

*Hatiyas*⁷⁶ are very popular at local level for small enterprises. They are organised at the fixed locations in the set date and time. On every Friday and Tuesday, two weekly *hatiyas* are organised in Bandipur. Rice, wheat, mustard, pulses, vegetables and daily consumptions materials are the main commodities sold and purchased in local markets.

iii. Employment opportunity

Some people earn their livelihood working in factory, pulling rickshaw, carpentry, masonry, farm labour etc. These days, employment in foreign countries has also been one of the important means for earning. Poor and landless families mostly depend upon on-farm and off-farm activities. Besides agriculture, some families are engaged in trade. However, a large portion of the labour force is still engaged in agriculture. There are very limited scopes of off-farm activities within the village. Repair and maintenance of houses and courtyard are some of the important sources of earning at village level.

Though the degree of employment opportunities directly affects the livelihood of people, a very little opportunity is found within Bandipur. The seasonal agricultural labour for paddy plantation, weeding, harvesting, threshing and other off-farm activities like cutting firewood, construction of house, grass cutting, and paini O&M are available. Wage labour is one of the important sources of income for poor and *dalits* in the area. The wage rate varies according to sex, crops and season. Generally, men are given a higher wage rate than women even for the same nature of work and the rate increases during monsoon. Communities determine the rate of wage based on demands of labour. The differences of rates for men and women are determined based on nature of work. It is said that men generally do 'hard physical work' such as ploughing, carrying seedlings for transplantation, manure transportation, threshing whereas women do 'light work' like uprooting the seedlings, paddy transplantation,

⁷⁶ *Hatiyas* are the local markets where people buy and sell their domestic and farm products. They are very popular for the social gathering where they can interact on other issues. They are becoming social platforms in many places.

weeding, harvesting and carrying grains. In 2005, the wage rate for male was Rs.70 per day without snacks and Rs.50 per day with 1.5 kg rice. Similarly, for female, the rate of wage was Rs.60 per day without snacks and Rs.45 per day with 1.25 kg rice. However, these rates are changing every year.

Farmer renting in land is also the means of on-farm employment opportunities at local level. In KUWUA, a total of 42 (23 percent) sampled HHs are taking others land on sharecropping basis (see table 4.2).

Table 4.2
Nature of Sampled Users in KUWUA

S.N.	Nature of farmers	No of HHs	Percent
1	Owner cultivator	124	68
2	Owner renting-out land	17	9
3	Farmer renting in land ⁷⁷	42	23
4	Total	183	100

Source: Household survey, 2004-06

iv. Seasonal migration

The trend of immigration is increasing. As majority of the population is from ethnic communities, people are rather reluctant to shift to new places. Therefore, out migration is very less. The number of arrivals is high in comparison to the departures for permanent settlement in new areas. The majority of people here have migrated from neighbouring hill districts such as Okhaldhunga, Sindhuli and Udayapur. It is due to facility of good transportation, comparatively good security situation, high fertile land, and good agriculture production. Another reason for immigration is cheaper price of land. Majority of migrants in the other part of the district also came to Bandipur especially for livestock raising. It is found that majority of *Yadav* people stayed here as they felt that this area is feasible for animal husbandry as pastureland was found in the large extent.

There is a trend of seasonal out-migration though permanent out migration is almost none. In peak agriculture period, poor people prefer to go to neighbouring villages in search of wage labour. This is because they wish to get quick wage in cash. If they worked for neighbours within the village, there may be delay in payment and in some case; they have to

⁷⁷ This does not comprise those owners who cultivate all of their land

compromise in grains instead of cash. Some outsiders also come in the village to work as a seasonal agriculture labour. This is a general practice of Bandipur.

v. Agriculture and livestock

Agriculture and livestock rearing are the major livelihood activities. Cereal is the main crop. Cereals like rice, wheat, maize, millet and barley; leguminous grains such as soybean, black gram, red lentil, red gram, cowpea, horse gram, and tuber are produced in Bandipur. Bulb crops such as potato and colocasia are being cultivated. Apart from these, farmers grow oil seeds such as mustard, groundnut, linseed, sesame and spices such as chilli, onion, ginger, garlic, turmeric and coriander. Very few farmers grow off-seasonal vegetables like brinjal, cauliflower, radish, carrot and tomatoes to sale in local *hatiya*.

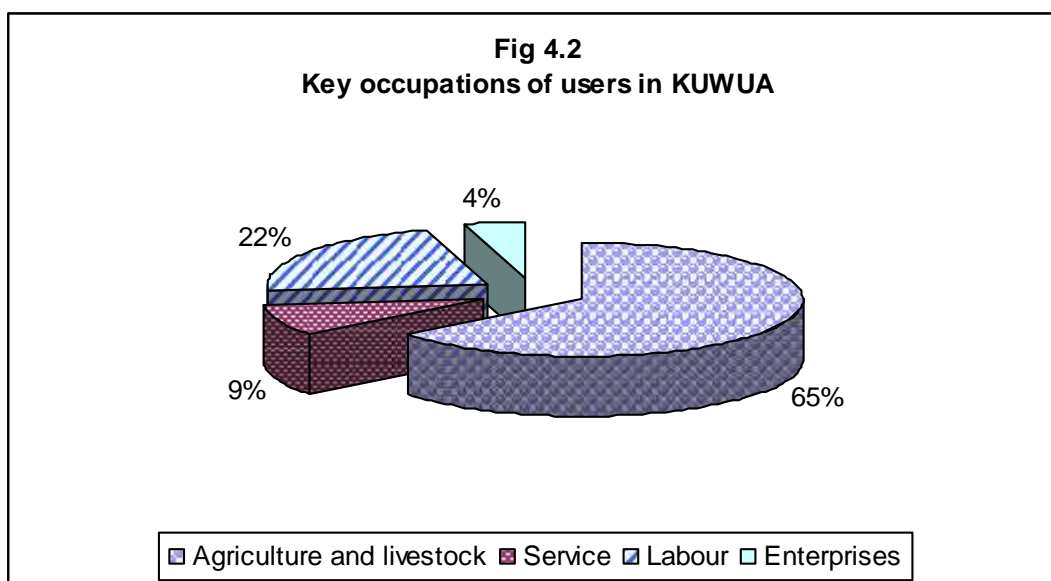
Livestock is an integral part of the agriculture and contribute to earn rural livelihood in different forms. Major livestock raised are cow, buffalo, goat, pig, and major poultry raised include duck, chicken and pigeon. Most families raise buffalo for milk, meat, ploughing and drive bullock carts. Likewise, oxen are also considered most useful for ploughing the farmland and transporting materials.

The level of awareness of farmers in approaching Agriculture Service Centre (ASC), use of inputs and improved techniques as well as diagnosing disease and getting treatment is very poor. Farmers are not fully satisfied with the services provided by Junior Technician/Junior Technician Assistant. Similarly, there are a number of agro-vets but people often feel cheated from these service centres as they feel that they are recommended expensive but date expired medicines which results in loss of valuable livestock.

The majority of area is covered with grass and pastureland. In the past, the cropping pattern was (i) maize-oil crops/pulses/tobacco/sweet (ii) potato-barren, and (iii) maize-oil crops/pulses-*ansu* paddy (spring paddy). *Ansu* paddy⁷⁸ is cultivated in low land where water is regularly available and stagnant. The cropping intensity is estimated 175 percent and inter-cropping system was minimal (DADO, 2005). Main season paddy is not cultivated due to scarcity of water. There is no problem of insect, pest and diseases. Farmers are using indigenous materials (*neem*, *bojho* etc) to manage insect, pest and diseases if there was some problem.

In the sampled HHs too, agriculture and livestock is the prime occupation and means of livelihood of farmers, followed by labour and services. People's dependency on small scale enterprises is nominal. Following figure 4.2 shows the key occupations of the sampled users in KUWUA.

⁷⁸ Early paddy, which is very popular in its two main characteristics, it is short ripen variety and can survive even with less amount of water.



Source: Household survey, 2004-06

vi. Major crops

Farmers started to grow following major crops once the irrigation system was developed.

Cereal crops: Paddy is a main crop of this area. In past, farmer used to grow local varieties of paddy such as *Harinker, Dudharaj, Bagari, and Bacchi*. These varieties are cultivated since 1964. Though the production is minimal, those varieties are grown with even minimal water and are not attacked by insect and pest. Due to low production, fewer market prices, poor taste, longer time to ripe, these varieties are replaced by new varieties such as *Mansuli, Kanchi Mansuli, Radha-17, Radha-9, Mala, Aasu paddy, and Rambilash*. Very few farmers still use local seed for paddy crop.

From 1965, the local varieties of wheat such as *Sona-64, Sona Kalyan* have started to be grown. The characteristics of local varieties are red grain, small grain size, high plants, sweet in taste, resistance of insect and pest. However, due to low productivity, late maturing capacity, and falling in the ground, these varieties are replaced by UP-262 and RR-21. These varieties are further replaced by NL-297 and *Bhrikuti* because of their ripening nature, bigger size of grain, more tillering ability and productivity. One of the problems is these varieties is the need of more water and fertiliser. As insects and pest easily attack these varieties, farmers need regular assistance from technicians.

Farmers used to cultivate varieties of maize such as *Ganga-2, Sathiya, Arun, Janaki, Shankar* and *Ganesh*. These varieties are being popular in this area because of smaller size, more yield, and short-period required for harvest. Farmers are growing maize in large scale.

Vegetables: The main vegetables grown in this area are divided into two groups such as (i) winter season vegetables: brinjal, tomato, leguminous vegetables, cauliflower, cabbage,

coriander, garlic, etc and (ii) summer season vegetables: onion, cucurbits, okra, chilly, peas and beans. Vegetables are cultivated from the very beginning but in small scale as for household consumption only.

Until now, there are very few commercial farmers (about 15-17 HHs) growing some winter season vegetables as part of income generation activities. These vegetables are sold in the local *hatiya*. Some leguminous pulses are also grown such as pigeon pea, black gram, and horse gram. Some oil crops such as mustard have been planting since long back. The scope of off-season vegetables is very high in this area. This is particularly because of (i) availability of irrigation water throughout the winter (ii) loamy soil-more fertile, greater water holding capacity, no problem of water logging (iii) easy transportation (iv) local market facility, and (v) easily available of input (seed, fertiliser), etc.

In the beginning, lapchange variety of potato was grown. However, due to low yield, *Lalgulab*, *Gajarba* varieties have replaced the old one. These varieties of potatoes are being popular due to more yield, short duration variety, good taste, and have good market price.

Very few horticulture practices are seen in this area. Some farmers used to cultivate fruits such as mango, litchi, jackfruit, etc. The tobacco and sugarcane are only the high valued crops grown in this area. Now, farmers are not interested to cultivate tobacco because of the attack of hailstone and fewer market prices. Very few farmers are growing sugarcane as a cash crop.

Now, the cropping pattern and cropping intensity have been changed drastically in this area. The cropping pattern is (a) paddy-wheat/pulses/oil crops-maize (b) paddy- winter season vegetables-barren, and (c) paddy-cucurbits/okra-barren. The cropping intensity is estimated as 250 percent. The cropping pattern and intensity have been increasing with improved irrigation facilities and modern agricultural practices.

Sandy, loamy and clay soil is found in Bandipur. Sandy soil is found in head part of system. Due to this, water-holding capacity is very less. Loamy and clay soil is found in middle and tail parts of Bandipur. Paddy production is quite high in low land whereas cultivation of vegetables is found in up land. All crops except vegetables are growing in clay soils however, production of vegetables has been less because of high water holding capacity. Due to heavy deposition of organic matter, soil of head and middle part of the command area is fertile in comparison to tail.

Initially, farmers were reluctant to use chemical fertilisers believing that it would decrease the fertility of soil. Farmyard manure was heavily used. Now use of chemical fertiliser has increased but farmers are still constrained by the high price. Urea and complex salt were used before but now complex salt is replaced by Di-amonium phosphate.

Traditional cultural practices for farming system are still in place. Wheat and maize seeds are directly broadcasted. Inter-cultural practices like weeding and top dressing are not very common in wheat, but it is practiced in paddy and maize.

The applications of pesticides such as Furadon, Thimet, Endosil, and Metacid have been started in Bandipur since 1988. People believe that the intensity and types of insect, pest and diseases are raised after the use of chemical fertilizers. Some of the noticeable diseases are: wilting of pigeon pea without giving fruit, borer of maize, khaira in rice, stem borers in rice, rice ear head bug, loose smut in wheat and false smut in rice, etc. Farmers generally provide two sprays of pesticides in paddy (at heading and milky stage). Farmers are also using herbal pesticides such as *neem* to minimise the insects and pests. Some farmers use weedicide in paddy and wheat also. Weeding is practiced for two times in maize. Top dressing is also done in paddy, maize and wheat. Zinc is applied in the paddy and Boron in vegetables as a micronutrient. Bullock does ploughing and tractors are used rarely because of small terraces. Manual threshing is in practice because farmers believe that threshing cracks the grain resulting low germination power.

In Bandipur, co-operative has provided its services from 1976 to 1983 for managing agriculture inputs and daily goods. However, it was closed later as it was accused of mishandling the fund. The SFDP was established in 1983 for providing short-term agriculture loan (buying bullock and agriculture inputs) for farmer's in-group collateral basis. The Pocket Package Program (PPP) was initiated in 1998 for agriculture extension through agricultural training, demonstrations, mini kits, and farmer exposure tours. Simultaneously, ASC was established in 1998 to support PPP. These institutions provided the services to improve agriculture pattern, imparted technical knows-how from leader farmers to the other interested farmers and provided regular follow-up visit.

4.3.5 Physical Infrastructures

Bandipur has moderate facility in terms of available infrastructures. The infrastructures available are broadly categorised to electricity, communication and transportation.

i. Electricity

Electricity is one of the social indicators of development. It is not yet available in ward 1. Main causes behind this were rather political and incapability of ward chairpersons, lack of approaches made to the concerned authorities, and poverty that has made the people unable to contribute even a little cash. As the result, local residents are compelled to bear the expenses for kerosene oil and wood, latter resulting the depletion of forest resources.

ii. Communication

Telephone and post offices services were available in Bandipur before 1998. However, due to a decade long armed conflict, government officers were shifted from this place. As a result, people need to go either Mirchaiya or Godar for communication. Nevertheless, with the latest political changes, these services again are being resumed with improved facilities.

iii. Transportation

Mahendra Highway crosses through Bandipur, providing transportation links to major part of the country. Likewise, internal road networks are relatively established having one gravel road up to Pipal Chautari. People still use traditional means of transportation such as bullock-cart to carry materials. For the transportation of construction materials, bicycles and tractors are also used.

4.3.6 Institutional Situation

The presence of institutions is supposed to be an indicator of social awareness. This research area is very rich in terms of number of institutions. There are altogether 28 institutions in Bandipur (refer table 4.3). These institutions are very much helpful to link rural people with market and to establish network with other institutions to generate multiple benefits to the community. Cooperative societies have been developed for providing fertilizers, insecticides, seeds, and other form of technical inputs. These institutions are providing the loan both in individual and group approach with or without collateral.

4.3.7 Natural resource management

i. Water resources

The primary source of irrigation water is the Kamala River. It originates from Sindhuli and flows via Udayapur district to this point and has catchment area of 1550 square km at the crossing of highway. It is medium sized Perennial River. Braided channels and instantaneous flood events are the main characteristics of the river. There are several tributaries in its upper catchments, the area of which is covered with settlements, mixed forest and agricultural lands. The annual average rainfall is about 1500 mm but its concentration is high in monsoon months from June to September.

Up to 1998, there was one gauging station near Uttarahini intake established by Indian government. With the floods of 1998, the gauging station was severely damaged and no records are being documented since then. The flow records from Kamala Irrigation Project (KIP) indicate the flow range of 2 cubic m/s to 600-cubic m/s. Recorded maximum flows are as high as 4000 cubic m/s. There exist some water right conflicts with KIP located just few km downstream of the intake. During rehabilitation of KUIS in 1995, there was an agreement with KIP with respect to withdrawal of water from Kamala River to KUIS. As per agreement, KUIS is entitled to withdraw 1300 l/s in monsoon and 300 l/s in winter. However, KUIS seldom supplies 1300 l/s in monsoon due to difficulty in maintaining the intake (DL/AP Report, 2003).

Juke *khola* (torrent drain) provides an alternative source of water for monsoon in small proportion. It is drainage water coming from upper catchments. Sometimes it brings debris and silt on the irrigated field. This is mainly due to lack of outlet from the *sakha* (branch canal) to escape the floodwater. As there is continuous water supply from river, spring crops are popular in the area, including spring maize.

ii. Land resources

The topography is almost plain having gentle slope towards the south. As the existing area is developed from the flood plains of the Kamala River, the land management is also

associated with flood management activity. There are mainly two types of land according to its utilization: *gairi khet*⁷⁹ and *bhit khet*⁸⁰ (up land). The soil in *gairi khet* is made up of silt and loam while *bhit khet* is composed of sand, clay and loam. Both these soil types are suitable for irrigated agriculture. There are no major problems of drainage and waterlogging except at Juke khola in *Sakha 10*.

Land is the most important resource for livelihood. Access to and control over the land is determinant factor for improving socio-economic condition of rural poor. The inequitable distribution of land is a major factor that ultimately causes food deficiency at the household level.

Mainly two types of farmers are found in research area: landowner and sharecropper. Majority of the sharecroppers are *sukumbasi*⁸¹. These *sukumbasis* work as either Haruwa or Jan. There are no big landowners in this area. The total land area of Bandipur is 840 *bigha* of land (estimated during ISP). The land holding size varies from 0.1 *katha* to 4 *bigha*. Medium sized self-cultivators are the main irrigators (DL/AP, 2003).

Forty-seven percent sampled HHs have land holding between 1 *kattha* to 1 *bigha* while landless comprise 13 percent of the sampled HHs. The following table 4.4 shows the number of sampled households according to landholding.

Table 4.4
Land Size of Sampled Users in KUWUA

S.N.	Land size	No of HHs	Percent
1	>4 bigha	5	2
2	1-4 bigha	65	37
3	1 kattha-1 bigha	89	48
4	Landless	24	13
	Total	183	100

Source: Household survey, 2004-06

⁷⁹ *Gairi khet* is low land especially used for paddy production. Irrigated rice land in Nepal is commonly known as *khet*.

⁸⁰ *Bhit khet* is up land with low water holding capacity and is utilized to cultivate maize and wheat.

⁸¹ '*Sukum*' means possessing nothing in terms of shelter and land and '*basi*' means an inhabitant or shelter. In recent years, *sukumbasis* in the Terai are often considered illegal occupants (encroachers) in the public land, primarily government forest areas, rather than simply a poor or landless person.

iii. Forest resources

Forest products are the main source of livelihood for the local people. These are used not only for firewood but also for furniture, woods for construction purposes and fodder. More than 70 percent of population use firewood for cooking. Rest 20 percent have biogas and kerosene. The main sources of energy in the research area are firewood, cow dung, kerosene and electricity. Most of the marginal and landless farmers are engaged in collecting and selling forest products in the local market. Initially, they were dependent on government forest on the Churia hills, just upstream the intake. Now, there are private and community forests, which are rapidly growing and they contribute to meet most of the needs of local people.

The management of several forests has been transferred from government to the local community with the promulgation of Forest Act 1993 and Forest Regulations 1995. There are three such CFUGs as Nandababa, Jordaha and Kamaladevi, which have their own definite boundaries. People are very active for managing forest for their livelihood. Nandababa CFUG is biggest one in the area. It also provides assistance to WUA by providing various forest materials. For the maintenance of the intake, bushes and trees trunk are being used from that community forest. Due to its regeneration capability and use of no-hardwoods for maintenance, the supply is reliable and sustainable. In addition to this, CFUGs had contributed in community development works such as construction of two footbridges across the KUIS *paini* in Bayarbani and Baltiya area. Hence, forest resources have significant impacts on irrigation system operation and management.

The private forest area is very less. Due to growing importance of forest products, farmers are now encouraged to grow some fuel, fodder and fruit trees within their private land. Mango, Guava, *Bakaino*, *Munaka*, *Sarifa*, *Dabdabe*, Sisau and *Badahar* are the main fruit and fodder trees grown in this area.

CHAPTER V

OVERVIEW OF COMMUNITY BASED INSTITUTIONS UNDER RESEARCH

As discussed in the preceding chapters, for this research, two CBIs one for irrigation and another for forestry are chosen to assessing their governance. However, before that, it is imperative to discuss on the basic information related to these CBIs. The overview mostly focuses physical characteristics and institutional aspects of the CBIs.

Water users association (WUA) is generally defined as an organization of water-users that manages, allocates and distributes water from a common source in the most efficient participative manner to benefit all the members (FAO, 1982, p. 8). Osmani (2001), as cited in Mott MacDonald 2001, opined that in the general sense, the main objective when establishing WUAs is to involve the end beneficiaries, the water users, in the management of irrigation water whereby, the transfer of irrigation activities to the water users is the ultimate goal.

Gilmour and Fisher (1991, p. 68-69) opined that the word 'community' is the basic concept in community forestry, but is used very loosely. The primary connotation is a vague notion that community forest means something like 'people's forestry'. This acknowledges that community forestry activities are aimed at providing direct benefits to rural people and that 'the people' should have a substantial role in decision-making. At this level, that is, as a statement about the philosophy behind community forestry, there is nothing wrong with the term. However, 'community' is often used as if it was a sociological term, which adequately defines the recipients. 'Community' has a number of connotations: it suggests a group of people who share a set of common interests (residence, kinship, religious affiliation, etc.). It is implied that members of a community may act jointly in respect of these common interest. Individuals may be in number of communities, depending on sets of interest is relevant in a given situation.

5.1 Kamala Uttarahini Water Users Association (KUWUA)

KUWUA is a farmer's organisation of KUIS. KUIS covers four wards of Badharamal VDC. As discussed earlier chapter, it is aligned on the left bank of Kamala River. Its irrigated area extends up to Bhulke River in the east, Kamala River in the west, lap of Churia in the north and KIP eastern *paini* in the south. The Mahendra highway crosses its command area at Bandipur.

It will be easy to understand the physical condition of KUIS before understanding the institutional aspects.

5.1.1 Physical Condition of KUIS

The physical condition includes short background along with intake, *mul paini* (main canal), *sakha paini* (*sakha* canal) and *sahayak paini* (*sahayak* canal). In the later section, water management practices are discussed in brief.

i. Background

The headwork of KUIS is on the left bank of Kamala River. It is about 4 km upstream of the Kamala Bridge and its most of the command area is to the north of Mahendra highway. It irrigates about 500 ha of land.

Kamala is the perennial river, which originates from Mahabharat hills (Sindhuli and Udayapur), having catchments area 1550 square km at the headwork of KIP. There are several tributaries in its upper catchments, the area of which is covered with settlements, mixed forest and agricultural lands. The KUIS taps water through an inundation channel located at Uttarahini, Chisapani and Pipal Chautari near the lap of Churia (see figure 3.1). The width of the river at Uttarahini is about 400 m while it is more than 1.5 km at Pipal Chautari.

The Kamala River during monsoon changes the course of flow, which affects in diversion of water in the irrigation system. The instantaneous flood, which lasts for 3-5 hours, is more devastating in nature bringing large amount of debris and sediment, which deposits on the stage to Terai flood plain, resulting large number of maintenance work at the intake.

ii. Intake

Water users (referred as irrigation water users) mostly use Chisapani and Uttarahini for intake of KUIS (see figure 3). The choice of each location is based on the condition of the river. Fighting against the flood and safe withdrawal of water for irrigation are two challenging jobs of water users. At Uttarahini, the intake is located on rock outcrops. One gated regulator also exists, which was built in 1995 by HMG/N. This location is quite safer only at constant water level in the river especially in winter. However, during monsoon river strikes on the rock and deposits plenty of boulders and

gravel on the mouth of the intake. Despite the protection of head regulator, significant amount of sediment enters into the *paini*. It not only interrupts the flow in *paini* but also provides huge work volume for emergency maintenance. Hence, the operation of Uttarbahini intake has become problematic since last few years. The flood damages dam even in the same day of repair. At Chisapani, river enters into the Terai plain and starts braiding.

There are two main channels. The western main channel has almost all the flow in most of the months. The eastern channel is dry and acts as an approach channel for KUIS. To divert the flow from main to eastern channel, it is necessary to check the flow and dig out the approach channel. In the eastern channel itself, it needs raising the water level by damming this channel at Pipal Chautari. The choice of this option is based on the condition of eastern channel and volume of work to be excavated for approach channel.

Across the river, there is no permanent diversion structure. The existing intake is a run-off river diversion being a temporary brushwood dam⁸². These temporary dams are easy to washout even with small floods. To safeguard the agriculture land from flood attack, the HMG/N constructed 2 km long dyke along the left bank in 1981. It has played a vital role in protecting the land from flood. However, there is no reduction in the magnitude of threat of the river.

The location of intake has been changed frequently to suit the river morphology and capacity of water users. The intake structure was modified during Irrigation Support Program (ISP) intervention, which comprised a gated head regulator at Uttarbahini. At Chisapani, an approach channel was built to excavate along with the dam, while at Pipal Chautari only a dam was built to divert the water. Second damming is always threatening during monsoon and is easily broken by even small floods. As a result, water users have to go in *urdi*, the number of which is determined by the frequency and magnitude of flood.

The system has 1 *mul paini*, 10 *sakha paini*, 29 *sahayak paini* and several field *paini*. One more parallel intake exists at about 300 m downstream of Pipal Chautari, which serves part of *sakha* 4 and *sakha* 5 command areas through a *Budhi paini*⁸³ (refer figure 3). It is only used during monsoon. This intake taps seepage and overflow water from first intake. There are no diversion dams. Similarly, a separate intake is constructed at about 400m upstream of Pipal Chautari that serves only command area of *sakha* 1.

iii. ***Mul paini***

⁸² Due to temporary nature of intake, it requires various materials such as bushes, stones, sand piles, soil clods and wooden pillars during the maintenance.

⁸³ *Budhi paini* is the old alignment of the *mul paini*, which was shifted towards the south from the existing intake in 1982-83.

It conveys water up to distribution points. Considering the intake at Uttarahini, the *mul paini* is divided further into three distinct parts. The first part is from intake to lined section, partly lined with stone masonry. The second part is the lined section, which is made up of stone masonry with cement mortar. Its total length is about 700 m. Alignment of the *paini* passes at the edge of the left higher bank of the river and is susceptible to flow debris in monsoon. The third part of the *mul paini* starts with the off take of *sakha* 2 and ends with the inlet of the drain at the bifurcation of *sakha* 9 and 10. The main function of *mul paini* is to allocate and distribute the water equitably as all the *sakha painis* take off water from this part. In each branching point, there are proportionate flow dividers, which were constructed during ISP intervention. The entire length of the *mul paini* is in the ridge and has no cross drainage throughout the length of about four km. Considering the intake at Uttarahini the length of *mul paini* is about five km. When water is supplied from Chisapani, the *mul paini* length curtails and intake lies at Pipal Chautari. The length of the *mul paini* from Uttarahini to Pipal Chautari is about one km.

iv. *Sakha and sahayak painis*

There are ten *sakha paini* off-taking from the *mul paini*. Each has flow dividers but the functionality is limited to *sakha* 3 to 7. Flow divider of *sakha* 2 is not in use due to inlet of *mul paini* from Chisapani intake. In *sakha* 8, flow divider in *mul paini* is wider than flow division structure itself and outflanking. The division of water in the junction of *sakha* 9-10 and Juke *khola* (small torrent) is not functioning well due to problem of safe drain inlet. Similarly, flow divider of *sakha* 1 is functional only when *mul paini* runs from Uttarahini. The water users are not satisfied with flow divider of *sakha* 5 because the orientation of the structure and provision of drain holes on the drop. Similarly, *mul paini* obstruction is essential in *sakha* 7 due to difference in elevation of parent and bifurcating *painis*. Hence, the distribution of water between *sakha painis* is carried out on ad-hoc basis and is managed by water users themselves. The head reach of each *sakha* has *khondas*⁸⁴. The physical condition of this part is fair compared to other part of the *sakha painis*. Most of the part is in filling, susceptible to frequent breach in monsoon.

As discussed earlier, there are ten *sakha paini* feeding 29 *sahayak paini*, which later supply water to several field channels. All the *sakha* and *sahayak painis* are unlined and have temporary flow division structures. Most of the *sakha painis* are in ridge and irrigate from both the banks. These *painis* are good from O&M perspectives. However, there are some *painis*, which are difficult for O&M because they are filled with sand or run across deepened cuttings. The *painis* in cutting require significant damming for irrigation. Those filled with the sand need borrow material, which is problematic and undermining of adjacent farm field is common. The details of *sahayak painis* and irrigated area of each *sakha* is presented in Table 5.1.

⁸⁴ Direct outlets for the purpose of irrigation.

Table 5.1
Sakha Paini and Sahayak painis Command Area along with Major toles

<i>Sakha paini</i>	<i>Sahayak painis</i>	CA estimated during ISP ⁸⁵ (bigha)	CA as per Bighatti collection ⁸⁶ (bigha)	CA calculated from DLAP study ⁸⁷ (bigha)	<i>Paini length (km)</i>	Major toles
1	3	20	20	20	1.5	Poudel tole, Mushahar tole
2	7	40	30	30	2.5	Ratanpur, Ratanpur Danda tole
3	18	140	120	113	3.5	Baltiya
4	5	100	80	90	2.5	Ratanpur, Lahuretole
5	6	140	120	130	4.5	Pacchim tole, Bazar tole, Khal tole, School tole, Madhav shau tole
6	4	40	30	34	0.8	Danda tole, Bayerbani tole
7	8	60	56	42	2.0	Danda tole, Bazar tole, Kamat tole
8	6	40	30	52	1.5	Chhaghare tole
9	7	120	100	59	2.0	Milan tole, Bhulke tole, Purbi tole
10	5	140	100	138	1.5	Dachhin tole, Chhaghare tole
Total	29	840	686	595		

Source: DL/AP study, 2003; Personal Communication, 2004-06

v. Operational tasks

Operation of the irrigation system is the most crucial part of water management. The main operational tasks of the KUWUA are monitoring the river water level, identifying defects in brushwood dams, and planning water sharing arrangements of each *sakha paini*. At the system level, these tasks are carried out by *Sakha Incharges*⁸⁸ (SIs) or *Chaukidars* (guards)

⁸⁵ The data available from KUWUA records.

⁸⁶ Annual water fee collected on the basis of land size hence more equitable and water users are happy to pay for O&M of the canal.

⁸⁷ Use social mapping and HHs profile during DL/AP study of each toles/or command area of each *sakha paini* and calculated accordingly.

⁸⁸ SIs are responsible to manage the irrigation affairs at their *sakha* level. They are given high authority from mobilisation of water users in *urdi*, adoption of rotation practices, monitoring, collection of water fee, and charging penalty if needed. They are acting as chairperson of each

appointed by KUWUA. During monsoon season, the water level fluctuates significantly along with the breaching of diversion dams, which affects operational behaviour of the system. Due to lack of gated structure, no major activities need to be performed in the *mul paini* other than flow diversion. Floodwater can enter into the *paini* freely and get distributed proportionately to all the *sakha painis*.

At the *sakha* level, rotation is a general tradition after paddy transplantation. The timing of rotation is not fixed and it is based on the irrigation water depth of 10 cm at all corners of the plot. The operation of this system is performed by group of water users. SI is responsible for monitoring and supervision of rotation. Another basis of rotation is the condition of the crop with respect to irrigation. SI allocates water after monitoring the field situation on the request of water users. In some large *painis* (viz. *sakha* 5 and 10), water management tasks are further divided into representatives of the locality. *Sakha* 3 is also large but is ethnically homogeneous and so it relies on a single representative. These operational norms are well accepted by all the water users and defaulter of these norms is subject to penalty. The *sakha* 1 is operating through the separate intake and therefore main operational task required is monitoring the water availability in the intake. Due to the less number of water users, the operational task is difficult.

In actual practice, the water users of head reach of *mul paini* used more water than middle and tail end. In the rotation time of tail end water users, the water users of head reach obstruct the *paini* and direct water towards their farm in the time of scarcity of water. Mud and brushes are used to divert water in the *sakhas*, which is easier to water users for management. An absence of *Chaukidar* in all *sakhas* is another important factor for unequal rotation of water within *sakhas*.

vi. Maintenance tasks

Continuously struggle with river flood is the general tradition of the water users. This struggle is not only related with drawing irrigation water but also for protecting the settlement from floodwater. Deflecting the river flow towards opposite bank is essential for protection but this creates difficulty in managing irrigation water. System maintenance is always devoted to best match these two contradictory activities of the river morphology. ISP intervention has solved allocation and conveyance problem of water supply, but water acquisition issue remained on the shoulders of the water users due to lack of permanent headwork across the river.

Sakha Committee, though *Sakha Committees* are informal institutions and are not formally registered.

In general, maintenance activities can be grouped into (i) maintenance of intake and diversion (ii) maintenance of *mul paini*, and (iii) maintenance within the *sakha paini* and *sahayak painis*. Maintenance of brushwood diversion dam is the prime concern of the water users especially during monsoon. Each farmer has to spend more than 30 days in a year only for the maintenance of diversion dam, but it depends upon frequency and magnitude of the floods (in the year 2004, they spend 66 days in the *paini*). Emergency maintenance is necessary for several times. The major works at the intake include the construction of brushwood dam, excavation of approach channel if necessary and desilting of *mul paini* entrance. Based on the extent of work, labourers are mobilised. Each *tole* has to bring tools and equipment during *urdi* as per instruction of the KUWUA and SIs. These tools are generally spade, *khukuri* (knife), sickle, *dhakiya* (grass head basket) and *doko* (bamboo basket).

Maintenance of *mul paini* is carried out in regular basis as routine maintenance before rainy season for paddy cultivation and before winter season for wheat cultivation. The major works includes desilting, maintenance of banks and weeding from the inner slopes. The KUWUA is responsible for the maintenance of *mul paini*. One or two days are necessary to complete the maintenance tasks. However, the maintenance of first part (from head works to Simal tree) of *mul paini* is quite difficult due to presence of boulders and gravels. To excavate this part and approach channel, excavator has been used several times.

Maintenance of *sakha* and *sahayak painis* is carried out under the leadership of SIs. Routine and emergency maintenance is essential to operate the system as per set norms and practices. Due to unavailability of borrowing material and need of damming, the *paini* maintenance is cumbersome in several bifurcation points of *sahayak painis*. Desilting of *sakha* and *sahayak painis*, closing of rodent holes and rising of banks are the main activities associated with routine maintenance within the *sakha* level. The desilted soil is deposited along the field of each *paini* network and water users are not allowed to complain on it. However, there are some conflicts with respect to desilted soil, which need to be kept systematically on the top of the *paini* bank, but it never happens.

Sub-committees are also formed in informal way where the command area of the *sakha* is large. In addition to maintenance work, the role of sub-committee is to provide services to water users on time, to monitor water rotation, communication and mobilisation of water users during *urdi* work and day-to-day communication with SI. In addition to these, these sub-committees help to raise fine, penalty and *bighatti* from water users.

A group of water users are responsible for field channel maintenance. As the field channel has reached up to each plot of land, the maintenance is carried out either by the group of water users or on individual basis adjacent to his/her plot. In case of improper maintenance,

the *sakha* committee does not give the water as it reduces efficiency of water use. The respective SI does the monitoring regularly.

The KUWUA is successful to generate the external resources for the system maintenance. The Table 5.2 below gives the synopsis of the external supports made by different institutions in different times.

Table 5.2
Use of Excavator for System Maintenance

SN	Year	Institution	Works performed	Duration (days)	Approximate cost (Rs)
1	1987/88	Janakpur Agriculture Development Project, Naktajhij	<i>Paini</i> excavation on downstream of Uttarahini	21	23,000
2	1991/92	Department of Roads, Itahari	<i>Paini</i> excavation on downstream of Uttarahini	6	21,000
3	1994/95	Kamala Irrigation Project, Portaha	<i>Paini</i> excavation on downstream of Uttarahini	NA	Fuel only
4	1997/98	Department of Roads, Lahan	<i>Paini</i> excavation on downstream of Uttarahini, upstream of head regulator	4	NA
5	2000/01	Kamala Irrigation Project, Portaha	<i>Paini</i> excavation on downstream of Uttarahini, upstream of head regulator	3	45,000

Source: KUWUA information and Consultation with Ex-chairpersons, 2004-06

The above table 5.2 also clearly indicates that the water users have good rapport with external agencies for system maintenance. In most cases, excavator is managed through the influence of political leaders of ruling government. The use of gabion wires in system maintenance is also the general practice since last few years especially after ISP intervention. The Farm Irrigation and Water Utilisation Division (FIWUD) has also provided gabions for protection works. DIO Siraha and now Divisional Irrigation Office Saptari and River Training Division of Dhanusha are concerned agencies that provide gabion wires. In 2000/2001, NCFUG has provided Rs 95,000 for the filling of stones in gabion wires.

vii. Water management

Water management is a complex task. It is associated with social, technical and institutional aspect of the irrigation system. To manage the water means to provide the water more

equitably to water users in right time without many disputes. Water acquisition, allocation, distribution and drainage are the main aspects of water management.

In KUIS, water is acquired with the help of temporary brushwood dams located at appropriate intake point. Till now, there are no remarkable water right issues to be addressed in the system water management. However, this has been raised several times by the KIP, which is located hardly 3 km downstream of this system.

During the implementation of the ISP rehabilitation, it was agreed with KIP that 1300⁸⁹ lps of water in monsoon season and 300 lps in winter season would be diverted to KUIS system. When the Uttarbahini intake is functional there is no problem of water for water acquisition, but in case of failure two to three parallel intakes on the left channel of the river are used. The location of these intakes depends upon the manageability of the resources and availability of the reliable flow of water.

Water allocation is related with the sharing of water based on prevailing norms and practices. As the water was sufficient in early days there were no specific principles for allocation of water. With the expansion in irrigated area and decrease in water availability in *paini*, the allocation principle has been set out based on the total area to be irrigated. In fact, the water allocation principles are different in different development stages of this system. Initially it was 12 *ana*⁹⁰ for *sakha* 2 to 4 (25 percent) and 4 *ana* for *sakha* 5 to 10 (75 percent). Later, this principle had been changed to 10 *ana* and 6 *ana*, and comes out to be 37 percent and 63 percent respectively as in the previous practices.

In spite of set principle of equitable water distribution, sometimes it became unmanageable to operate the system with limited water supply, which has dictated the time-sharing arrangement based on above land proportions. Due to inadequate flow dividing provisions, the distribution of water was in ad-hoc basis. After the ISP intervention, the traditional allocation principles have been enforced through the construction of flow division structures at the bifurcation of each *sakha paini*. However, during the water shortage period, the water allocation principle is not manageable and new time-sharing modality is in place such as 4 days for *sakha* 1 to 4 and 5 days for *sakha* 5 to 10.

All these water allocation principles are intended to distribute the available water in an equitable basis. To understand the actual water distribution process, the hierarchy of *paini* network is essential to share. Various hierarchy of *paini* network such as *mul paini*, *sakha paini*, *sahayak paini* and field channels are carrying out the distribution of water in different stage. Each plot of land has its own *khonda* from any hierarchy of *paini* network. The

⁸⁹ The design capacity of *mul paini* is fixed as per this agreement. However, the flow of water hardly amounts to this figure of 1300 lps

⁹⁰ Ana is the 1/16 and represents monetary unit of currency. 16 anas are equal to 1 Rupee.

khondas are located at the start of the plot or on higher elevation to irrigate the plot by flooding. The size of plot bunds is quite large to retain the water.

There are no major drainage problems in KUIS. However, during continuous rainfall, plot bunds are used to cut towards descending relief and major conflicts with respect to it between the adjacent water users.

5.1.2 History of Irrigation System and Institutional Development Process

The institutional development of KUWUA can be broadly categorized in four major stages as (i) Danuwar period (from beginning to 1948) (ii) Rana period (from 1949 to 1975) (iii) Pre ISP (from 1976 to 1995), and (iv) After ISP (1996 to till now).

i. Danuwar period (from beginning to 1948)

According to key informants, *Danuwar*s were the first inhabitants of the area, so they initiated to construct *paini* for the purpose of irrigation. During the Danuwar management, *Budhi paini* passed from the tail of Ratanpur village. It only irrigated half of the command area of *sakha* 4 and 5. Other area was completely pastureland. Hence, under the Danuwar management, the command area was very small and the system was run by limited rules and norms established by them. Informal institution was set up for water management.

ii. Rana period (from 1949 to 1975)

The leadership of the system remained in the *birta* manager Janak Bikram Rana up to 1975. The rules and regulations were very strict especially in relation to resource mobilisation for system O&M.

As discussed in chapter four, during 1948, Mr. Ram Sharan Das (Chandra Mohari Baba, and *Nangababa*⁹¹ were very popular in their charismatic forecasting. They lived in Uttarahini *kuti*⁹² At that time people from nearby area used to come and met them, and listen their charismatic speech. Group of water users of Bandipur also frequently visited Uttarahini *kuti* to participate in the *bhajan*. According to the Bechu Kurmi, there was a group of five people (Bechu Kurmi, Manapati Sharma, Bhagirath Prasad Bhattra, Suraja Gami, and Pup Lal Chaudhary) who used to participate in *bhajan* once a week. One day when they were returning from *kuti*, they prepared a plan for rehabilitation of *paini* once they found the demarcation of abandoned *paini*. It shows that once upon a time, *paini* was opened from Uttarahini and later it was abandoned.

After thorough assessment, it was decided that the existing location of *budhi paini* was a best place to expand the *paini*. Then, Shyam Raja⁹³ mobilized some 35 water users to construct the *Budhi paini*. In the tenure of Chandra Sumsher Rana, he got 100 *bigha* land as *birta* in the Bandipur Laptauli area. Hence, he was encouraged to open *paini*. He has mobilised the labours that worked for a total of one month. The *paini* developed by Danuwar in the past was expanded carefully. The initiative undertaken by Shyam Raja was not successful after some years because the intake was constructed at the lower side of Chisapani, which was eroded by the flood of Kamala River. As a result, the area was again deprived from irrigation facilities.

Later in 1960, another *birta* owner Mr. Govinda Shamsheer Rana shared his idea with his *Birta* manager, Mr. Janak Bikram Rana about the new locations for opening the *paini*. With several days' efforts of water users, they found Uttarahini a suitable location for new *paini*. Therefore, the initiation of the irrigation was formally carried out with the support and cooperation of Govinda Shamsheer Rana *in consultation of raitis*⁹⁴.

Mr. Janak Bikram Rana was assigned to lead the work with the support of key water users of Bandipur. About 200 *mund* iron was procured and two *arans*⁹⁵ were established to prepare

⁹¹ A local priest who wears few or no clothes, the literal meaning of *nanga* is nude.

⁹² *Kuti* is a small hut away from community especially around the temples prepared to live for priest, sadhu, and sant.

⁹³ *Birta* owner and the initiator of the canal construction work

⁹⁴ *Raitis* are the sharecropper of *birta* land, who had to fulfil all sort of requirement of *birta* owner during Rana regime.

⁹⁵ *Aran* is a place where ironsmith prepares and sharpens the machinery tools.

tools for the purpose of rock cutting. The headwork was constructed under the supervision of Mr. Manapati Sharma, a key farmer and in guidance of Mr. Janak Bikram Rana. He mobilized about 60-65 *Jan*⁹⁶ per day. Each *Jan* provided Rs 2/day with three times meal. They worked for four months to cut the hard rock. The people from Udayapur and Ramechhap also worked as *Jan* during the construction of *paini*.

Once the *paini* was constructed, Mr. Sangam Adhikari, a local priest organized a big worship function of Kamala *mai*⁹⁷ by slaughtering she goat, black he goat and one pair pigeon. At this time, clothes for Kamala *mai* to wear, and *tika*, one bottle local liquor, and rice pudding were offered in order to make her happy. The event was observed with excitement. With the continuous efforts, this system was in operational stage only in 1962. Mr. Janak Bikram Rana made a commitment not to cut his beard until the *paini* was operated. With his dedication towards the *paini* construction, the first Chairperson of the KUWUA was Mr. Janak Bikram Rana.

During 1960-62, a total of Rs 1200 was invested to complete the *paini* construction. Out of Rs 1200, the water users of Bhulkiya, Badhara and Mirchaiya raised Rs 600, Bandipur Rs 400 and *Birta* manager invested Rs 200 personally. Mr. Janak Bikram and Mr. Bechu Kurmi raised *bighatti* at the rate of Rs. 20/*bigha*. As part of their investment, the KUWUA received Rs 4000-5000/year as *bighatti*. In 1971-72, under the leadership of Mr. Kasinder Marbeta, a local influential farmer, it was possible to take water at the extreme tail of Karjanaha village. For this, each farmer had paid Rs 2 per *kattha* as *bighatti*. After the construction of Kamala eastern *paini*, KUIS was limited within the small command area as there was no need to extend the *paini* up to downstream villages.

In 1972, long drought created critical problems for irrigation. Again water users raised rice and foods to participate in the *paini* work. In order to fulfil the water demands, two parallel *painis*, from Uttarahini to all water users and another *paini* from Chisapani for Baltiya water users were opened. Later the *paini* of Baltiya could not work and they also relied with the Uttarahini *paini*.

Mr. Janak Bikram Rana, during his tenure, operated the system efficiently. At that time, even tail-end water users were able to get water as per their requirement. There was a strong penalty system. He had enforced strong rules and regulations to regularise the system including *urdi* during O&M. Those who would not participate in the *paini* work, would either be fined or be boycotted from social ceremonies.

In 1975, the command area was extended under the leadership of key water users like Mr. Ram Manandhar, Mr. Chhayan Bahadur Lama, Mr. Garbu Das Mahara and Mr. Madhav Sahu

⁹⁶ Labour at daily basis.

⁹⁷ According to Hindu myths, rivers are considered *mai*, which means mother.

(Gami). Mr. Ram Manandhar worked to prepare the inventory of the system. *Ghar lauri*⁹⁸ was mobilized in the process of extension of command area. Mr. Janak Bikram Rana also supported that initiative.

iii. Pre ISP (from 1976 to 1995)

After Mr. Janak Bikram Rana, Mr. Bechu Kurmi became Chairperson. People still remembered that the administration during the tenure of Mr. Kurmi was very weak. As a result, tail-end water users were totally against him. During his tenure, Kamala eastern canal was constructed which also discouraged tail-end farmers to be involved in the resource mobilization in KUIS.

Later in 1978, Mr. Garbu Das Mahara became Chairperson of KUWUA. He was successful to enforce rules and regulations hence irrigation became systematic in his tenure. He operated the system effectively because of established reward and penalty system.

After the abolishment of *birta* system, it was difficult to raise the amount for *paini* maintenance. As the population increases, the settlements had also shifted slightly towards forestland and started to reclaim more cultivable land towards *Churia* foothills. In order to grow more food from limited land area, they used to start cultivation on the foothills. So the need was to ensure intake upstream than usual to cover the large area to be irrigated. In 1985-86, the *mul paini* had been shifted on the new alignment to provide irrigation facilities to Ratanpur area, i.e. *sakha 4*.

After Mr. Garbu Das Mahara, other farmers such as Mr. Bishnu Dahal, Mr. Kedar Dahal, Mr. Bechu Kurmi and Mr. Ganesh Prasad Adhikari became the Chairpersons of the KUWUA. In 1983, Mr. Ganesh Prasad Adhikari became the Chairperson. Once he was selected as a Chairperson, he had formed *paini* supervision committee and sub-committee to prepare land inventory. In 1982, an arrangement was made to formulate rules and regulations bill of KUIS termed as "Kamala *Paini Binimaya Sangraha-1982*" (Kamala Canal Bylaws) and passed from the Village Panchayat⁹⁹. Later the District Panchayat for approval endorsed it. In fact, under that Bylaws, keeping records of land-holding, records of buying and selling of the land within the command area, levying water charges to the users, keeping records of income and the expenditure, records of penalties, system of water distribution, enforcement of rotational system and compulsory participation by the users as per the size of land holding during the maintenance of dam, *mul paini*, *sakha painis*, etc were provisioned.

⁹⁸ Mobilisation of one person from each HH irrespective of land size for canal O&M. It is generally mobilised once the situation is out of control and when there is a need of more labour in O&M of the canal.

⁹⁹ The older name for VDC.

In his tenure, 14-membered KUWUA was formed consisting of Chairperson, Vice-chairperson, Secretary, Treasurer and all SIs as members. The water rotation practices were also efficient during his tenure. Equitable water distribution system was also in place. Then rotation system was introduced. Accordingly, 10 *ana* water was provided to *sakha* 5 to 10 whereas 6 *ana* for *sakha* 2 to 4. In addition, he encouraged the water users to expand the command area of *sakha* 4 and 5 by 25 percent. The openings of ten *sakhas* were made in his tenure. During the tenure of Mr. Adhikari, *bhit khet* formally got the facility of water for the first time. Before that, there was a provision of irrigation facility for *dhan khet* only. Water users still claimed that his tenure was considered golden period in the history of KUWUA.

In 1985-86, river training works were carried out on the left bank of Kamala River near simal tree with the financial support from FIWUD of Ministry of Agriculture. He was able to maintain a good relationship with other institutions like ADB and DADO for the mobilisation of external resources. However, in 1986, an election was held between Mr. Ganesh Prasad Adhikari and Mr. Bagh Bahadur Kunwar (Danuwar) for the post of Chairperson. Water users were in favour of Mr. Adhikari whereas District Administration and Village Panchayat were in favour of Mr. Kunwar because of the party politics. The election declared Mr. Kunwar as KUWUA Chairperson. However, he tendered his resignation as he could not organize and run the system efficiently after some time.

In 1986, when Mr. Kunwar gave resignation from KUWUA Chairperson, Mr. Devi Bahadur Thapa Chhetri became the Chairperson under the recommendation of Village Panchayat. Similarly, Mr. Bhelai Sahu, the Deputy Pradhan Panch¹⁰⁰ was assigned from Village Panchayat to update the land inventory. However, water users were not happy with those new arrangements. Later Village Panchayat stopped recommending the candidate for Chairperson and again people adopted the previous practice of selecting their leaders by their own.

From 1989-1995, Mr. Purshuram Dahal became the Chairperson of KUWUA. The rotation and penalty system was strictly in place during his tenure. Rules and regulations were also properly enforced.

iv. After 1995 to till now

In 1995, the ISP started in KUIS. During the tenure of ISP rehabilitation, a 15 member formal KUWUA was formed and registered with District Administration Office Siraha under Association Registration Act-1977 with the objectives to (i) develop it into a proper, in dependable system assuring the water users equitable share of water at time of need (ii) help the water users to run the system effectively and efficiently (iii) make itself sustaining (iv) develop a system for O&M by the water users themselves, and (v) raise the livelihood of

¹⁰⁰ Vice-chairperson of the village unit.

water users by increasing the agriculture production. Basically, KUWUA was registered to fulfil the requirement of ISP.

In overall, to regularize the operation and maintenances as well as administrative and managerial activities related to irrigation, the role of KUWUA at *mul paini* level and *sakha* level is crucial. The main functions of KUWUA can be categorized in to five categories. They include system O&M, water management, coordination with other agencies, internal resource mobilization and formation of rules and regulations. Similarly, the major tasks of *sakha* committee are water management, resources mobilization and enforcement of rules and regulations.

Land inventory was also prepared by KUWUA. During ISP, each farmer raised Rs. 20 per *kattha* as part of his or her contribution. ISP invested Rs. 6,800,000. As per the agreed plan, intake of each *sakha paini* was constructed based on the total command area to be irrigated, some culverts were constructed, *paini* was lined from *sakha* 1 to Uttarbahini intake, and one gate was also constructed.

The institutional activities and arrangements were influenced several times for the O&M activities of the *painis*. Many institutional adjustments were made to suit the situation and to ease the O&M activities both at *mul paini* and *sakha* level.

On the other hand, the extent of the rehabilitation work was also expensive and beyond the capacity of the users. The KUWUA could not enforce its rules and regulations as stated in its constitution efficiently. It could not conduct regular auditing of the income and the expenditure without which the KUWUA could not be renewed regularly from the District Administration Office. Hence, the system turned out to be informal after a certain period. The water users did not feel any difference when their system was not renewed.

Before ISP, the command area of KUIS was only 200 ha and there were 11 *sakha painis*. Later, the then *sakha painis* 5 and 6 were merged. They were merged as the intake of the *paini* need to set according to size of the command area. However, water users were not happy with that provision. In the other hand, due to the expansion of *mul paini*, the command area had increased.

Several initiatives were undertaken to ease the O&M work. Mr. Lekh Raj Dahal (tenure 1995-2001) put his hard efforts to seek external support. Majority of the correspondences were related to river training and construction of permanent intake. In 1995, KUWUA requested DIO Siraha to support in the construction of six small culverts and construction of door at intake. KUWUA also requested MoWR to supervise the head works and possible options to improve it. In 1998, as Buffer torrent destructed the *paini*, KUWUA requested Water Resource Minister to allocate some amount for river training work. In 1999, KUWUA

again took initiatives to mobilize excavator, construct head works at Chisapani, request DDC to stop the extraction of builders from riverbed, and river training at head works. In 2000, the heavy flood of Kamala River swept the door of the intake at Uttarahini. To manage the work, water users raised Rs. 5 per *kattha* as *bighatti* for excavator mobilization. A year after, KUWUA was able to get 300 set gabion from DoI for the river protection work. Despite of such efforts, water could not divert from the river. In order to mobilize the excavator of KIP, Rs 2/*kattha* was again raised and that work was carried out under the leadership of Mr. Bhola Prasad Pokhrel.

Later, there were more representatives selected from some of the *sakha paini*, which had larger command area. Up to 2003, there were 19 members in the EC. Among them 14 members represented from 10 *sakha painis* while remaining 5 officials (Chairperson, Vice-chairperson, Secretary Co-secretary and Treasurer) were selected from the GA. *Sakha* 4, 5 and 10 sent 2, 2 and 3 members respectively and remaining *sakhas* sent one each.

In 2001, seeing the situation of intake and destruction of river training work by flood, KUWUA again wrote a letter to DDC for managing gabion and labour cost for river protection work. The VDC Badharamal also wrote a letter to DIO to make field supervision and support through River Training Division as flood caused heavy damage at Chisapani and Pipal Chautari. As a result, KUWUA was able to generate external resources. From the water users level, they raised the *bighatti* amount at the rate of Rs. 5/*kattha* for excavator mobilization. NCFUG also provided Rs. 95,000 for river training work. Despite of great efforts of Mr. Dahal, water users were not happy with him because of internal resource mobilisation.

In 2002, Mr. Bhola Prasad Pokhrel became the Chairperson of the KUWUA as an honour of leading the work of *bighatti* collection during 2001. He successfully managed the excavator from KIP for *paini* operation. Unfortunately, the situation of intake and *paini* was further vulnerable due to series of flood. *Urdu* was mobilized for 23 days in a month. In the other hand, Mr. Pokhrel was unable to set the rotation practices because upstream water users did not cooperate with him.

In 2003, in GA, Mr. Pokhrel declared his resignation. The meeting nominated Mr. Lekh Raj Dahal again as a Chairperson once no one was interested to be a chairperson. Then Mr. Lekh Raj Dahal raised the *bighatti* to mobilize the excavator in contract basis in Rs. 95,000. In the winter of 2003, KUWUA also put 60-70 sets gabions to divert the water from Chisapani. Mr Lekh Raj Dahal also was unable to collect external resources for the system O&M. There was some dissatisfaction about the performance of Mr. Dahal. The various Chairpersons and their tenure are given in the table 5.3.

Table 5.3**Tenure-wise Chairperson and Representation from the Canal**

Period (B.S)	Names of the Chairperson	Representatives
1961-1971	Mr. Janak Bikram Rana	M
1971-1975	Mr. Jagadev Rohita, Mr. Ram Prasad Rayamajhi, Mr. Kedar Dahal, Mr. Garbudas Mahara	T
1975-1977	Mr. Bishnu Dahal	M
1977-1979	Mr. Kedar Dahal	T
1979-1982	Mr. Bechu Kurmi	M
1982-1984	Mr. Ganesh Prasad Adhikari	M
1984-1985	Mr. Bagh Bahadur Kunwar	H
1985-1986	Mr. Devi Bahadur Thapa/Chhetri	T
1986-1988	Mr. Bechu Kurmi	M
1988-1995	Mr. Parasuram Dahal	M
1995-2001	Mr. Lekha Raj Dahal	M
2002-2003	Mr. Bhola Prasad Pokhrel	M
2003-2006	Mr. Lekh Raj Dahal	M

Source: KUWUA Records/discussion with key informants; H=Head reach, M=Middle, T=Tail end

The above table 5.3 on the one hand shows that the leadership pattern is not regular and on the other hand, leadership pattern is not transferred through hereditary basis. Some Chairperson led the system even for more than a decade and some only led for a year. From 1979-1988, the leadership pattern has frequently changed. Before 1984, all the office-bearers were nominated by selection process. However, in 1985, for the first time, an election was held between Mr. Ganesh Prasad Adhikari and Mr. Bagh Bahadur Kunwar for the post of Chairperson. Further, majority of the Chairpersons were selected from the middle and tail end of the command area. It is itself a good indication to revive the activeness of water users for system O&M.

5.2 Nandababa Community Forest Users Group (NCFUG)

Like in KUWUA, the NCFUG is also discussed through its two part viz. Physical characteristics and institutional development aspects.

5.2.1 Physical Characteristics of Nandababa Forest

The Nandababa forest is situated at an altitude of 120-245 m from the sea level. Some part of the forest lies in the alluvial soil of the Kamala River whereas other part falls on the Churia range. The Aap *Khola* and Sharki *Khola* and its branches flow through the forest area. This forest lies between Aap *Khola* in the east, Kamala river in the west, *pani dhalo*¹⁰¹ of Churia in the north and ward no-2 in the south.

This forest has temperate and sub-temperate climatic condition. It comprises varieties of the trees such as *Bel*, *Bhalayo*, *Amala Barrow*, *Thakal*, *Kurilo*, *Bhorla*, *Sal*, *Saj*, *Karma*, *Sattisal*, *Khayar*, etc. The wild animals like deer, porcupine, fox, rabbit and reptiles such as lizard, snakes and different types of birds are found in the forest. The plantation area is only at the western bank of Kamala River and rest of the part of the forest is natural forest.

Conditions of Forest: The forest is situated in the vulnerable area of the Churia range with gentle slopes towards the south. The total area of the forest is 400.1 ha. Out of this, 52 ha land is poorly conserved and this is mostly along the Kamala riverbank. According to the forest resource survey, the total productivity of the forest is 23,559 cubic m and the area covered by the tree is 70 percent. Almost in all the season, the area is damp due the presence of rivulets in the forest. According to FOP, the average height of the tree is 5-25 m whereas the average radius of the tree is 10-70 cm.

In order to manage the forest effectively and efficiently and in fulfilling the need and demand of the forest products among the forest users, the forest has been sub-divided into 6 blocks viz. Kamala island, Bakchauri, Ratmate, Aap Kholsi, Nandamohari Kuti, and nursery area. The table 5.4 shows the detail information on these forest sub-divisions.

Table 5.4
Borders of Forest by Sub-division

SN	Sub-division	Four Borders			
		East	West	North	South
1	Kamala Island	Kutidhar	Kamala River	Kamala River	Kamala River

¹⁰¹ Refers to watershed

2	Bakchauri	Way to Uttarahini	Kamala River	<i>Chure Pani Dhalo</i>	Kamala River
3	Rat Mate	Border of Udaypur district	Way to Uttarahini	<i>Chure Pani Dhalo</i>	<i>Bhajyang</i>
4	Aap Kholsi	<i>Kholsi</i> ¹⁰²	Cultivated land	<i>Bhanjyang</i> ¹⁰³	Pond
5	Nandamahari Kutti	Way to Sisneri	<i>Kholsi</i>	<i>Bhanjyang</i>	Chure Jordaha community forest
6	Nursery	Jorkhola	<i>Paini</i>	<i>Bhanjyang</i>	Settlement area

Source: Records of NCFUG, 2004

The forests area, their direction, slope, soil types, origination of forest, and density by forest sub-division are also shown in the following table 5.5.

¹⁰² A depressed part where usually small torrents flow. It remains damp most of the time.

¹⁰³ The end of hilltop, which is normally used as a landmark and as resting place for the passer-by; regarded as the goddess of the forest, a place for worship

Table 5.5**Details of Forests by Sub-division**

SN	Forest sub-division	Area (ha)	Direction	Slope (percent)	Soil Types	Origination of Forest	Density
1	Kamala Island	120.4	Plain	-	Alluvial	Afforestation	70
2	Bakehauri	46.1	East	Normal	Alluvial	Natural	70
3	Rat Mate	79.4	South	10-70	Alluvial/ Gegrain	Natural	65
4	Nandamahari Kuti	79.2	South	10-80	Alluvial/ Gegrain	Natural	65
5	Aap Kholsi	59.4	South	5-15	Alluvial/ Gegrain	Natural	60
6	Nursery	16.5	Plain	5-15	Alluvial/ Gegrain	Afforestation	55

Source: Records of NCFUG, 2004

In order to carry out forest resource survey, systematic random sampling techniques were used following the guidelines issued by DFO/HMG. The total production area, quantity of wood, quantity of fuel wood, total quantity and total trees by sub-division are given in the table 5.6.

Table 5.6**Production Area, Quantity and Quantity of Fuel Wood in Sampled Area**

Forest Sub-division	Production area (ha)	Quantity of wood (cu.m)	Quantity of fuel wood (cu.m)	Total quantity	Total trees
Kamala Island	68.4	33	31	63	111
Bakchauri	46.1	70	67	136	197
Rat Mate	79.4	29	29	58	363
Aap Kholsi	59.5	14	13	26	135
Nandamahari Kuti	79.2	12	10	22	156
Nursery	348	34.9	32.9	67.7	176

Source: Records of NCFUG, 2004

Similarly, the total product balances and total estimated annual increment is given in the table 5.7.

Table 5.7

Product Balance and Total Estimated Yearly Income by Sub-division

Forest Sub- Division	Total Product Balance		Total Estimated Annual Increment		
	Wood (cu. m)	Fuel wood (cu. m)	Wood (cu. m)	Balla Balli (cu. m)	Fuel wood (cu. m)
Kamala Island	2247	2096	15.8	44.4	56
Bakchauri	3212	3078	14.1	39.9	62
Rat Mate	2296	2310	60.4	11.0	73
Aap Kholsi	823	752	17.4	4.8	22
Nandamahari Kuti	928	801	26.3	4.5	28
Nursery	348	275	9.2	1.5	9
Total	9854	9311	143.3	106.1	253

Source: Records of NCFUG

5.2.2 Institutional Development of NCFUG

Nandababa community forest is located in ward-1 of Badharamal VDC and includes 400 households as its members. It was formed in 1995. Mr. Surya Nath Baidya played a lead role during the registration of NCFUG. About 70 percent of its users are also the members of KUWUA and rests are landless who entirely depend on forest resources for their livelihood.

This community forest primarily provides fuel wood, poles, fodder, grass, and litter to its users.

i. The oral history

Before 1992, the forest encroachment rate was very high in Bandipur. It was mostly due to free grazing practices and illegal timber extraction. The people from Sabella and Jayanagar (near the Indian border) came and felled trees for wood and timber in amount whatever they could take. There was no law and order. Forest Ranger also supported such illegal practices just because of impressive tips received in return. Forest blocks were degraded through illegal harvesting of large trees by various groups, including Indian smugglers. It has created the frustration among the local people who are entirely dependent on this forest. According to estimate made by local people, within the period of 15 years (1978-1993) the total forest resources has been depleted by 60 percent. It has created heavy soil erosion in

the forest area that has disrupted the cultivated land along the bank of small torrents and lap of churia.

Seeing the depleting forest situation, a group of forest users made several visits to DFO to bring the situation under control. Then, the DFO initiated the concept of leasehold forest without sharing the concepts and its benefits to forest users. Under leasehold forestry program, taro, turmeric, ginger, mustard, *Alas*, and oil seeds were grown in the forest area. The leasehold forestry program was operated for three years. In the name of safeguarding the forest resources and promoting the conservation, leasehold forestry program further promoted encroachment. It was due to improper use of forest resources and land. This program was not much successful. It also created further frustration among the forest users. The DFO also initiated some income generating and plantation activities within the forest to minimise the local disputes. Under that initiative, plantation work was carried out in 35 ha of land. However, this progress was not successful because of open grazing practice.

In 1992, forest users concluded that the leasehold forest would not be the ultimate solution. At the same time, some people heard the initiatives undertaken by the forest users of other area to form community forestry to reap maximum benefits from the forests. People were excited with such concept and visited some area several times where community forestry program was initiated.

Right after those visits, information was disseminated through discussions with teachers, social workers, and politician about the merit and demerits of the community forest. It was decided that the conservation of forest is not only important for them at the present but also for their offspring in the future. Hence, Forest Conservation Committee was formed by the active forest users to initiate the conservation activities by their own. Finally with the help of DFO and Range Post, demarcation and inventory of the forest was made.

The total beneficiaries of NCFUG consists of 400 households, the majority of which are Danuwars, a powerful indigenous group. This group prepared constitution and operational plan of the forest with technical support from the DFO in 1993. The NCFUG was officially handed over to the community in 1997. The member households have right to use and harvest forest products as envisaged in the operational plan, and they are responsible to participate in forest management and assembly meetings, and share views in rules. Harvesting of grass, tree fodder, fuel wood from dry and dead branches, and leaf litter are allowed free of cost.

Finally, in 1995, the community forestry user committee was formed under the chairpersonship of Mr. Surya Nath Baidya (Danuwar). Until now, six leaders have provided their leadership to institutionalise the NCFUG (see table 5.8).

Table 5.8

Tenure-wise Chairperson and Caste/ethnicity

Tenure	Chairperson	Caste/Ethnicity
1994-1995	Mr. Surya Nath Baidya	Danuwar
1995-1997	Mr. Bagh Bahadur Kunwar	Danuwar
1997-1997	Mr. Badri Baidya	Danuwar
1997-2002	Mr. Bagh Bahadur Kunwar	Danuwar
2002-2004	Mr. Chandra Bahadur Poudel	Chhetri
2004-2007	Mr. Shyam Bahadur Phuyal	Chhetri

Source: Personal Communication, 2005, NCFUG records, 2004-06

The table 5.8 above shows that Danuwars are dominant in leadership in the initial phase of the community forestry. However, later on, the leadership is at the hand of hill migrants. The social change process inherent in the community had an effect on the equity and social inclusion issue. Some forest users who earlier were dependent on the forest, with the social change process, are no longer dependent on the forest resources.

ii. Social and institutional characteristics of the NCFUG

Caste and ethnic composition: The forest users comprise of members from various groups such as Danuwar, Brahmin/Chhetris, Terain caste, dalits and hill originated *Janajati* groups. Danuwar is the most dominant ethnic/caste group in terms user households followed by Brahmins/Chhetris and other Terain castes (refer table 5.9). There are 400 HHs in NCFUG. The total population of sampled HHs (i.e. 150) is 975, out of which 483 are male and rest are female.

Land distribution: Of the total forest users of the community forestry, 18 percent are landless while 47 percent have land between 1-10 *kattha*. Only 6 percent forest users have land between 2-4 *bighas* and this is the highest possession of land of any forest user. The poor landowners are therefore found to be dominating in the community forestry and thus their livelihood is more likely to depend on the forest resources. The following table 5.10 provides landholding percentage of CF users.

Education status: According to the operational plan of the community forestry, the total population of the NCFUG is 2,222. Of this population, 1439 (64 percent) are illiterate and 36 percent users population is literate. Presence of the high rate of illiteracy among the users has remained a challenge for the dissemination of information, understanding and communication. Formal communication system in writing therefore is found ineffective with low level of literacy. In NCFUG, it is found

that 76 percent sampled HHs head are illiterate. Figure 5.3 shows education status of sampled household heads in NCFUG.

Source: Household survey, 2004-06

Livestock: The users of the community forestry are engaged in rearing domestic animals. The population of the livestock with the users of the community forestry was 1,618 in 2002, out of which there were 228 buffalos, 577 cows/oxen and 813 goats (Operational Plan, 2002). This indicated that the presence of high livestock means the dependence of the users on forest for animal feed. This has been the cause of increasing pressure on the forest resources.

Livelihood patterns: According to FOP (2002), 81 percent people depend upon irrigated agriculture and 21 percent depend on the off-farm activities. Out of 21 percent, the occupation of 4 percent forest users is government and semi-government service, 10 percent work in Indian cities, 3 percent in Arabian countries, and 4 percent within Nepal in various occupations.

Social disputes over forest protection/conservation: As discussed earlier, Danuwars dominate the society while hill migrants and Madhesis are in second and third position. Danuwars claim that it is hill migrant using more fodder and litter with ability to climb the tree and practice of rearing livestock. On the other hand, hill migrants claim that Danuwars are responsible for encroachment as they enter into the forest at any time with restricted tools and prejudiced monitoring in favour of Danuwars. As Danuwars entirely depend upon forest products hill migrants blame them as the prime cause of deforestation. Thus, each group of people blame another in forest degradation.

With these problems faced in the protection of the forest resources, community forest officials have made arrangements to look after the forest. Arrangement of a forest guard (*Tar Pale*) by paying him regularly at the rate of Rs, 1,000/month is provisioned and the guard looks if there is somebody violating the rules and regulations of the community forest by entering the community forest. Further, there is a provision of *Kanji* house to control the free grazing. It was managed by local club, ward and CFUG jointly in order to minimise the political pressure.

Benefits perceived by the users from community forest: The users of community forest have identified different benefits from their community forest. According to them, community forest is the source for NTFP, wood, fodder, litter, pasture land for livestock, etc. Forest users value community forest as a means to control the erosion and to minimize the risks of flood, landslides and other natural disasters. Further, landless also get wood for the construction of thatched house in free of cost. Forest resources are being used for O&M of irrigation system.

NCFUG sells surplus firewood and timber within the members or outside people and thus increase the internal fund. About 91 percent (137 respondents) forest users in NCFUG are fully depend upon the forest resources of community forestry where as about 9 percent (13 respondents) are less dependent on forest resources.

Rules and regulations and rewards system: The community forest has different rules and regulations designed to manage the forest resources. The committee has set provisions for penalty to those users who graze their livestock inside the community forest. For goat, the fine is Rs. 10 while it is Rs. 20 for cow and buffalo. Likewise, there are some rules related to entry into the community forest. From the month of mid July to mid October, there is a restriction to enter into forest for the purpose of extraction of fallen wood because this period is considered as fast growing stage of plants. Likewise, the users are allowed to enter with *Kachiya* (small sickle) not *Bancharo* (axe) and *Khukuri* (knife) within the forest.

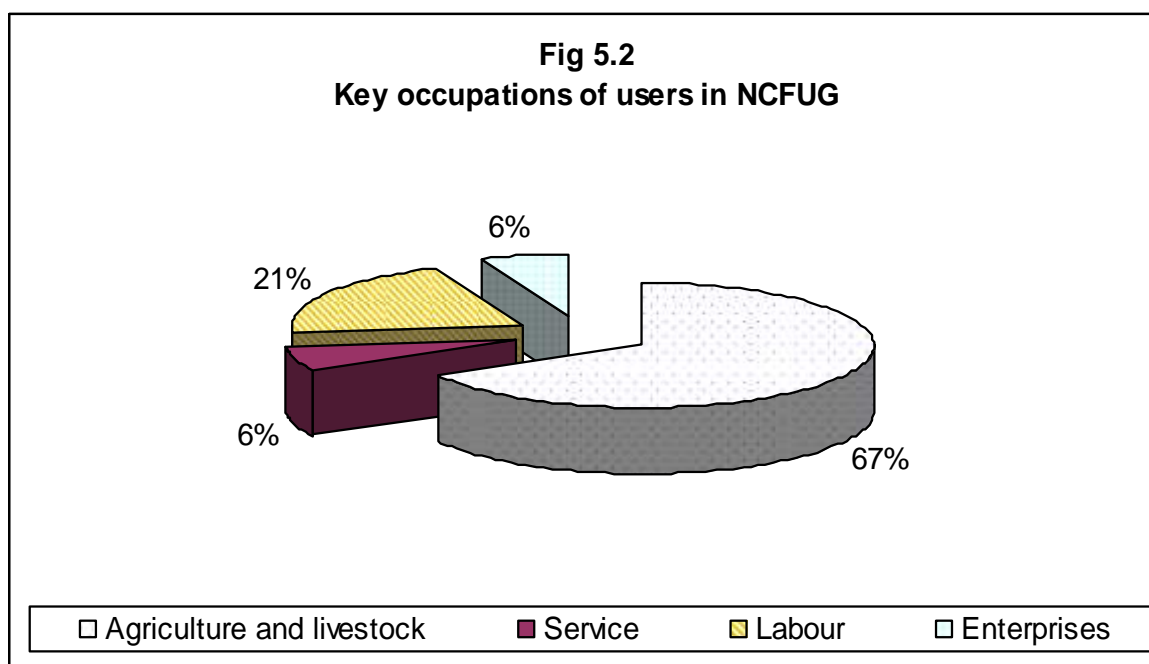
There is a system and practice of rewarding the users for carrying out model works. There is incentive provisioned to people who are engaged in putting off the forest fire. There is also a provision to reward the person who identifies the forest encroacher with proofs. A 50 percent of fine to the encroacher is provided to the one who provides such information.

Community development activities: NCFUG is involved in the community development activities. For instances: it provided assistance to KUWUA by providing bushes and branches of the trees for the maintenance of the intake, hence, forest resources have significant impacts on irrigation system O&M. NCFUG expected that

KUWUA also contribute irrigation facilities which shall help to increase the farm yield of forest users too.

Apart from this, it has supported the construction of two footbridges across the KUIS *mul paini* in Bayarbani and Baltiya village, renovation of Nandababa temple, upgrading the school building, provision of scholarships to the dalit students, road improvement and salary for *Tar Pale*, etc. The income of the community forestry has also been mobilized in constructing Dharmashala, river training works, and for the construction of conservation pond.

Therefore, the community forestry and irrigation institutions are closely benefited from each other. Community forestry provides resources for the O&M of the irrigation facilities. As a result, the performance of the irrigation increases and the ultimate benefit goes to the farmers who are the forest users too. It is because more than 67 percent forest users are also depend upon the agriculture and livestock. Following figure 5.2 reflects key occupations of sampled users in NCFUG.



Source: Household survey, 2004-06

Majority of the sampled forest users use the forage/grass followed by litter. One has to follow the strict process to get the timber for household purpose.

Table 5.11

Status of use pattern of forest resources of Sampled Users in NCFUG

S.N.	Nature of farmers	No of HHs	Percent
1	Forage/grass	94	63
2	Litter	26	17
3	Timber	20	13
4	Income generating activities	10	7
4	Total	150	100

Source: Household survey, 2004-06

The status of use pattern of forest resources by sampled forest users is given in table 5.11.

CHAPTER VI

GOVERNANCE OF COMMUNITY BASED INSTITUTIONS UNDER RESEARCH

The governance of the CBIs viz. KUWUA and NCFUG is judged based on its six pillars/elements i.e., transparency, accountability, rule of law, equity, participation and predictability. The following sections describe and analyze the governance situation of both KUWUA and NCFUG based on these elements and its associated elements. Where possible, comparison has been made with the theoretical framework postulated in the first chapter.

While putting the efforts to collate the information, six primary elements of governance were divided into secondary elements, which were further divided into tertiary elements. However, there were discussions with the communities and users from KUWUA and NCFUG on these elements and as a result, communities identified similar elements based on their own knowledge and experience. To each tertiary element, values were provided from 1 to 3 with 1 denoting the least value. These tertiary level elements are summarized in appendix 8. As these elements were identified in the earlier part of the research work, they were referenced during the entire fieldwork in order to ensure that information on these tertiary level elements is also collected.

6.1 Kamala Uttarbahini Water User Association (KUWUA)

The details on the findings on the governance of KUWUA have been explained through secondary and tertiary elements within each key element below.

6.1.1 Transparency

The transparency of the irrigation institutions has been assessed by information and communication as well as decisions and realization of decisions among the water users.

A. Information and communication

i. Record keeping

Record keeping has been an important governance element as it reveals and states the mechanism of how an organization is building its documents and availing to the water users inside and outside the organizations.

Careful analysis of KUWUA reveals that record keeping in KUWUA seems to be a mixture of adequacy of recording and unorganized nature of keeping them. There have been records from as early as the institution was formed to recent ones, yet their management is still haphazard. It has been recorded that since 1982 when *paini* supervision committee was formed, detail land inventory was also taken.

At present, record keeping is promoted by agreed rules and norms. They promote keeping information on any meetings, decisions and planning. The roles and responsibilities assigned to the water users and executive member delineate record keeping tasks. As for examples, by rule, each SI has to maintain attendance register during *urdi* mobilisation. Yet, some SIs have been keeping records verbally while others are maintaining them poorly. One of the water users from branch canal 5 remarked:

To me, though SI is familiar about the rationale of good record keeping system but he has not maintained good records except fine and penalties. I am quite surprised why he makes the records so haphazardly. I saw that in majority of the instances, still some SIs of other *sakha* keep records in their pocket because of no institutionalized practice of seeking information in one hand and on the other hand, there could be hidden benefits that could be taken by SI.

It was also understood that there was a provision of keeping records of land holding, records of buying and selling of the land within the command area, levying water charges to the water users, and keeping records of income and the expenditure. Similarly, records of penalties, system of water allocation and distribution, record of *bighatti* collection, maintaining accounts, collective decision making and peoples participation during O&M, water users land inventory and good correspondence mechanism with district and central level line agencies, enforcement of rotational system and compulsory participation by the users as per the size of land holding during the maintenance of intake, *mul paini*, *sakha painis*, etc are other provisions. In fact, the system was enriched with such requirements, however, as the time passed, some rich norms failed to work because of the migration from hills and the cultivation of party politics in the irrigation affairs. The water users have understood the importance of keeping records as well. They think that the sole responsibility of keeping records is with the executive members. It was learnt that when executive members fail to reveal the records that are considered critical, the position is threatened.

Despite general understanding, weak monitoring and evaluation of the rules however have generated poor recording of proofs and documents. It is rather an ad-hoc basis of recording. One of the problems seen because of poor record keeping for instance is the collection of fines and penalties, which is always conflicting in KUWUA. Sometimes manipulation in the rates of fine and penalties are recorded, as there have been different rates for individual even for the same nature of activities. It affects in overall participation and irrigation system performance. Implication of bad records as seen in KUWUA also include indecisive discussion/meetings, longer discussion, inactive participation in *paini* maintenance activities, unjustified punishment system, conflicts among the water users and failure of future plans and programs.

Though record keeping in intermittent period was poor, the recording process has been re-started after the DL/AP. Prior to the DL/AP, there was no formal practice of maintaining records. The SIs used to keep concerning decisions in pockets for their personal reference. However, the tendency has been changed and the decisions are now recorded in a register and filed more systematically because slowly, they have started realizing the importance and power of good recording system. Similarly, most of the agendas and the decisions of each meeting have been recorded now.

The Water User School¹⁰⁴ (WUS) program has also strategic influence on overall record keeping. After that, all scattered data and information was collected in one place and systematised through the filing system leading to minimise the conflicts and improved transparency. The impact of WUS could be seen on recording of the agendas of meeting and minuting. The decisions used to be verbal before the WUS, as importance of recording of the decisions was not fully realized.

Uphoff (1996) in his theory, which this research has reviewed, has inferred similar findings. He has indicated the need of record keeping and information systems as essential elements of governance. The findings in Gal Oya of Sri Lanka reflect that record keeping contributes to maintain transparency and indicate the presence of committed and accountable leadership. Bagadion (1997) also has explored the needs of proper recording systems for meetings, decisions and other related transactions. As these reflections, this research also depicts that where there is a relatively poor record keeping system, there is more misunderstanding such as in case of KUWUA where absence of records of resource mobilization has brought controversy among the water users. On the other hand, appropriate record keeping of *urdi* mobilization, provided an opportunity to identify the contributions made by the water users and therefore, such misunderstanding is avoided.

ii. Financial records

¹⁰⁴ Water users schools are loose farmer's groups established for the purpose of interacting on the emerging issues related to irrigation and agriculture and then to take action for the purpose of improvements. They are organised once a week in the agreed place within the village.

Previously, records of all income and the expenditures were kept in the usual and ad-hoc system. Now, there is a practice of keeping financial records properly. The Chairperson presents all income and the expenditure before the KUWUA meeting and gets approval for the transactions made within a year. Previously, when leadership changed, KUWUA did not have a practice of handing over even minutes and other financial documents. Water users have now realized the importance of improving procedures and record keeping, particularly financial, to ensure trust in the KUWUA.

In 2005, Chairperson of KUWUA presented the status of income and expenditure but water users put several issues about the reliability of the evidences related to documents. That was a first event of that kind. There have been different instances of problems created because of poor financial recording in the past. For example, the key EC members did not raise the *bighatti* amount (which was accumulated to be up to Rs. 7500). It was disclosed later when some water users requested KUWUA to show the records in detail. Later it was a big issue. Co-secretary put his resignation to KUWUA verbally stating that it was mistake. Likewise, during ISP period, water users raised Rs. 200,000, which were not properly recorded. Neither SIs were asked by KUWUA key executives to show the collection of the fines and penalties nor water users considered raising the issue of mishandling the fund collectively.

At the latest, there has been a good restarting in maintaining transparent record keeping system. The KUWUA has begun to provide receipt for *bighatti* and *paipatti*¹⁰⁵ to the water users and make all activities transparent. KUWUA has further adopted simple accounting system. *Sakha* 1-5 do not collect the amount in KUWUA but *sakha* 6-10 deposits the amount in the KUWUA's fund. This can also be considered as an indicator of good governance and strong KUWUA as *sakha* committee are trying to be autonomous and self-governing. Further, they also keep the records of the fines collected. There was no such system of recording and working procedure until last few years.

The irrigation systems where financial records are transparent have good performance because of their good governance. For instance, Gautam (2005) found that in Chandra Nahar Irrigation System, the existence of financial records and formation of sub-committee in order to audit financial transactions of Branch committees (BCs) contributed in building trust among executives of WUA and BCs. The amount collected from share distribution is found deposited in WUA's *Akshaya Kosh* (trust fund) and its information is shared in the monthly meetings. Water users have knowledge on the amount collected from membership fee, ISF and O&M fee. Accounting system, bank ledger, income and expenditure register, advance ledger, journal voucher, attendance register, bank cashbook, etc. are maintained. Similar findings are also found in Panchkanya Irrigation System (Gautam, 2005) and in the study in Gal Oya by Uphoff (1996). Though the formal system is in practice in the above said irrigation systems, in case of KUWUA, there are informal financial record keeping systems

¹⁰⁵ Annual irrigation service fee collected from the absentee landowner

including informal auditing. Informal system is also found working properly because of its simplicity for water users to understand though at times, it might raise concerns of transparency. This rejects the findings of Bagadion (1997) who explain the need of financial budgeting and recording control because sophisticated finance systems in small CBIs might be too difficult to understand by the general users and the system will not be owned.

iii. Information dissemination

Many institutions keep records of what has been decided and planned. However, they are reluctant to disseminate them. Sometimes, not all the member are also attended in some meetings because of poor information dissemination mechanism. On the other hand, some institutions have an improved system of disseminating the information. Some of these examples come from Gautam (2005). Accordingly, in Chandra Nahar Irrigation System, the WUA and BCs use written correspondence, organize street dramas to disseminate the rationale of ISF publicise annual program and financial activities at least in three public places for information, a practice considered effective and appreciated to maintain transparency. In Manushmara Irrigation System, the WUA prepares a participatory action plan with information on water schedule, ISF and O&M fee, and they correspond for workshop/training and mobilization of staff in the *paini* activities. In addition, WUA notifies through *diggy*¹⁰⁶. In Piperpati Parsauni System, approved budget is reviewed by three-member financial committee for external auditing. The research finds that in case of the KUWUA, there is a complex and a typical information dissemination strategy-holding meeting with the SIs, each decision relayed to the public through them, sometimes hiring a person giving a bicycle and incentive of Rs.100/day for informing the water users through door-to-door visit. Despite of this, sometimes such information does not reach to all the water users. While Uphoff (1996) observes that information systems of all types of records within the institution is a necessity to make irrigation systems functional and to ensure all structures are working well, this research indicates that informal communication involving door to door and person to person communication are more effective given the prevailing illiteracy in the community where the written and formal communication may not cover all the water users. It means, the need of formal system of communicate as identified by Uphoff (1996) is not always correct.

One of the interesting features is that sometimes, there is a deliberate tendency of not informing the water users on certain calls or decisions just to charge more fines and penalties. One of the women water users from the head reach (*sakha 2*) opined:

The Chairperson should keep the records updated and transparent to all with the help of Secretary and other officials. But, he never involved other in managing the records. Bad records encourage those who want to violate the rules, use more water and attend less in community contribution. I

¹⁰⁶ A local drum used to communicate other for canal activities.

wonder, *sakha* committees and KUWUA do not keep proper records intentionally for charging more penalties from us.

In many instances, the water users do not know the change of rules and regulations on time hence they have to pay fines. They shared that there must be some particular person to communicate all information from door to door as a *chaukidar*.¹⁰⁷ However, majority of the water users were reluctant to pay extra cash or grain for salary to *chaukidar*. Nevertheless, KUWUA used to hire a *chaukidar* during peak season that was paid from the *bighatti* amount. The details are presented in the means of communication section below as well. Those who are involved in the communication work are exempted from *urdi* work with the verbal negotiation with KUWUA Chairperson.

iv. System of communication

In the past, when there was no effective means of communication, all activities used to be carried out verbally in general. The WUA had used cobblers with their drums to communicate among the users of any decisions taken by the KUWUA. The cobblers would beat a drum and walk around the villages signalling all the water users to gather at *paini* headwork with required tools. This was a kind of *urdi* to all water users. Nobody dared to be absent after hearing the drums sound. This was a call for all the water users. After gathering at specified location, they would carry out maintenance and cleaning activities.

Now, person-to-person communication is maintained using *chaukidar*. The provision of *chaukidar* has started from 2001 when cobblers denied working as messenger¹⁰⁸. The provision of *chaukidar* in *sakha* 3 is quite old. They are hiring *chaukidar* by raising 10-kilogram paddy/*bigha* annually. The *chaukidar's* main responsibility is to circulate the notice for *urdi* and water monitoring during water rotation. In other *sakha*, respective *sakha* committee communicates voluntarily. Mode of different communications with the purpose and other details is presented in the table 6.1 below:

Table 6.1

Mode of Different Communications Systems in KUWUA

By whom	Purpose of work	Implementing role	Incentive for the medium
<i>Chamar</i> (Cobbler)	Announcing <i>urdi</i>	KUWUA and <i>sakha</i> committee	Provide paddy in annual basis
<i>Chaukidar</i>	Supervision and monitoring of	KUWUA and <i>sakha</i> committee	Rs. 1300/month or sometimes used in daily

¹⁰⁷ *Chaukidar* means guard and in this context, it refers to one who guards irrigation and forest activities and reports to the members of executive committee.

¹⁰⁸ The practice of biting the drum was closed by the influence of Dalit Welfare Organisations. They are advised not to beat the drum as it is considered to symbolise the humiliation or discrimination of dalit people.

	<i>paini</i> /headwork		basis also
SIs or other water users as assigned by SIs	Dissemination of the decision of meetings and <i>urdi</i> mobilisation	<i>Sakha</i> committee	Need not work on <i>urdi</i> (exempted from <i>urdi</i> work)
Hiring a daily labourer	According to nature of work	KUWUA and <i>sakha</i> committee	Equivalent to one day labour charge

Source: Field study, 2004-06

As these days the water users have wider means, KUWUA has maintained fair communication system among the *sakha* committees. The *sakha* committees request plan and program with KUWUA through letter. There is also practice of correspondence among the committee for water schedule, collection of *bighatti*, *paipatti*, invitation for workshop/training and mobilization of staff in the *paini* activities. Further, there is a culture of advance notice/message if one is unable to be present in the meeting. KUWUA has also started to send letter for information dissemination.

iv. Planning/ public auditing

There are no public notice boards where annual plans and programmes are disseminated to the general water users. Periodic progress and other information on finance are also not presented in public boards. KUWUA is also found to be weak in the annual audit reporting. There is no practice of Public Auditing (PA) with KUWUA.

Water users have started to address the issues like GA, O&M, *bighatti*, *paipatti*, office operation, technical and institutional capacity building activities, and internal and external resource mobilisation in annual plan. For this, water users are demanding the PA and Public Hearing (PH) of plan and budget. On the contrary, KUWUA was not found to pay due attention to initiate these issues for improving the transparency. One of the water users from the middle of the command area (*sakha* 6) expressed:

If we compared to situation of maintaining the transparency of record keeping system with five years back, the situation is far better and improving. Now the WUA has started to keep the records of land, income and expenditure including the details of *bighatti* and *paipatti* amount, but they are still not fully systematized. But if we could make some efforts for public auditing and hearing, we could ensure more transparency.

B. Decisions and realization of decisions

i. Documentation of decisions

Decisions are made during GA meetings, other regular KUWUA meetings, *sakha* committee meetings, etc. These decisions in the past were not recorded but now, they have been

recorded and disseminated as well. SIs tried to disseminate the decisions of meetings including that for labour mobilization. Sometimes KUWUA seeks some support from active water users to do so. In most of the cases, to disseminate decisions to *sakha* committees, *chaukidar* is hired.

When it is the case of decisions, issues on debates are also essential for detail analysis. The KUWUA has started settling disputes regarding the water management in a transparent way after the WUS. Disputes used to be settled from the meeting of elders and respected persons of the area, and the SIs by organising *panchayati*. The SIs used to call meeting to this effect where the issues used to be settled verbally. However, there was no certainty whether the SIs would implement the decisions or not. It depended solely upon the personal behaviour of the SIs. There was no mechanism to assess the decision implemented. Consequently, SIs were more inclined towards relatives because no one would ask them about the implementation of the decisions once the meeting was over. Now, the situation has changed because the water users are aware on their respective roles and responsibilities.

Most of the decisions are carried out based on consensus hence there are no major conflicts. As for example, the KUWUA called on a GA to manage water in the efficient manner in the *paini*. The main agenda was hiring an excavator. The depth of the river hampered to tap the water from river. Water users expressed their dissatisfaction about the extraction of boulder and inactive role of KUWUA and VDC in that regards. After the long discussions, water users reached the decision that excavator will be appropriate solution seeing the physical difficulty. Then they raised the *bighatti* to hire the excavator. Finally, water was obtained in the *paini*. It seems that decisions on water management are open and transparent, equal sharing of costs and benefits of the investment, inclusion of women and dalits in water management are some of the examples.

Uphoff (1996) also explains the need of strong decision-making process and a mechanism to document these decisions. The research findings reveal that the transformation of CBIs from a situation of non-documentation to appropriate documentations has led to increasing ownership of all water users in the institutions and has initiated a feeling that decisions are transparent, the rationale being an opportunity to check the processes followed in making a particular decisions at any time later on.

ii. Awareness of information between KUWUA and *sakha* committee

Water users need to be informed of what is going on in the institutions by the KUWUA and *sakha* committees. They are required to know the rules and regulations as well. They should be able to share the annual programmes and activities. Financial decisions should also be known to these members.

Many of the members know about financial issues. However, they are found confused in case of rules and regulations. Instability of the members in KUWUA and frequent changes associated has made the KUWUA and *sakha* committees not updated with the institutional norms and rules.

Very few responsible members and elites have practice of revisiting the minutes. Still the tendency has not changed drastically and some of the decisions are still not recorded in a register and filed properly.

iii. Awareness of decisions on general users

The key decisions are taken in the GA meeting where usually 50-55 percent of members are present. The number/percentage of members participating during the meeting was not given much importance in the past. This was the cause why most of the decisions were either not implemented or implemented with great difficulty. It is because many water users are not willing to participate in GA; hence, they have little awareness about the types of decisions made through it.

While organizing meetings, these days it is found that members are taking responsibility of understanding various associated aspects. Hence, to maintain the accountability of the KUWUA officials, no decisions are taken if the presence of water users in the meeting is low (less than 55 percent). In that case, a second meeting is held, and decisions are taken with the approval of a majority of attendees.

Section remarks:

In overall, the transparency of the KUWUA is assessed through the status of record keeping and financial records, information dissemination and system of communication, advance planning and public auditing and documentation of decisions. The most important elements are awareness about rules/norms in KUWUA executives and water users. While it may not be feasible for all the water users to visit the office and get the information in details, the need to deliberate the information or issues in open meetings, during GA or other similar mass meetings is also essential as Uphoff (1996) explains. However, this seems to be partly lacking in KUWUA because some members are not informed and updated with the key decisions and overall financial situation.

6.1.2 Accountability

In the broader sense, accountability is gauged by two characteristics viz. responsibility/ownership and delegation of authority/services. The responsibility/ ownership is further judged through responsibilities of KUWUA and *sakha* committees, realization of roles and ownership, and reflection of needs and concerns and mutual trust among the users and these are explained below. Similarly, the delegations of authority/service are

measured through the practices of informed power delegation, service delivery and maintenance.

A. Responsibility/Ownership

i. Responsibilities of KUWUA and *sakha* committees

Clear indication of responsibilities assigned to KUWUA, *sakha* committees and water users is essential to initiate accountability among the members. There are different roles and responsibilities assigned to KUWUA, *sakha* committees and water users. The main tasks performed by KUWUA are both technical and institutional. These works include maintaining intake at Chisapani and Pipal Chautari regularly, diverting water to the *mul paini*, distributing water among the *sakha painis* and informing the users to attend the maintenance activities, etc. The others tasks are coordinating with the *sakha* committees, conducting meetings, maintaining relationship with district offices and KIP, collecting fines and fees for hiring the excavator, assisting the SIs in settlement of disputes, conducting GA, collecting *paipatti* from absentee land owner and presenting annual income and expenditure status before the GA.

Similarly, the main tasks performed by *sakha* committees are maintaining the land records, managing water distribution within the *sakha paini*, negotiating KUWUA to get more water, fixing water rotation plan, collecting fines and fees, managing labours for *urdi* with required tools, arranging meals for the labours, fixing awards, fines and penalties and taking action against the defaulters. The main tasks of water users are to participate in *paini* O&M activities.

With respect to the responsibility bearing, it is observed that Chairperson is most powerful and majority of the decisions are in his favour. Ignoring the role of treasurer, the records of income and expenditure lie with him or her. Chairperson once nominated Special-secretary for the management of income and expenditures though it was not provisioned in the constitution of KUWUA. For example, Mr. Lekh Raj Dahal was selected as Chairperson for the, second time. During first registration of KUWUA, he was Secretary and later in 1997, he became the Chairperson. Mr. Bholu Prasad Pokhrel replaced him in 2002. Again, in 2003, Lekh Raj Dahal was selected as Chairperson. It is interesting to analyse the repeated willingness to take key responsibility of the institution. There are few points to be considered with respect to values, logic and attitudes that affect him to encourage taking position of the Chairperson. Social recognition, unseen economic benefits and political exercise may be some of the incentives as guiding values for taking charge of Chairperson. One of the key informants from the head reach area (*sakha* 1) expressed:

Though, the Chairperson's position is challenging and is criticized by everyone all the time, especially during the water scarcity period but there are other unseen advantages for him too, which always encourage him to retain in his position. Social, financial and political recognition and benefits have made this position more impressive. For developing linkage and networks and for taking advantage of exercising power, this position has

played a crucial role. Though there is some criticism, this position is also highly respected in the society to sort out the local level disputes and conflicts.

The responsibility of water management tasks is well defined between KUWUA and *sakha* committees. The *sakha* committees have sole responsibility of managing O&M of the *sakha*, while KUWUA is responsible for the management of *mul paini* and headwork. In addition, in some *sakha painis*, these responsibilities are further step downed to respective *Sahayak* Incharges in an informal way.

The role of SI for one particular day (in monsoon) include supervising the volume of water in the *mul paini* and water in the intake of concerned *sakha*, listening the issues of water users and responding them, verifying the water situation in the field, consulting KUWUA if there is a need of more water for increasing the water discharge, etc. In this case, if there is less discharge in *mul paini*, SI needs to notify KUWUA about the situation and request *urdi* mobilization to increase water discharge. Other monsoon functions include water rotation monitoring from head to tail and vice versa. It shows that SIs are more responsible than KUWUA Chairperson in terms of taking responsibilities. As the work of Chairperson is always challenging, no body can challenge him or her against the decisions made. In addition to this, there are other unseen advantages for Chairperson financially, for links in networks and advantage of exercising power.

ii. Realization of roles and sense of ownership

As the water for irrigated agriculture is prime concern, all the water users are willing to work in maintenance of *paini*. The willingness of women to participate in *urdi* is the new initiative in realizing roles and responsibility towards system O&M. Mobilisation of *urdi* according to *tole* is one of the excellent examples of sharing roles and responsibilities and feeling of ownership. Water users' willingness to work in Uttarahini for diverting water despite the contract of excavator is encouraging to take ownership about the system. Such activity enhances shared values of the community towards system O&M.

As discussed earlier, despite of provision of Secretary and Co-secretary, Chairperson appointed Special-secretary in the logic that the Chairperson is not able to handle all the problems of KUWUA. However, water users did not agree with his decision. Instead, water users argued and pressurised Chairperson to activate the role of Secretary and Co-secretary. This is also a good initiative towards ensuring good governance. Another positive change by the water users was that KUWUA decided to hire a *chaukidar* on daily wage basis instead of hiring on seasonal basis. It was changed to reduce the expenditure of KUWUA fund and it indicates responsible decision-making process. Similar recommendations also come from Uphoff (1996) where he highlights self-correcting mechanisms through participatory monitoring and evaluation as important element of governance. In this context, self-correction comes to reduce the over expenditure.

Sense of ownership towards irrigation system is the most important aspect of governance. Like most FMIS in Nepal, users of KUWUA have inherent sense of ownership. KUWUA has also helped the users to enrich their feelings towards system ownership. They are dependent for O&M of the system.

However, the roles and responsibilities of those KUWUA officials revealed that the Chairperson used to overtake/intervene over the roles and responsibilities of other officials. Other officials remained in low profile hence they were inactive in both technical and institutional activities. The responsibility of M&E lies with the Chairperson at system level. Similarly, the SIs look after the monitoring and evaluation of their area served by the corresponding *sakha paini*. In this context, it is observed that exemption of *urdi* is the incentive, which promotes willingness to work in KUWUA executives.

v. Reflection of needs, concerns, and mutual trust

Accountability is promoted when all stakeholders' needs and concerns are met in an equitable basis. KUWUA has continuously monitored the development in the intake and provisions for suitable management. Managing water with the help of excavator has also not been satisfactory due to poor access to approach channel and sharp fluctuation of river flow at different times. For instance, to assist the machine work in the intake the contractor requested to mobilize *urdi* in his costs. With few arguments, water users accepted the request of the contractor and tried to divert water for irrigation. In fact, there was no obligation of water users to support the contractor. This mutual respect and trust enriched once again shared values of the water users.

Now, water users recognise each other's role and importance, and as a result, close M&E has just started from KUWUA. It has started to hear other's voice while making significant decisions. Participatory decision-making process, including poor, landless and women is considered in the recent days. There is also the realization of roles of all caste and well-being of water users in sustainable irrigation management.

The feeling of mutual trust and co-operation is improving due to realization of social inclusion and cohesiveness among various caste people. It was possible because of the presence of both hill migrants and Teraian in equal population and social status. Other reasons include: there is no alternative other than irrigated agriculture to run their livelihood, there is extreme physical hardship to divert water from river to *paini*, the balance of power influences for external resource mobilization and support.

B. Delegation of authority/service

i. Informed power delegation

The water users have realized that they need experienced EC members in the KUWUA and *sakha* committees to run the institutions in an effective and result oriented way. The current KUWUA was formed when the preceding KUWUA Chairperson Mr. Bholu Prasad Pokhrel resigned after completing just first year of his tenure. Mr. Pokhrel called GA before resigning. In the GA, he clarified the causes behind his resignation. He decided to involve himself actively in the CPN-UML party politics. Hence, he states that it would be very difficult for him to find sufficient time necessary for KUWUA development activities. Similarly, he had fear that this could influence negatively on the functioning of KUWUA. Hence, the GA was called on in order to decide on this issue. It was primarily to accept his resignation and to help in forming a new KUWUA replacing the one headed by Mr. Pokhrel and to take over the responsibility. The decision was carried out to inform the water users about the problems and constraints he faced, and facilitated to handover the power/authority to other people.

KUWUA has given power delegation to its *sakha* committees to organize GA in selecting SIs. The same GA selected SIs of *sakha* 5-10. In *sakha* 1-4, water users organised GA in two groups (*sakha* 3 and *sakha* 1, 2, 4 separately). It is because all water users are unable to come in road head (as meeting is organised generally in Bandipur bazaar). Selecting SIs in each *sakha* is participatory and they are chosen from the clear selection process. The *sakha* committees are authorised to organize GA on their own for the selection of SIs. It also shows an example of power delegation from KUWUA to *sakha* committees.

Apart from selecting SIs in each *sakha* committee, KUWUA has adopted delegation of authority to *sakha* committees for *bighatti* and *paipatti* collection. During the crises of water for irrigation purpose, KUWUA executives are found fully responsible to manage water. It is effective as key executives are represented from middle and tail end part of the command area and as the tail end farmers also hold large plots of land, they are more active in irrigation system management (Ostrom and Gardner, 1993). Likewise, KUWUA has decentralized management practices to *sakha* committees to encourage them to fulfil their roles to yield the results.

There is responsibility delegation among the water users as well. The main operational tasks of intake are flood flow monitoring in monsoon and physical assessment of brushwood dams. Formally, KUWUA is responsible to perform these tasks by hiring *chaukidar*. However, in practice, the upstream water users (*sakha* 1-2) who reside on the bank of the river carry out self-monitoring and inform the Chairperson. As mentioned earlier, the flow dividers for each *sakha paini* do not function well, so operation of each *paini* is monitored by respective SIs. In critical period, rotational system is also applicable between *sakha painis* to manage the crises of water. This is yet another example of delegation of authority. Similar findings are also recorded from WUA of Chandra Nahar Irrigation System (Gautam 2005) where the WUA has adopted delegation of authority to BC and Tertiary canal committee for ISF collection and fixation of O&M fee, and water management. Uphoff (1996) observes the

need of making adjustments in the WUA to cope with new demands and in this context, it is found that there are adjustments which are made by delegating roles to *sakha* committees from WUA and operational tasks to different *sakhas*.

ii. Service delivery and maintenance

Poor service delivery and maintenance is observed in KUIS. There are several reasons for this. First reason is inappropriate structure and design. As for example, in the intake of *sakha* 5, some EC members of KUWUA influenced the technicians to make faulty structure so that less water could be discharged from it. During the ISP, water users were not aware about the implication of faulty structure. Despite of many disputes, the structure remained unchanged. Senior Divisional Engineer and Chief District Officer of Siraha also visited the area to decide on this case. The visit also declared that the structure is not technically defective. Weak delivery is also observed in all *sakha* junctions. The size of the door is small, so all the fodder, litter and even boulders are blocked at the door. Water users continuously demanded to widen the door. One of the water users from head reach (*sakha* 1) said:

Before the installation of door, there was no problem of blockade of sand, stones and boulders. Now, due to small outlet in the door, there are blockades and this has caused increase in *urdi* work. However, at the same time, if door is widened, there is a fear of entering the flood within the village and therefore we are in the dilemma to decide whether we should widen the door or keep it as it is. Protection of village from the floods should be the first priority.

Second, there is mismatch of *toles* and command area of *sakhas*. Water users are continuously arguing that the *tole* and command area of *sakha* 3 and 4 are not adjusted and it has created disputes among the water users on the allocation of water. Third, there is influence of key users during the design of the project. The water users of *sakha* 5 blamed that as the majority of key officials of KUWUA during ISP were from Chhaghare *tole*, they instructed to build the offtake in such a way that other downstream *sakhas* get more water.

These instances indicated some problems in the governance of KUWUA. The breakage and disputes among the water users means that there are problems of irrigation structures as explained above. Similar findings come from Uphoff (1996) where he observes that in similar context, the governance is questioned because in his theory, there should be fewer disputes among users and breakage of irrigation structures.

Forth, the unavailability of excavator on time is another factor for poor service delivery. The DoI seems to be poorly accountable for service delivery. To manage the excavator from KIP, every year KUWUA has to make many efforts and also needs to make several delegations at district and centre. In the past, KIP has refused to provide the excavator stating the security as the key reason. Water users have expressed that there is no problem to mobilise

excavator. KUWUA has also requested to DoI through local political influence to manage excavator in time. However, result is always disappointed. It is therefore, water users are compelled to rely on their own effort for such challenging maintenance of intake for several days of *urdi* mobilization.

Fifth, there are some disputes between downstream and upstream water users. Service delivery is often affected by downstream and upstream disputes. Initially, there were disputes with respect to the location of approach channel. Upstream water users from *sakha* 1-4 preferred the intake at Uttarahini however, downstream water users from *sakha* 5-10 favoured intake to be located at Chisapani. The main reason behind intake at Uttarahini is that there is sufficient take-off of water from the river and there is no fear of floods entering into the village. Upstream water users tried to draw water from Uttarahini, but could not succeed at full fledges. They operated *paini* with low flow for 4-5 days and irrigated only their field in rotation. Downstream water users did not get water. Despite critical period of paddy transplantation in August 2004, they could not manage water for about one month. Out of 90 days from 17 July to 16 September, the *paini* operated only for 35 days.

Sixth, the unwillingness for mobilization of internal resources is another factor for poor service delivery. Earlier, water users felt that government should be responsible for excavator mobilisation for the maintenance of *paini*. Therefore, water users completely opposed the idea of resource collection for excavator. However, with the series of discussion and interactions, *sakha* committees have made it clear about the purpose and rationale of internal resource mobilisation. Despite of all these problems and challenges, KUWUA and *sakha* committees are committed to maintain the quality of O&M work so that water users can get water as per the need. Therefore, it is found that water users need to be active in some of the physical works required to increase the irrigation performance. Similar recommendations come from Uphoff (1996) who in his theory spells the need of the farmers to provide inputs to better functioning of the irrigation system.

Section remarks:

Responsibility, delegation of authority and timely service delivery for maintenance can be considered as key elements of accountability in determining the governance. It is understood that KUWUA representatives need to internalize their roles and responsibilities for being accountable to the water users. Likewise, initiatives to further enhance accountability of EC to general members are essential and can be achieved through awareness building campaigns or programs on their rights and responsibilities. Enhancing the advocacy capacity of group members can be supportive to make the service providers (both GOs and NGOs) accountable towards water users. An accountable KUWUA could be reflected as the one that mirrors needs and concern of all interest groups including women,

dalits, janajatis and poor in constitution, plans and programs. Delegation of authority from KUWUA to *sakha* committees also indicates accountability but it is yet to be fully matured.

6.1.3 Rule of Law

Rule of law is assessed through the functions of KUWUA and *sakha* committees, formal and informal rules, their enforcement, attitude, and the provision of election/membership. There are different kinds of rules and norms established in KUWUA for effective water management and system O&M. Many of the rules are established by its formal constitution while some of them are locally established as norms and understandings. There are formal and non-formal duties and functions of the members to ensure that the functions in the institutions are performed properly and effectively.

A. Functions of KUWUA and *sakha* committees

The functions of KUWUA and *sakha* committees are both technical and institutional to enforce rules and regulations. There are different roles and responsibilities of KUWUA and *sakha* committees as explained in the previous sections. However, at the point of explaining the rules prepared for the management of the institution, it will be better to go through some of the functions again. The KUWUA performs activities like constructing temporary dam at Chisapani and Pipal Chautari, diverting water at the *mul paini*, distributing water to the *sakha painis*, carrying out regular maintenance at the *mul paini* and informing all the water users to attend the O&M activities compulsorily when the need arises. Other tasks include coordinating with the SIs for better water management, conducting the meetings of KUWUA as per need, maintaining relationship with the DIO and other agencies, collecting *bighatti*, assisting the *sakha* committees in solving problems at *sakha* level, conducting the GA meeting, preparing income and expenditure statement and providing the facility of *paipatti* to absentee after the individual assessment, etc.

Likewise, there are specific functions of the *sakha* committees. The *sakha* committees need to maintain the records of the households and land holdings, to ascertain the water distribution practices, to manage water distribution in rotational or crop need basis, to make arrangements for borrowing water from other *sakha* committees in case of water shortage, to fix the time of water supply according to the nature and terrain of the land and to collect charges and fees according to the decision of the KUWUA. *Sakha* committee also organises *urdi* for *mul paini* maintenance, supplies required tools during *urdi*, makes arrangements of meal to the *urdi* labourers, fixes the penalties as per the nature of violation, blocks water supply to those water users who violate the regulations, and takes action against those who steal water, and do not obey the *urdi*.

All these functions are guided by both formal and informal rules. There is some flexibility in the enforcement of rules and regulation. Both KUWUA and *sakha* committees have

authority to adjust in the existing rules and regulations as per the nature and situation demands.

B. Formal and informal rules

In order to run the irrigation system, KUWUA has been adopting both formal and informal rules, which are discussed hereunder.

i. Formal rules

Formal rules are specified in the constitution of KUWUA. In the past, to run the system efficiently, the KUWUA could not enforce its rules and regulations effectively as provisioned. The constitution now provides major guidelines for the institutional growth and decision-making. Most of the rules and bylaws or norms are added in tune with the provisions outlined in the constitution. However, the users are taking constitution as a flexible document. Sometimes, rules are being enforced with much modification to suit the local demands.

The constitution states that a seventeen member executive body would be formed from the GA members. Among them, twelve executive members are those *sakha* heads that are elected/selected by the water users within the area served by each *sakha painis*. The remaining five officials of the KUWUA such as Chairperson, Vice-chairperson, Secretary, Co-secretary and Treasurer are elected/selected from the GA. There are ten *sakhas* in KUIS. The *sakha* 5 and 10 being larger have the provision of sending two representatives to the KUWUA executive body as per its constitution because one representative cannot look after water management inside the *sakhas*. All other *sakhas* send one representative each. The members can be Chairperson for number of times, thus the constitution is failing to guide a representative and dynamic leadership pattern in the institution. It shows that the provision in the constitution is not properly followed. In many instances, to run the system with social harmonious environment, the executives often adjust the rules before their enforcement.

Urdu is also compulsory for the maintenance of *sakha*, *sahayak* and field channel. Within the *sakha* committee, the maintenance responsibility lies with the SI. He/she is used to mobilize *urdu* and apply sanctions for defaulters. Importantly, water users would not get water if SI finds no maintenance in part of the *paini* section. This is due to consideration of water loss in the *painis*.

Other rules and regulations in KUWUA are related to cash, labour and kind. Some rules are: those who are not able to appear in *urdu* work have to pay Rs. 80; *paipatti* rate per *bigha* is Rs. 800; *sakha* is responsible to collect amount and handover to KUWUA, and during *urdu*, labour is mobilised based on the landholding size (those who have more than one *bigha* of land have to provide 10 kilogram of rice during *mul paini* desilting). Based on the necessity, KUWUA organises a meeting and decides the rules and changes to suit the local situation. The enforcement of financial rules is very problematic and subject of disputes in KUWUA.

Fees are collected from various headings such as *bighatti*, *paipatti*, fine, penalty, registration of application letter charge and supports from DDC, VDC and district agencies. *Dhan khet* users also raise *bighatti* but *bhit khet* users are reluctant to raise the fees as these users get less water facilities because of *bhit khet's* physical characteristics.

These aspects indicate relatively poor governance resulted by poor implementation and enforcement. There is a need to ensure a mechanism where rules and regulations are accepted by all as Uphoff (1996) also observes similar results in Gal Oya where he highlights the need of supportive rules, policies and provisions for appropriately governing institution. This research has also observed that users' adaptability to new circumstances is a major factor in the success of KUWUA as users adapt new rules and regulations. Similar observations also come from Ostrom (1994b) where he points out those institutions are 'robust' if they can change according to rules developed as per needs.

Uphoff et al., (1991); Ostrom and Ahn, (2003); Uphoff, (2004) observe that the degree of performance in irrigation systems is effective depending upon the stakeholders' group dynamics such as cohesiveness, cooperative attitude, nature of task, and the degree of flexibility in defining role structure for rules and regulations. This research partially accepts these observations because their observation has not adequately addressed the relation of fines and rewards for system performance. This research identifies the enforcement of the rules as another critical factor for valuing the flexible rules.

ii. Informal rules

During *Rana* period, the system was run by strict rules such as compulsory labour work during O&M, *urdi* based on household's basis, and strict penalty system. In those days, even ploughing at the peak season had to be stopped if there was *urdi*. Landless even had to provide one-day volunteer labour for *urdi* per year. There was no scope to offer any suggestions against the rules and regulations. Water users still remembered that it was difficult to run the system where different groups of water users have different interest without such strict rules.

In fact, this sort of rules really helped them to operate the system despite of many physical hardships. Up to 1973-74, a strong social punishment system (such as boycotting the violators from social, cultural and ritual ceremonies like marriage, worship, birth and death, etc) was in place if somebody ignored the irrigation rules and regulations but now all these provisions have been comparatively loose. Social feast is still organised for labour during heavy maintenance work at headwork. Worshipping she goat for Kamala *mai* is also in practice. It is worshipped to wish more power and sustainable operation of *paini*. Sometimes, newly selected KUWUA officials also used to organise worship on the occasion of happiness and successful completion of their tenure. One of the water users from the tail end (*sakha 10*) said:

We heard that there were many strict rules to run the system. But not all these rules are beneficial to the water users. In my opinion, the rules should systematise the water users but not create an autocracy. Most importantly, rules should be flexible and periodically updated to accommodate our issues and concerns. Our system is still alive because of the informal rules. Though farmers of other systems charged us that we have no concrete rules, but we are satisfied with the informal provisions. For example, within the water rotational practice, we also emphasize the level of urgency before fixing the schedule.

There are certain rules from operation to management. No one is allowed to block water at the *mul paini*. In such case, the violators are fined between Rs. 501 and Rs. 2051. Water is to be distributed on rotational basis. All the water users or even small land holding water users are required to participate at the intake once a year for maintenance works. The water users are required to provide labourers as per their land holding. Female-headed households were required to send male labour revealing gender differences in the past but now women can participate. Then, water is distributed from the neighbouring field up to where the previous rotation had ended.

There are informal rules such as the *bighatti* fixed by the K UWUA to be paid immediately. The water users must attend the meetings fixed by K UWUA. *Paipatti* must be paid in time. *Urdi* is exempted for those who are in emergency, are engaged in funeral ceremony and other religious activities at home. However, for this, one has to notify K UWUA or *sakha* committee in advance. Rules are established for dealing with violation of water turn, water theft and violation of other established rules. *Panchayati* is organised to resolve the conflicts, if any.

Mostly, the opinion of K UWUA Chairperson is considered a rule posing challenge in ensuring rule of law. The executive members of K UWUA are directly involved in some managerial job hence they are waived from attending in *urdi* for *paini* maintenance. This exemption comes to address the expectations of the members given that these members do not get any monetary or material facilities such as meeting allowance. The K UWUA punishes those water users who steal water and do not attend *urdi*. The amount is different from case to case. K UWUA later has decided that 1 *Jan* per *bigha* need to be provided during *urdi*. Those who have more than 3 *bigha* of land should provide 3 *Jan* but this has remained a concern due to poor enforcement resulted by false land records and influence of big landowners.

During *urdi*, water users have to go with tools and materials as specified by *sakha* committee and K UWUA. The ways of mobilising labour is changed frequently to accommodate the interest of water users in the *paini* work. Until 1983, labour was mobilised based on household but this rule was revised after water user's protest. Water users having 10 *kattha* of land have to participate in 3 to 4 *urdi* a year. Half a kilogram of rice should be provided per *kattha* per year to K UWUA if one has more than one *bigha* for *mul paini* desilting work.

The O&M and water management responsibility of KUIS lies within the community itself. Given the state of poor infrastructures, vulnerable river morphology and changing context of voluntary labour mobilization, KUWUA has made efforts for making rules that are a bit specific with clear responsibilities and procedures. The operational rules of the intake in KUIS are more complex. The intake has to be operated continuously throughout the year to fulfil the irrigation water requirement. The main operational activities of intake are diversion of water towards *mul paini*, monitoring of flow on the river, and inspection of temporary dams on the river. KUWUA is formally responsible for the operation of the intake and *mul paini*. There is no significant change in rules of operation since 2003. However, due to change in river morphology, some of the procedures have been modified to suit the physical settings of the system.

The rules are found to be flexibly enforced. Realizing the cumbersome efforts to operate the intake, KUWUA decided to award the contract to private contractor, hoping to excavate approach channel by excavator. This necessity was arisen with the heavy rainfall that washed out existing brush wood dam at Chisapani, changed river course and unsuccessful efforts of voluntary labours. This operational contract was enforced through a formal agreement with the contractor and supported by *bighatti* of all water users.

Due to poor water supply especially in monsoon season, the emergency maintenance is frequent. Struggle with harsh river regime is the general practice of the water users. Excavations of approach channel and rising of riverbeds along with cleaning of *mul paini* are the main activities during such emergency maintenance. To perform these and more other maintenance works, Mr Janak Bikram Rana handled the system from 1962 to 1975 and introduced the rules and regulations especially in relation to system O&M such as *bighatti*, *paipatti*, fine and penalties. Regular desilting and maintenance of the main, *sakha* and field channels is generally carried out twice a year to suit the non-irrigating time of the farming activities.

Paini is considered as the common property and means of their livelihood and is being looked after well by all the users with some specified rules and responsibilities. Irrigation directly from *mul paini* is not allowed, encroachments including plantation in *paini* banks are banned, the users are not allowed to trim the outer slopes of *paini* banks, and cattle grazing is prohibited either on *paini* banks or in bed. But, frequently these practices are violated as evidenced in *sakha* 6 and 7 where there is direct irrigation from *mul paini* and trimming along the *painis*.

In order to practice equitable water distribution, rotational practices are adopted from tail to head too. Users opined that the idea is good, but it is very difficult to obey in practice. One of the main problems in this practice is heavy water loss in the *paini* through seepage. It

is found that this is also the tool to retain the interest of the tail-end water users in the *paini* work.

iii. Social norms

Pretty and Ward (2001) have asserted that norms and values in the society are very important cultural phenomena for the regulation of the behaviour of its members. Norms are mutually agreed that place group's interest above those of individuals. Generally, the norms and values also cement the social relation of the members of the society. There are norms of equity in sharing cost and benefits and participation as well as the values of co-operation and mutual assistance.

It is generally opined that traditional norms and values (related to rituals, traditions and festivals) attached to CBIs can play an important role in sustaining the irrigation systems because they can bring stability and social harmony in the community of water users. Freedom and Lowdermilk (1985) have added the importance of norms and values related to community cohesion and duty. They (1985, p. 07) write ".... effective labour mobilization for maintenance requires great social cohesion because all farmers must set aside their personal agendas during the O&M period and harness themselves to the communal duty..." Coward (1985) also emphasizes the role of norms, folkways, mores and customs, which patterns the behaviour of water users.

As irrigation is both the physical and social commodity, the social dimension (relation) is predominately influenced by the normative dimension given the divergent behaviour of water users. This analysis depicts that normative aspects are essential to resolve the problems related with community cooperation/collaboration/mutuality for collective action. The local institutional and organizational dimensions of the irrigation collective action are guided by normative dimension.

The strength of the KUIS is that the water user's work united for their common cause due to the temporary nature of the headwork. The weakness is that due to the temporary nature of the system, it requires heavy O&M in a regular basis. Sometimes, the temporary brush dam is washed away daily during the monsoon. In such cases, management strategies are maintained by the social norms and values. Water users have realized that institutionally strong institution can deliver water by setting social norms.

Norms play significant role in conflict management. Conflict management process in KUWUA is very informal. When there is conflict between and among two or more water users, they try to manage those by themselves. The role of neighbours is also crucial in managing the conflicts. Such practices have helped to strengthen the social ethics, norms and values and to enhance the social cohesion, we feeling and collective thinking for irrigation system.

The changes in existing norms have been brought in by experiences of the water users over a period of time because many settlers migrated from different parts of the country to this place. The people migrated from hills carried irrigation cultures in this area. They helped the KUWUA to introduce their experiences in this system. It cannot be attributed to a particular person or organization. However, still much rules of the system are not in written form and the socially established norms are still in use. These rules are working relatively well. While Martin and Yoder, (1983) explain the need of written rules, in KUWUA, written rules have seldom failed to be functional.

According to social norms, SI is responsible for mobilizing labour. The criteria for mobilizing labour have been changed time to time to suit the prevailing condition of the land ownership system. The KUWUA in consultation with lead water users of the system fixes the criteria of *urdi*. Recently KUWUA has also revised the criteria for *urdi*. As the SIs are the representatives to the KUWUA, they automatically implement the decision taken by KUWUA. They are also responsible for enforcing sanctions for defaulters of *urdi* work at *mul paini*.

Social norms are also used for the disposal of excavated soils from the *paini*. There is general tradition that adjacent water users should not object about piles of disposed soil. To avoid such unmanaged piles, some water users started to desilt the part of the *paini* adjacent to their land. This activity is practiced in *sakha* and *sahayak painis*.

The issue of maintenance is conflicting at the bifurcation points of *sahayak* and field channel. This is due to necessity of damming to irrigate adjacent land especially in winter season. Continuous use of soil from adjacent land to divert water through raised dam to the field deepens the *khet* (paddy land). Hydraulically, it affects upstream flow condition, retarding the velocity of water, and increasing percolation and seepage. Structurally, it is susceptible to breach in any locations, and may create havoc in case of night irrigation. Such exercises are common in wheat crop irrigation.

C. Enforcement of rules/norms

There are different natures of violation of rules/norms. These include water theft, violation of water turn, absence in the *urdi*, denial to pay *bighatti* and *paipatti*, etc. The details are discussed below.

i. Violation of rules/norms

In general, poor land records are the causes of conflict in the use of irrigation water during *urdi* mobilization. Some users intentionally hide their land and others try to demonstrate their registered land as *ailani*. There is a dispute in *sakha 3* in relation to land inventory. SI pays KUWUA less amount of fees collected stating that *sakha 3* has less irrigated area. Its impact is in whole system in collecting *bighatti*. The conflict still exists. KUWUA has tried to

recruit additional SI from hill migrants mentioning it is big *sakha* for maintaining the power balance but Danuwars are continuously opposing the proposal of KUWUA as they have benefited from the existing structures of the institutions. There are no records of *paipatti* users in *sakha* 3.

Upstream users deny paying cash as they are near to intake and are privileged in getting water from *paini*. The downstream users can get water only if the *paini* is full of water. Conflicts related to refusal of payment of fine (absence in *urdi*), rate of penalty amount differing in same kind of violations, increase of rate and SIs flexibility for nearer and dearer ones are most commons.

ii. Enforcement of Rules

There are limited formal rules in KUWUA. Until now, it has no formal Bylaws/Regulations. The Bylaw produced during the tenure of Mr Ganesh Prasad Adhikari were not enforced after his tenure was completed. However, based on the necessity, it has been setting various rules to operate the system. The level of enforcement is found to depend on the types of difficulties that water users are facing. Problems that are more critical mean possibility to enforce the rules and vice versa. Both BCs and KUWUA key officials are responsible to monitor the enforcement of rules; and there is the provision of penalty system.

Interestingly, not all the water users are aware of the rules. However, the trust between water users and SI has also been enriched in such a way that even though water users are not aware/familiar with the rules, they try to understand what could be good to follow. Now, if some one violated these rules, he or she would be penalized by KUWUA. Along with SIs, all the water users monitor these rules/norms and evaluate their enforcement. Mutual respect of *paini* as a common property has created somewhat conducive environment for the enforcement of rules.

iii. Conflict resolution

In KUWUA, the conflict resolution procedures are very simple and participatory. There is a provision that in case of conflicts not being managed among water users, they seek the support of SI. As the position of SIs is much respected in the society, people honour the decision made by them. Some people blame that in the past, SIs were always in favour of their nearer and dearer ones. Now, the situation has changed and SIs also consults water users before managing the conflicts. It helps to strengthen the role of SIs and build strong leadership while reducing conflict. At that sense, KUWUA need not be involved in small conflicts. It also demonstrates governance of *sakha* committee to sort out the local concerns. KUWUA is only involved in the conflict resolutions that are not manageable at *sakha* level. In such condition also, there is a culture to seek the advice of SI in order to know the root cause of conflicts. Whenever KUWUA tries to resolve conflicts without consulting SI,

there are problems in mobilising the water users for collective action and for enforcing the rules and regulations.

Once there is a conflict between water users, many interactions are held to know the types and nature of conflicts and ways of resolving the same. The best possible ways and processes are discussed in the group and common consensus is reached. It has helped to internalize the roles and responsibilities of executives, SIs and water users in managing the conflicts.

Most conflicts are directly related with the volume of water available in the *painis*. They are related to water, its rotation practices, and frequency of violating the turn. Whenever water is sufficient, obviously there are fewer conflicts. Conflicts arising from shortage of water are being managed by the KUWUA based on time-sharing i.e. 4 days for low-lying lands (i.e. for *sakha* 6-10) and 5 days for high lands (i.e. for *sakha* 1-5). Other reasons for conflict arise when water users cut illegally into *paini* at unauthorized places, break the *paini*, steal water, and when they remain absent intentionally during *urdi*. Hence, conflicts among the water users are referred to the KUWUA and are settled amicably if it is not able to be settled at *sakha* level. It can be inferred that conflicts are managed generally in four steps through the enforcement of existing rules, norms and understandings (i) within the water users' level (ii) related water users with *sakha* committee (iii) related water users and *sakha* committee along with some other elites and (iv) related water users, *sakha* committee, some elites and KUWUA. There are few events where VDC and local police are also involved in managing conflicts and this happens if the cases are more complicated and beyond the capacity of KUWUA.

iv. Fines and penalties

There are several reasons that cultivate the environment of not enforcing fines and penalties. In KUWUA, violation of some rules is because they are not written, and uncertainly of water in the *painis*, and absence of immediate system of charging fines and penalties also contribute to violation. The collection of fines from the defaulters is generally difficult, time-consuming task and it requires higher efforts to convince them. It needs repeated follow-up and motivation. The KUWUA aims to collect the fines through the joint effort of both the Special-secretary assigned by Chairperson and the SI. The Special-secretary is recruited to raise the fine and penalty from all *sakhas*. A provision was made to provide 20 and 10 percent respectively from the amount collected as an incentive to Special-secretary and concerned SI. The intention of the KUWUA Chairperson mobilizing Special-secretary was to increase collection of funds. However, Special-secretary was unable to raise the amount, as no one cooperated with him in achieving the intended outcome. It is because the selection process of Special-secretary was beyond the provision made in its constitution, and was without the prior approval from the EC members. Water users suggested activating the existing member's rather nominating additional people to sow the seed of conflict.

As stated earlier, there are limited written rules and regulations. The rule of *paipatti* is conflicting hence difficult to implement. Both approaches (motivation and threatening) are being used to enforce the rules.

KUWUA tries to collect penalty in monsoon, otherwise it is difficult to collect in winter, as there is no problem of water for wheat and vegetables. The rule of *bighatti* is easy to enforce compared to penalty and *paipatti* because it is directly associated with the operation of *paini*.

There are different mechanisms of fines and penalties as set by KUWUA. In case of water stealing, first time defaulter is fined Rs. 51. If the same water user violates the second and the third time, one has to pay Rs. 251 and Rs. 501 respectively. The rate of fine against the *paini* destruction varies from case to case, which is as follows.

-) Rs. 21-25 for minor destruction possibly by children unknowingly
-) Rs. 51 for adult for unintentional work
-) Rs. 101 for direct intentional and visible destructions
-) Rs. 151 for denying respecting the KUWUA's rules
-) Rs. 201 for water theft during night and for denying to obey rules
-) Rs. 251 for larger destruction
-) Rs. 501 for repetition of water theft (same nature of case intentionally) from *mul paini*
-) Rs. 1001 and more for huge destruction in *mul paini* (based on scale)

The findings from this research indicate that fines are common.

v. Attitudes and beliefs

Attitude and institutional efforts are correlated. Brief (1998) shares that attitude in the workplace affect thought, feelings and actions in the organization and the attitudes of those around an organization are affected by the organizations.

Understanding inherent among the water users regarding the system is strategic asset for the institution. This largely depends on the past efforts by the institutions and equity is a major issue for resulting this sort of belief as also opined by (Uphoff, 1996, p.876) who considers the need of fairness to create mutually beneficial collective action In KUWUA, because of positive beliefs, there is no problem for urdi mobilization and for the collective action to carry out even challenging work related to *paini* O&M.

Through there is some dispute among the users but generally, their belief and attitude towards KUWUA is positive. In this regard, one of water users from the tail end (*sakha* 9) expressed:

Our system (KUIS) is still alive despite of several physical hardships to divert the water of Kamala River into the mul paini. We are still successful because of good attitude of majority of the water users towards the KUWUA. With good attitude, there is a good cooperation among the water users and there is no major misunderstanding to enforce rules and regulation and fines and penalties. No one is daring to violate the rules, which has made the system intact for the long run.

D. Election/membership

i. Election

In the history of KUWUA, there has been only one election undertaken. Therefore, transparency of the process of nominating/selecting the members in KUWUA is not well documented. However, personal influence and lobbying are being used while selecting the executives. The EC members are selected both in *sakha* committee and KUWUA. Provisions related to election and selection of KUWUA member in its constitutions states "GA can nominate/elect the officials to form the KUWUA executives". However, these provisions are not always followed while selecting the EC members.

ii. Membership

There are following provisions as regards to membership in KUWUA constitution:

-) The tenant, in case of the tenancy land and the owner cultivator, in case there is no tenant shall be the member of the KUWUA whose age should be above 16 years. Those who are under 16 years of age should have patron.
-) All the members shall have equal right.
-) Each member shall pay the membership fee and *bighatti* as fixed by the GA.
-) Apart from *bighatti*, each member shall pay the extra fee for O&M of *paini* as fixed by the GA.
-) The membership shall be automatically terminated from KUWUA in case he/she is not the farmer of the area.

These provisions reflect that there are sufficient and clear rules related to membership, also revealing the importance of GA in making decisions.

Section remarks:

In order to ensure a participatory and democratic operationalization of KUWUA, Constitution needs to be prepared, Bylaws need to be formulated and organizational and social norms need to be established. However, mere existence of laws, rules and norms is not sufficient. Such Bylaws need to be enforced and provisions of sanctions need to be

established. Based on Constitution, membership criteria need to be established as Uphoff (1996) theorizes from his research, the membership should be strong. In addition, fair and democratic election or the selection of EC members ensures rule of law. Provision of rules in constitution, an effective enforcement, norms, a process of election and membership fee determine the rule of law in KUWUA.

6.1.4 Equity

The equity can be assessed through the basis of resource collection, resources mobilization, and sharing/distribution as well as water user's access and control over the resources. The equity aspect of KUWUA is discussed in the following paragraphs.

A. Resource mobilization/distribution

KUWUA has different resources that it collects from its water users and from external resources, which are obtained from other networking and coordination efforts. The main resources for system O&M include cash, labour, kind/materials.

i. Cash

FMISs are generally considered to be self-dependent and are initially thought to be generating resources within the user group. According to Pradhan (1989), the FMISs are successfully managed and sustained well over time without any help from outside. However, the findings from this research reject this inference. It is seen that in absence of support from outside, KUWUA has faced difficulties at times to rehabilitate/repair the system. Construction of flow dividers was possible through external support and only after this equitable resource sharing could be thought of. Bromley et al. (1992) and this research suggests that in order to increase productive efficiency, some external support is really necessary from the very beginning of the system development. The external support stimulates changes in the role, rules, interaction and decision-making patterns.

Resources are being collected since the operation of the *paini*. Mr Janak Bikram Rana and Mr Bechu Kurmi used to raise Rs. 20/*bigha* as *bighatti* to operate the *paini*. In the past, the practice of water sale was done for Karjana village at the rate of Rs. 4000/year. That was also the internal resource for KUWUA. When KIP Eastern *paini* was constructed, there was no need of KUIS water to Karjana village.

Fines and penalties, *bighatti* and *paipatti* are the sources of income in KUWUA. However, the system of sharecropping hinder in collecting the fines and penalties. Landowners usually provide their land to poor sharecropper and it is difficult to get fine and penalty from those people in time.

At the *sakha* level, SIs are responsible to mobilise the resources whereas at the system level, key executive members of KUWUA have authority to mobilise internal as well as external resources. For instance, ISP has invested Rs. 6,800,000. Each water user has raised Rs.20 per *kattha* as part of their contribution. Water users have started to be involved in monitoring the types of resources raised and their proper utilisation.

ii. Kind/materials

In 2005, to divert water to the *paini* using an excavator, GA decided raised Rs. 12 per *kattha*. Another important resource of KUWUA is related to supply of brushwood for intake maintenance. So far, for supply of brushwood, users are dependent on nearby forest, which belongs to Nandababa community forestry and nearby national forest. The annual requirement of brushwood in the year 2004 was 319,200 kilogram¹⁰⁹ (*Urdu* records, 2004). Without forest resources, the intake could not be maintained. Water users generally use tree branches, trunk, bushes and other non-hardwood trees to check the water flow and divert water it into *paini*.

Water users repeatedly have raised the issue of boulder extraction from the Kamala River. They believe that this extraction undermines the bed level of the river, which in effect creates problem in water diversion. The extraction of boulders by contractor selected by DDC from the intake site may not be healthy exercise. There is strong voice that KUWUA should get part of the revenue collected from the boulder collection. Some of the landless and marginal water users are dependent on collecting and managing boulders. In this aspect, users have identified various resources and committed to mobilise and conserve for the best of the system. NCFUG is also supporting in mobilizing forest products during *paini* maintenance.

iii. Labour

The mobilisation of labour for *paini* O&M is also equitable. The KUWUA has set the rule of one *Jan* for one *bigha* of land, two *Jan* for two *bigha* and three *Jan* for more than three *bigha* of land for labour mobilisation. The mobilisation of labour for *mul paini* is slightly different. For this, one *Jan* for one *bigha* of land and half kilogram of rice per *kattha* is additional to be paid if one has more than one *bigha* of land.

As there is no obligation to deposit fine and penalties to KUWUA, some SIs tend to collect more of such amounts creating many obstacles to its water users. This situation was observed from the *sakha* 5, 9 and 10.

¹⁰⁹ In 2004, *urdu* was mobilised for 92 days. The total bundle of forest resources used during O&M of canal was 7980 and on an average the weight of one bundle is 40 kg. It means a total of 319200 kg forest resources were used.

Urdi mobilization takes place by determining the work volume of headwork. The key official or the person authorized by Chairperson used to keep the records of labour during *urdi* mobilisation and submits to the Secretary. Sharecroppers have to work in the *urdi* on behalf of landowner. Female-headed households also need to send labour in the *paini*. KUWUA officials and landless also have to be involved during *hasiya-khurpa*¹¹⁰ *urdi*. This type of *urdi* is made especially when they need more fodder and litter during intake maintenance. In normal *urdi*, the executives of KUWUA are exempted but they have to pay the fines and penalties if they violate the rules.

Based on the volume of work in the *paini* and headwork, task is assigned to particular *sakha* for the *urdi* mobilisation. It has helped KUWUA to distribute the work in an equitable basis. One should participate with specified tools during *urdi*, otherwise he/she is considered as absent. In that condition, either one has to pay fine or manage 2 *Jan* for the next day *urdi* as penalty. Big landowners generally violate the rules, as they are reluctant to provide *Jan* as per their land size. SIs decide the *urdi* itself without consultation with KUWUA if the volume of work is small and confined. Sometimes conflicts occur while mobilising *urdi* due to weak coordination between *sakha* committee and KUWUA.

As discussed earlier, big landowners are reluctant to send required labours during *urdi*. Poor and medium categories of landowner feel that they have cheated but they cannot argue all the time with KUWUA and *sakha* committees. Irrigation is important for medium and poor categories of water users as their livelihood depends only in irrigated agriculture. In the recent days, water users continuously argue to systematise *urdi* work. As a result, big landowners also have started to cooperate with other water users by managing more labour or contributing in collecting rice during the *urdi* mobilisation.

Within *sakhas*, *urdi* is generally organised on *tole* basis. KUWUA has categorized major four *toles* incorporating all users. They are Chhaghare *tole* (*sakha* 6 to 10), Pacchim *tole* (*sakha* 4 to 7), Ratanpur (*sakha* 1, 2 and 4) and Baltiya (*sakha* 3). However, food for labour is managed separately in five different *sakhas*: *sakha* 3, *sakha* 5, *sakha* 1-4, *sakha* 6-10, and Dacchin *tole* (a part of *sakha* 10). It was found that *urdi* is effective when small *tole* is mobilised. In majority of the cases, KUWUA relies on the opinion of upstream water users and organises *urdi* without actual monitoring and need. Some water users opined that this is the main reason of increasing the number of days in *urdi*. It has created some confusion and frustration among them. It was found that water users used to be involved in *urdi* work

¹¹⁰ *Urdi* with sickles and knives only.

continuously for 7 days, then after they would lose their enthusiasm to work in *paini*. In this regard, one of the water users for tail end (*sakha* 8) opined:

As *urdi* mobilization is the prime work, we need to systematize it. Otherwise, there will be a problem of mobilization of water users in the *paini* work. In my opinion, *ukahda urdi* should be stopped. For us, to involve in the half-day *urdi* work means to lose daily wage of full day. Instead of mobilization of some *sakhas*, there is a need to mobilise more farmers from more *sakhas* to carry out more work to reduce the number *urdi* days.

Social feast is still an encouraging factor to mobilise the landless in the canal O&M. In the past, only big landowner used to raise rice but now it is based on land size. The social feast is only organised for *mul paini* desilting. Both KUWUA and *sakha* committees had to manage meal for their labourers if the work is for *bhar din*¹¹¹ but this practice is also decreasing. Sometimes, *urdi* is organised for *ukhada*¹¹². Big landowners are still in favour of collecting rice but other users are demanding the mobilisation of labour in an equitable basis. The recent trends show that landless have less interest to work in *paini* as they can earn more if they work for other agriculture activities. The DDC and VDC also provide rice and oil to KUWUA for managing meal for labourers during O&M activities. It has helped KUWUA to mobilize more labour in the *paini* O&M.

During *urdi*, more labourers are mobilised from middle and tail parts of the command area because of more land with farmers in these parts. However, as the water users from this area are literate and influential, they always try to demonstrate to have less landholding than actual.

Water users from head reach oppose to mobilize excavator due to fear of water entering in to the village, but big landowners try to justify that excavator mobilisation is genuine because of labour shortage within the village. However, medium and poor categories of water users are in favour of *urdi*. These water users argue that If KUWUA prefers to work through excavator, then the situation will further worsen, as nobody will be ready to contribute in the *urdi* work even for simple *paini* activities. One of the water user from middle of the command area (*sakha* 7) in this context opined:

For last three years, there is a kind of controversy among water users to use the excavator as part of O&M of the *paini*. *Urdi* mobilization is the beauty of the KUIS. If the tendency of using excavator increases, the motivation of farmers towards the system (KUIS) will no longer remain. I think we should mobilize the farmers for the O&M of the system not excavator.

¹¹¹ Full-day *urdi* work.

¹¹² Half-day *urdi* work.

Land inventory is crucial to raise the required labour in an equitable basis. KUWUA is still using the records of 1995. It has created some conflicts among water users for labour mobilisation. Therefore, there are different issues of labour mobilization and it is the poor water user who is affected with the rules, and norms established in the distribution of resources and mobilization of labour for system O&M.

Hence, in nutshell, membership fee, penalty, fine, *paipatti*, *bighatti* in terms of cash, knowledge and skills in terms of kind and food, tools and forest in terms of materials are the keys resources in KUWUA.

iii. Resource collection and sharing

Resource collection and sharing is one of the crucial factors in maintaining the irrigation system in working condition. Resources are collected and shared among the water users but the issues revolve around equity. Based on the necessity and volume of work to be carried out, KUWUA has been collecting the resources like cash, labour and kind/materials.

Organising social feast is an interesting case for resource collection and sharing. The water users from Teraian communities favour in organizing feast but hill migrants do not. As there is a problem to mobilize labour based on land size, the provision of collecting rice gives relief to big landowners. However, water users blame that rice is not properly utilised for *urdi* work.

As far as possible, water is distributed in an equitable basis through rotation system. At the *sakha* level, rotation is performed after paddy plantation. The timing of rotation is generally not fixed and is based on the irrigation water depth of 10 cm at all corners of the plot. The operation of this system is performed by group of water users. SI is basically responsible for monitoring the rotation. Another basis of rotation is the condition of the crop with respect to irrigation. SIs allocate water after monitoring and verifying the crop condition. In some large *painis* (such as *sakha* 5 and 10), water management tasks are further divided to representatives of the locality (i.e. head, middle and tail). *Sakha* 3 is also large but is ethnically homogeneous, so it relies on a single representative. These operational norms and practices are well accepted by all water users for resource sharing and defaulter of these norms and practices is subject to penalty. Upstream water users generally violate the rotation system in the intention to use more water whereas the downstream water users are in the favour of rotational practices. For instance, in 2005, *sakha* wise rotation system was possible when *Chaukidar* of *sakha* 3 was involved in water monitoring in the tail of *sakhas* 8 to 10. However, due to less water in the *paini*, equitable water distribution was not effective, mostly due to seepage of water in the *painis*.

Resource sharing has been found sometimes conflicting because of the poor functionality of flow dividers in *sakha*. Its functionality depends upon the availability of water. As traditional water allocation system (rotations based on areas at time of shortage) does not exist after construction of proportionate dividers in ISP rehabilitation, the proportionate water distribution is enhanced through the practice of providing water to tail end users. The involvement of SIs is one-step forward with the previous ad-hoc adjustment of water flow within *sakha painis*, and as a result, there is rotation based on crop conditions and frequency of irrigation and group monitoring in on-farm operation. Actualisation of tail-end irrigation in *sakha 10* is a good example of enhanced water user's knowledge and skill in system operation and water management. Such operation and water management exercises are practiced obeying formal and informal rules, responsibilities and procedures. This has also supported in the equitable water management.

To ensure more equity, the proportionate distribution of water based on the area irrigated is being carried out by un-gated bifurcation structures. One should not obstruct both parent and bifurcating *painis* unless and otherwise KUWUA instructs to do so. All the water users have monitored water-sharing practices between *sakha painis*. KUWUA has decided to penalize individual for stealing water from closed *sakha 5*. *Sakha 3* has instructed its *chaukidar* to monitor the irrigation of tail-end water users and not to allow misuse of water. In initial effort of implementing this rule, head reach water users have raised the issue of water right in sharing propositions. Later, the issue was resolved amicably and water was provided to tail-end water users. Positive feelings towards neighbours and willingness to accommodate other's needs have made them easier to resolve the disputes over water sharing.

B. Access and control over water

The existing water management practices in KUIS are quite impressive. All the water users have access to their field channels. In course of land fragmentation, the field channel needs to be maintained compulsorily. It is itself a good practice. Water users have learned about water use efficiency and crop planning to adjust to the scarce water in the *paini*. If someone does not allow operating the field channel through his or her field, *sakha* committee immediately takes the actions.

There are some disputes of wheat irrigation during the winter. As wheat cannot resist more water, the upstream water users do not like to provide field channel through his/her field. The case is more severe during night irrigation. In such occasions, SI usually monitors field channels. If there is dispute, he/she does not allow water from the parent *paini*.

Water rights issue is significant in KUIS. Prior to the ISP rehabilitation, water rights were defined by allocating water based on agreed norms between head reach and tail end water users. However, construction of proportional dividers at the bifurcation of *sakha painis* has

solved the issues of water use rights to some extent. All water users are supposed to take water proportional to their land.

The most important aspect of water right in KUIS is the user right over its control. Water is considered as community property, and right over its use is also communal. Water users can draw water from source on a controlled basis because during the monsoon, there is a restricted flow to avoid risks of floods and during winter, there is a mechanism with which there is sufficient water downstream.

Likewise, women's right over water management activity is limited up to on-farm level. Water users have realised to protect the right of women in these activities. KUWUA now has accepted the role of women in *urdi* and other water allocation and distribution activities.

Irrespective of the type of land ownership, water is entitled to irrigate for all the water users. No one is discriminated in water allocation and distribution and every water user has equal access and opportunity to the irrigation activities. One can consult the KUWUA officials regarding any problem related with water management. Sakha committees and KUWUA have adopted equitable maintenance sharing norms, which have ensured irrigation water. In 2004, for the first time, tail-end water users received irrigation once equitable water management practices were adopted.

Section remarks

Resource mobilisation and particularly the fair and just distribution are art and part of equity. Collective efforts and sharing are other indicators to describe it. Dalits, poor, women and landless sections needed to be equally respected and represented and they should also have their say in control over the resources. Uphoff (1996) also observes similar findings and states that equity of water distribution is an essential element of governance. Further, he also finds that planned water delivery schedules with water use rotation are adaptive measure for ensuring governance in time of water shortage. This study also has similar inference with KUWUA practicing rotational water delivery system thus contributing to a state of governance in terms of equity.

6.1.5 Participation

Participation is assessed through the involvement of water users in decision-making process and O&M activities. The decision making process is further explored through involvement of water users in meetings for group decisions, leadership review and change and women representation/membership in the *paini* activities. Trust and social energy, principles and friendship are also judged to gauge the level of participation.

A. Decision making process

i. Regular participation in meetings for group decisions

Meetings of water users are observed as the places and opportunities where water users and other stakeholders can express their opinion in planning, implementation, monitoring and evaluation of irrigation rules and regulations as well as O&M aspects of the system.

It was found that regular meetings were organized by KUWUA as well as *sakha* committees. The regular participation of meetings has created awareness amongst the water users of the need for a strong institution, enforcement of rules, transparent record keeping, efficient communications, etc. Water users recognise the need of broader representation, and have made an informal change enabling women to participate in decisions and other activities although they are unable to take part in all activities such as *paini* monitoring at night. However, they are not yet elected/selected the *sakha* committees and KUWUA. The role of landless in irrigation management has been slowly recognised and given due respect. The participation of landless has been acknowledged in KUWUA, which has also generated power to reinstate their role in *paini* management.

ii. Leadership review and change

Leadership has an important role in sustaining the WUA. There has been an increasing emphasis on the facilitative leadership to lead the committee for its sustained development efforts. Apropos of the leadership, Church (2002), in her action research of the networks of organization, also focuses on the facilitative and shared leadership. She also argues that leadership helps participation happen in the committee and also further contributes in building the leadership with the different social groups. In addition to the facilitative leadership it also should be dynamic, fair in interpersonal relationship, creative, responsive, transparent, accountable, flexible and innovative. Uphoff (1996) argues that leaders manipulate many other resources- fund forces, status and the like but it is often forgotten that they especially produce and exchange ideas, like "water has no colours" (implying that politics should be kept out of irrigation management).

KUWUA has experience in leadership review and change during its work. Many cases explain the leadership review and change practices overtime. As discussed in the earlier section, in 2003, after the resignation of Mr. Bholu Prasad Pokharel, the meeting nominated Mr. Lekh Raj Dahal as Chairperson. In 2002, Mr. Bholu Prasad Pokharel became the Chairperson of the KUWUA. Before that, in 2001, in the absence of Mr. Lekh Raj Dahal, he led the work to raise the *bighatti* and managed excavator to divert water in canal. As a social incentive, water users selected him as the Chairperson. However, after Mr Pokharel's resignation, Mr. Dahal was again selected as the Chairperson and the logic behind his selection was his ability to mobilise the external resources from outside. One of the positive aspects of Mr. Lekh Raj

Dahal as assumed by the water users was his ability to influence Rastriya Prajatantra Party (RPP) as government of RPP at the centre at that time being the RPP supporter.

If we see trend of leadership, it is not regular. One of the interesting aspects is that leadership is not transferred based on heredity. Some Chairpersons run system even for more than 1.5 decades and some only for few months. Yet, the ability to influence and generate resources for the benefit of all water users has been an important qualification sought by the water users to select the Chairperson.

iii. Women representation/membership

Sustainable management of irrigation system depends on effective participation of water users in the KUWUA activities including women from all social groups. The active participation of women in WUS has shown their willingness in strengthening the KUWUA and women are also found participating in the discussion on their concern in public places.

KUWUA has requested women to discuss on its activities after which women voices are heard including their acceptance in KUWUA's several activities. In the past, women were never given a respectable place in the KUWUA management. However, after the WUS, the traditional concept of keeping women away from the irrigation-related affairs has gone some changes. Women have started going to field for irrigation, attending in the *urdi* for physical work and taking part in meetings. The participation of women in KUWUA management is expected in easing the labour shortage problem for maintenance work.

However, these changes have faced certain challenges. Some water users have inertia to accept women's presence in *paini* O&M as in their ideas it was not good sign according to Hindu mythology¹¹³. In many societies, the cultural and traditional norms, values, constraints and taboos hinder women from participating in irrigation activities. Despite the changes, poor involvement of women in the KUWUA can be explained by some reasons as: (i) close nature of society of Terai, (ii) poor access and control over the family decision, (iii) low literacy level, (iv) prevailing social and cultural taboos, and (vi) *paini* work considered heavy physical work that women can not contribute to. One of the women water users from the head reach (*sakha* 3) said:

I do not know why our production is continuously decreasing. It has discouraged us to involve in the agriculture sector. We are compelled to explore other off-farm activities to earn some income. The tendency of male counterpart going outside the village for seasonal labour is common in our village too. I think, to allow us in the *paini* work will reduce the shortage of male labour within the village. In my opinion, this is a good initiative that KUWUA is taking.

¹¹³ As rivers are considered the *mai* (mother), the mothers are treated as goddess for the contribution she makes to life. It is considered that during the menstruation, women should not be allowed to work in canal to maintain water's purity.

B. Participation in O&M

Ethnic diversity and mutual respect of all culture is the essence of KUWUA to build social capital. Mutual respect and trust is one of the characteristics of accommodating interest of all stakeholders in system O&M. Organising common feast in *urdi* and other social feasts are the some of the good examples of mixed culture and community participation in O&M.

As flow fluctuates significantly in the river, emergency maintenance is necessary for several times in the monsoon. The major works of system maintenance includes desilting, maintenance of banks and weeding from the inner slopes. In all these tasks, there is good participation of water users. In order to systematise the O&M works, there are defined roles and responsibilities of KUWUA and *sakha* committee. It also gives suitable environment for the participation of water users in O&M works.

As mentioned earlier, water users are quite acquainted about need of regular maintenance of their irrigation infrastructures. Until 2003, they opined that upgrading the infrastructure of *paini* was the ultimate solution to ensure water. Now, they have realised that it is not only the solution. Therefore, they are also convinced that only a meaningful participation of users in system O&M can ensure the water to its water users. To this observation, Chambers (1980, p. 32) explains that the main incentive which influences the users' decision to participate in O&M is the acquisition of an adequate and reliable supply of water.

iii. Social energy

Social energy helps to create self-directed and creative efforts. This also helps in the feelings of collective participation. Uphoff (1996) argues that the concept of social energy animates individuals and groups to high levels of performance for collective purpose. Psychological factors appear more crucial than material ones in ensuring meaningful participation. Group organized for one purpose can also do other things and the impetus for change comes from within the group. Changing normative orientations away from individualism and self-centeredness releases remarkable energies within communities for a common goal. In KUWUA, social energy has helped to increase participation, sense of ownership in the resource and realization of roles for collective actions such as *urdi* mobilization and use of excavator.

v. Trust

Trust between and among the water users has always contributed to sustain irrigation system through collective action based on the realization of responsibility and ownership. Trust between office bearers and water users are of paramount importance in building and cementing social relationship and meeting the participation requirements for keeping the

system at place. In this regard, Powel (1996) argues that trust is a resource that must be used and reflected upon to sustain institutions. Cernea (1985) explains the need of social fabric to achieve the objectives of CBIs. Ostrom (1990) observes that coordinated actions based on trust, reciprocity and credible commitment to the rules crafted and agreed by the users can resolve the conflicts and tensions in forest management. In sum, trust has a multiplicity of functions, namely, participation, lubrication of cooperation among participants and beneficiaries, reduction of the transaction costs between people, saving of time and money and ultimately the ownership over the system.

Though water scarcity is a regular phenomenon at the extreme tail of the command area, due to trust among the head reach, middle and tail end water users, even head reach water users at several times have participated in managing the water. The established trust among water users is a factor responsible to making tole wise *urdi* more effective.

i. Principles

Principles the community believes are essential driving factors for participation. The common principles users have in the institutions contribute to sustain it. Having divergent principles, each in individual direction can hinder the institutional growth. Uphoff (1996) states that positive ideas evoke principles of choice and action transcending narrow individualism and can be the potent force among the users. In KUWUA, water users irrespective to caste, class and gender opined that water is their prime concern. This is their principle, as water is important for the livelihood and survival. The converging principle is responsible for joint work and active participation in irrigation affairs.

ii. Friendship

Friendship has the potential to contribute to better functioning of irrigation systems. Uphoff (1996) considers friendship as a positive-sum relationship because it leads people to mutually value each other's welfare. Friendship provides the strong bonds of mutual appreciation and support. This contributes to the emergence of cooperation and participation among the water users.

In KUWUA, a good friendship is visualized among the water users (irrespective of location-head reach, middle and tail end, political ideologies and different well-being) and the office bearers. This is the main underlying factors for making water availability reliable even during the scare situation. This comes from friendship based on mutual interest/ reciprocity and empathy while participating in the irrigation management activities. The social feasts and sharing of common kitchen during the urdi mobilization is the best example of good friendship among the water users and is based on participation of all water users.

Section remarks:

Participation should be meaningful and active in planning, implementation and decision-making. Poor water users should have their voice heard. All members need to have an opportunity to participate in meetings, including opportunity to represent as leaders as well. There should be no discrimination in respect to caste, and gender. A fair representation is essential in capacity building initiatives and GA or in similar decision-making bodies so that advocacy skills will be enhanced among all water users. In addition to this, there need to be equal participation of water users in the maintenance tasks in an equitable basis. Involvement in decision-making process, equal representation and participation in maintenance work are key determinants of participation. While social energy and trust magnify participation among users,

friendship and principles can engender feeling of joint work for a common goal. As Uphoff (1996) has identified that CBI's orientation and structural changes are necessary for participatory management of these institutions, it is found from this research that there is increasing awareness and sensitivity with the KUWUA's EC on ensuring the management through best possible participatory approaches. However, despite the fact that participation is a step for ensuring governance, it is not ultimate means for ensuring organizational density as Cernea (1985) explains. To sum, great has been achieved but there is a greater work to be done by KUWUA in ensuring fair and representative participation bringing more aliened members into the mainstream.

6.1.6 Predictability

Any institution should have a long-term strategy including the strategic directions in terms of Vision, Mission, Goal, and Objectives (VMGO). Institutions also have to make provisions of sustainability through networking and coordination as well as long term planning. Predictability is explained in following key issues:

A. Clear vision, mission, goal, objectives

It has been found that the KUWUA does not have written and documented VMGOs. KUWUA executives are well aware of the importance of VMGO from other WUA of irrigation systems for the institutional development. It shows that users have realized the importance of VMGO to drive KUWUA in an effective manner. The GA of 2006 has just discussed it as an agenda but it has not been properly materialized. Due to absence of VMGO, KUWUA has not been able to set its long-term plan and program and therefore it is unable to generate expected external resources.

B. Program planning

As part of programme planning, the water users need to be familiar with the objective of KUWUA. The advance planning on proper record keeping and maintaining transparency, fund collection and mobilization is still poor. KUWUA has inadequate linkage with external agencies. The water users' demands are for the production of cereal and vegetable in the large scale. For this, more water is required and it could be possible through proper planning. Proper program planning is vital to improve the availability of water as in Panchkanya Irrigation System, where according to Gautam (2005) if there is some problem during the implementation, they amend the plan through meeting or GA depending upon the urgency of the issue.

For appropriate planning, the fact of considering people as ultimate bank for resources is true and Chambers (1983) explains that people are primary. But, considering farmers as only experts from 'farmers first' approach (Chambers (1989) in planning is also not always true.

The research has established that bringing innovations, lessons and skills from other areas is essential to grow CBIs. So, this research rejects the fact that farmers in a defined area are only key resources and experts as it is evident that systems from other CBIs are useful for farmers to plan for management and to improve the performance of their CBIs. In addition, Korten (1990) explains the 'learning process approach' where various diversities related with culture, location, social setting and ecological variation are considered together with lessons from the past. This research also believes that learning approach is primary to simply placing defined knowledge as supreme governing factor. This approach is essential because many community-oriented development programmes have collapsed because of their inability to enlist the strength hidden behind the CBIs (Korten, 1990). Cernea (1985) explains the need of trained human resources for ensuring sustainability of CBIs such as contribution from WUS for systematizing the records and appropriate planning for the CBIs as this research has observed. To put all together, people are important but learning from outside is equally significant.

C. Linkage and coordination

The extent of good coordination with other line agencies also determines the performance of WUA. As for example, Chandra Nahar Irrigation System started to coordinate with DLAs to generate resources and technical assistance. It coordinated with DFO in making action plan of Sisau and with DIO for establishing a matching fund. With the support of DIO, WUA has planned to rehabilitate 17 km long service road (left bank of *mul paini*). In order to control the river erosion, DADO extended its support to WUA. WUA is also affiliated to DADO and NFIWUAN District chapter to get more support (Gautam, 2005).

Similar cases on good coordination resulting diversified funds also come from Gautam (2005). In Manusmara Irrigation System, VDCs have been supporting in maintenance works through cash. Informal coordination was made with VDCs of Belawa, Renwa and Bhatauliya for the maintenance of block 18, 14 and 19. As a result, Rs. 95,000 was mobilised from these VDCs. DDC has been supporting in the maintenance of service road. Similarly, DADO has supported in the desilting of canals. It was reported that as part of micro-irrigation component, Rs. 60,000 was mobilised to desilt Blocks 14, 18, and 21 for the construction of new flow divider in block 6. WSG was able to run literacy class for illiterate women with the support of NRCS. Water users are also benefited from the program of integrated water management run by DIO.

In KUWUA, water users have now realized to plan the crop as per irrigation availability. Appropriate coordination between upstream and downstream water users has also been enhanced through continuous interaction. The inherent tradition of accommodating downstream neighbours has also been enriched through regular meeting. KUWUA has started to coordinate with DDC and VDC. It has Rs. 20,000

from DDC. It has been requesting DDC to mobilise the VDC funds for O&M works but it has not been possible yet. The good coordination with KIP has helped to mobilise excavator. There is also appropriate coordination with local police for conflict management related to irrigation affairs. Water users concerns to safeguard their resources like boulder acquiring from the riverbed are developed and discussed with VDC and DDC. It has opened the way for getting quick service from these agencies.

Flood control is the prime concern of the water users. There are several incidents of flood risks in the past in different settlements of Bandipur. To protect the settlement from the flood, water users have been supported several times by government. KUWUA is able to establish good coordination and linkages with other organisations like DADO, and NCFUG. DADO has provided technical assistance to increase the crop production. NCFUG has been helping by providing forest products (fodder, litter, tree's trunks, etc) during O&M. It has also been helping to manage fodder and litter for annual intake maintenance. In general, forest users have no objection to provide forest resources for O&M of KUIS. The main logic behind is otherwise the number of days in *paini* will be increased as water users have to go far to collect litter and fodder from government forest.

A good co-ordination with district line agencies is possible through the continuous efforts. As a result, KUWUA has been able to access Rs. 75,000, Rs. 1,00,000, and Rs. 2,00,000 respectively from DADO, German Volunteer Organization and Churia Forestry Development Program (ChFDP) for the construction of catchments pond in Juka torrent.

Specific relationships are also maintained with different organizations. As stated earlier, KUWUA is able to establish good working relation with DADO in getting inputs (improved seeds, fertiliser, pesticides, materials in subsidy), technical know-how, and exposure in latest technology, and demonstration of various varieties for both cereals and vegetables. As KUWUA has this potential, this is considered a good aspect in terms of its governance. It also indicates accountability of the KUWUA to its water users. Uphoff (1996)'s idea from his research are that the increasing benefits to members, eventually through diversified profit-making ventures beyond irrigation such as seeds, technical know how and pesticides as also observed in KUIS as well as more and better use of complementary inputs such as fertiliser as again observed in it demonstrate signs of good governance.

In the construction of conservation pond, the role of DSCO was crucial. In the past, it also supported the water users in constructing ponds in the northern side of the command area. It helped to support for alternative irrigation facility for the tail end

users of *sakha* 9 and 10. The findings here relate to Uphoff (1996) who observes that in good governance, farmers' growing demands need to be met. His research indicates the need of continuing adjustments to cope with new demands, meaning the need of a coordinated approach to yield these results. Bandipur Youth Club also supports the KUWUA activities. In addition to youth involvement in extra activities, club has helped to bind the youth to be mobilized in *paini* maintenance/*urdi* operation and other community development activities. The contractors are among the other key private sector stakeholders providing necessary services in *paini* management and maintenance. The local contractors are given priority because they are found to better understand about the local conditions.

It is indeed true that the KUWUA alone cannot succeed without support of political parties for *paini* management and other activities. Various political parties are found working in the improvement of *paini*. They have access to higher authority of the government, which ultimately helps the KUWUA to raise problems to the concerned authority.

From the coordination and linkage perspective, KUWUA seems to be quite strong but still requiring additional efforts. One of the key informants from middle of the command area (*sakha* 5) in relation to resource generation opined:

The KUIS is strong both in internal as well external resource mobilization. As the physical hardship is continuously increasing, only internal resources are not sufficient to drive the system (KUIS). So far, external resources mobilized from local, district and national level is limited to its capacity. The KUWUA should engage itself in external resource mobilization. The popularity of the Chairperson is, by and large, depends upon the extent of external resource mobilization for the system (KUIS).

Section remarks:

Having analysed the planning and predicting functions of KUWUA, it is quite ahead. Its coordination part is observed strong. It has coordinated with DLAs to generate resources and received technical assistance. Water users at local level also have developed linkages with the other agencies and have been involved in development as well as income generating activities, which show the capacity of water users and of KUWUA.

KUWUA has expected that there will be VMGOs in place in near future to direct its plan of activities. Now, because of no written VMGOs, the advance planning on proper record keeping and maintaining transparency is insufficient. The institutional coordination has reached to the youths and their clubs, which are mobilized, for *paini* maintenance/*urdi*. The political coordination also has provided enough space for local leaders to express their views and use their networks at higher level in support of the irrigation facility. The overall findings from the research highlight the significance of coordination and to this observation, Ostrom (1990) explains that the current issues regarding governance are related with a mechanism for a functional co-ordination with the local bodies, as required by the LSGA.

6.2 Nandababa Community Forestry User Group

The governance of the NCFUG is also assessed with the same key elements, secondary and tertiary elements as those used in analyzing the governance of KUWUA though some theoretical issues have limited to fully cover all those elements of governance discussed in KUWUA.

6.2.1 Transparency

A. Information and communication

i. Record keeping

NCFUG EC has a practice of keeping records of its activities, decisions and planning. Important aspect seen in NCFUG is the clear minuting. They have been keeping the records of the decisions as well as the records of the other aspects including norms, rules and regulations. However, at many times, the records are not in the form to be able to be read and to be understood.

A careful analysis of record keeping shows that recording is important when there are important issues such as expenses, travel outside and in making new plans. The records related to the nomination of the persons to attend any sort of conferences, trainings,

workshops or meetings in the district, *Ilka* or the national level and mobilisation of the resources are kept properly. Records show that meetings have been used for productive purpose. It has been found that these meetings decided to stop extracting sand and boulders from Kamala River Bank, which is also within the boundary of Nandababa community forest. As it was thought that Chairperson was personally taking benefits for the selling of sand and boulders, meeting decided to punish if any abnormalities were documented. The analysis on the performance of the *Tar Pale* and priority given to the forest users in selecting the staff for community forest are also documented. Other documentations include those related to the use of the resources including the construction of the office building for NCFUG. However, the forest users raised their issues over the expenditure without bills and receipts.

ii. Financial records

Accounts on income and expenditure are maintained in ledger book. The good aspect is that income and expenditure are separately accounted. However, the money spent by the NCFUG members as they travel for official work is not always revealed in the records.

Financial records also include the request for bidding and tender notice on sale of community forest resources. It is found that there are provisions of publication of public notices to inform about the sale of forest products. Clear indications related to decision of remuneration to Forest Ranger and forest technician for support in forest product identification is also available. It is found that application is required for the sale of products. The records related to financial aspects show that forest users decide to make expenses from community forest fund while organizing programmes for cleaning/pruning of the community forest. A review of financial records also shows that NCFUG has decided to use 40 percent of its fund in plantation and 60 percent in development works, which is a prudent decision.

It is found that there has been some misunderstanding in setting the account in main meetings. Some poor records are leading to these misunderstandings. As for example, Rs. 6432 was given instead of Rs. 6300 to *Tar Pale* as part of his salary. Later, Rs. 132 was deducted from their next month salary. Performances of NCFUG member was observed and realized to be somewhere strong and in cases weak in financial recording. Some examples of financial strictness are seen from the records, which demonstrated that *Tar Pale* will be punished if he violates the rules of restricting forest users from illegal cutting of trees. Likewise, a person who was not a member under NCFUG was found bringing timber from community forest. It was discussed in EC and it was decided to punish/fine him.

In the initial days, the EC suffered financial mishandling caused by previous Chairperson Mr Badri Vaidhya and Mr Bagh Bahadur Kunwar. It was also found that some incentive was provided to executives in order to curtail the cases. Financial records show that income of

NCFUG is 7-8 lakhs per year. So far, there are very few realistic records for the expenditure of 3.5 lakhs of their tenures.

iii. Information dissemination

All forest users are given information on financial and other aspects time to time by organizing mass meeting. However, all forest users do not participate in such mass meetings and subsequently are not informed. Therefore, all forest users do not get information on what EC decides. Many times, there is a system of oral information dissemination. One of the forest users from the category of 'not easily accessible to forest resources' remarked:

It has been always problematic for committee for proper information dissemination to its users. If the information dissemination is through formal means i.e. in written form, majority of the users are unable to read. If the information is chanelized through oral communication then users raised the issue of validity of those information. I think, the committee should use the in-between approach to satisfy the users for information dissemination. It is because issue of transparency is often raised by the forest users due to improper means of communication.

iv. System of communication

Notices are pasted in public places and office and *Tar Pale* is sent to forest user's house to inform on some of the important notices. The task of information dissemination is on the basis of correspondence through letters, display notices and person-to-person communication by *Tar Pale*.

There is simple communication system within the NCFUG. Forest users are notified one week in advance with main agenda along with time, venue and date for GA. If there is an important/crucial issue to be discussed and decided, then all forest users are notified in other meetings too. Sometimes, they also invite representatives of different political parties if the issues are more crucial.

All forest products are being sold out based on competitive bidding process. The committee also uses the national level newspaper for the publication of notice for selling the forest resources to notify all. An auction committee is formed to systematise the process.

v. Planning/ public auditing

External auditor audits accounts. Forest users get information on income and expenditure only on main meetings, generally in GA. When decisions are to be made on important issues, EC members in meetings invite other social leaders including those who can listen, understand, share, suggest and inspire others.

Operational plan for community forest management is prepared by calling meeting of EC, identifying needs, getting feedback from intellectuals, informing other forest users, etc. Annual auditing is mandatory to renew NCFUG. No serious audits were done by previous executives, so it was very difficult for present executives to settle the previous financial matters. Therefore, now, the forest users are raising the issues of public auditing to maintain the financial transparency.

As there is poor social assimilation among Danuwars and hill migrants, they blame each other about the mishandling of fund and power. Even ex-EC member also charge the committee about the poor financial transparency. In this regard, one of the women forest users from the category of 'easily accessible to forest resources' expressed:

We have very less idea about income/expenditure status of the committee. We heard that many users charged the committee about mishandling the funds. But, I am not sure. However, my guess is it is primarily due to literate-people focused information dissemination system. Whatever the reasons are, the committee should aware us in the main issues/agendas periodically through mass meeting. If the committee can organize public hearing and share audit reports, then, such complains would be resolved.

B. Decisions and realization of decisions

Key forest users attend most of the meetings. Only a few forest users know about NCFUG constitution and the provisions spelled out in operational plan. Meetings are organized as per the needs to decide on the special issues such as settlement of income and expenditure, provision of planning for forest protection, thinning, cleaning, resource collection from NGOs/INGOs, sale of forest products, making of contracts, formation of sub-committees, and fine and penalty provisions.

NCFUG plays greater role in decision-making process but many of the meetings end without decisions. In that case, only few influential members make the decisions and they send the minute to be signed by other executives.

In most of the decision making process, women's participation is not duly acknowledged. They are not consulted for setting fine and penalty, making plantation plan in different forest blocks and resource harvesting and controlling free grazing. However, all the forest users are involved in thinning, pruning and cleaning activities.

Section remarks:

It is found that there is system of accounting and public auditing is required but not done annually. Strength is that item wise income, expenditure is presented, and there is system of public review, oral and written information sharing mechanism on meetings. As identified and explained by Gilmour and Fisher (1991) in their theory of 'community forestry as a social

process', effective community forest management involves processes of information exchange and this is required to reflect that a community forestry is following the governance framework in its conservation and utilization actions.

In NCFUG, operational plan is prepared considering priority. In the significant issues that require community leaders' support and suggestions, there is a mechanism of local initiatives to settle likely disputes and as Gilmour and Fisher (1991) identify, this is an important indicator for a functioning CBI. Based on transparency, good aspects include the facts that most forest users have access to information on income and expenditure of community forest and there are clear accounting books to maintain financial transparency.

6.2.2 Accountability

A. Responsibility/ownership

i. Responsibilities of NCFUG and forest users

NCFUG is responsible for different functions as per its constitution. It is found that majority of the NCFUG members are aware on their responsibilities and roles. Few realize that their role is to protect forest by setting good examples. However, some members are not oriented on their roles and therefore have limited understanding. This has reduced the accountability responsibility of those who ought to be.

Executive members of NCFUG are accountable towards the forest users but the role of Chairperson and Secretary seem to have concentrated accountability as all forest users complain with them.

The main responsibilities of EC includes: organise meeting, collect, share and mobilise resources, communicate and disseminate the information, mobilise forest users for forest conservation and management, participate in conflict resolution, hold GA and election and coordinate with relevant line agencies at local, district and national level. Similarly, Forest Management Committee is formed to pay deep attention to control any irregularities under the forest management task. In several instances, the EC seems to be more powerful than the NCFUG. There are other committees to whom separate responsibilities associated with community forest and products of community forest are given. As for example, a committee is formed for rural electrification. Likewise, firewood management committee is formed and is active in the distribution of firewood as per the need of the individual forest user.

The forest conservation and management activities are monitored by the forest users along with *Tar Pale*. Monitoring is also being made in three clusters viz. Bayerbani, Baltiya and Ratanpur. It shows that forest users are not fully dependent on the *Tar Pale*. Under the active participation of the forest users, the task of forest management is carried out in block 3 and 4.

ii. Realization of roles and ownership

In terms of realization of roles and responsibilities, the EC and forest users of NCFUG cannot be considered as those fully aware. There is limited information on meetings and decision made to forest users. Around 50 percent of NCFUG members have realized the need of being accountable. In fact, NCFUG is more accountable as it has the right to act. Its members have understood their roles and have been providing needed suggestions for the forest management. However, some users seem to speak differently. One of the women forest users from the category of 'accessible to forest resources' remarked:

In many cases, unclear information is channeled just a while before meeting. The worth of such information has no meanings. Such information is disseminated for the sake of dissemination not for notifying us. They have no realization of roles to disseminate the proper information at proper time. In my knowledge, in the EC, around 50 percent members are inactive and not aware about their roles. They are in thirst of position but they are not accountable to us.

Despite the efforts of the members of NCFUG for forest conservation as part of their roles and responsibilities, there are certain criticisms from general forest users. In order to protect community forest and improve its condition, NCFUG members are involved in various activities. In doing so, it is blamed that members are keen on getting additional benefits through mishandling the funds. Forest users sometimes blame EC members as being good at work not in action.

The good side is however, EC members are working hard for forest conservation. Members in a group of 10-15 move to guard the community forest. There is a rotation for regular monitoring in community forest. Initially Chairperson and Secretary are involved in community forest monitoring and then other members also accompany for this task.

There are several evidences, which demonstrate that forest users have realised their roles and responsibilities for conserving and managing forest resources. For instance, during local election of 1999, some village leaders tried to export the wood in order to raise the fund for election and make voters happy. Once they felt that the EC also supported the village leaders, those illegal groups (forest encroacher/exporter) were arrested by the forest users and handed over to police station and Range post in order to penalise them properly. Unfortunately, no action was taken against them due to the pressure of political parties.

In the other hand, frequent withdrawal from *Tar Pale* position based on performance revealed that forest users are not happy with their work. Some *Tar Pales* have also worked with illegal timber exporter for personal benefit. Hill migrants blame that mostly Danuwars work as *Tar Pale*. In their words, the hill migrants assume *Tar Pale* to be a risky job and Danuwar do not cooperate the *Tar Pale* from hill migrants communities.

B. Delegation of authority/service

As regard to delegation of authority, it is found that Chairperson has not adequately practiced delegating his duties to Vice-chairperson. When Chairperson goes out, no meeting is called. However, the norm is to delegate authority to Vice-chairperson when Chairperson needs to go out for a longer period. It has not been in practice as all blames are to be settled by Chairperson. However, in some cases, there is practice of verbal delegation of authority. But, that authority is only to regularize the work like continuation of a meeting but not for serious decision-making like sale of timber.

iii. Reflection of needs, concerns and mutual trust

There is a good relationship among NCFUG members until now. No any specific discrimination is found to exist. When all NCFUG members get equal benefits over forest resources, there is good relationship between them. However, when one member gets more than other, their relationship degrades and sometimes there is mutual disrespect and misunderstanding among the Terain, Hill migrants and Danuwar. Because of mistrust, the members and EC have not been able to reflect the needs and concerns of all the forest users. However, there is special provision and practice of considering the issues of the poor forest users. For this, the poor are given land in community forest for carrying out income generation activities for a temporary period ensuring that they safeguard the forest resources as they use the land.

Though needs and concerns are duly reflected, there is still some problem of blaming each other. Hill migrant's blame that Danuwar are arrogant, not usually convinced and cooperate little for common consensus. They also opine that the behaviour of Danuwar is rude, always trying to show very unusual behaviour threatening the people, and mostly not agreeing for a specific decision. Danuwar also blame that hill migrants are educated and possess power and therefore it is difficult to keep them in track. In their opinion, it is the hill migrants who get involved in the illegal timber extraction. In this regard, one of the Danuwar forest users from the category of 'easily accessible to forest resources' opined:

Our forest group is struggling with unseen disputes between the hill migrants and us about the use and protection of the forest resources. There is a tendency of challenging the leadership by each other's. In such a situation, it is hard to maintain the harmony among the forest users. I think we should make a culture of respecting each other's leadership and values. If we are not united, other people will enjoy with our forest resources.

It was shared that when Mr Chandra Bahadur Poudel was the Chairperson of the NCFUG, Danuwar tried to influence the leadership and motivated Mr Bagh Bahadur Kunwar (ex-chairperson) to overthrow Mr Poudel, but their planning was not successful as majority of the forest users opposed this proposal.

This kind of blame and dispute is one of the reasons, which hinders the realization of the objectives of the institution. Gilmour and Fisher (1991) observe that these sorts of disputes need to be resolved through local initiatives because well-governed forest management requires enough time to allow users to discuss issues and to negotiate cropping confusions. However, despite the fact that local issues need to be resolved locally, there are instances when users have taken support of VDC, Range Post and even police stations to punish the defaulters and illegal timber suppliers. This comes to be a generalized inference because having all mechanism to resolve locally provides opportunities for crossing over of many rules and norms thus resulting a state of poor enforcement.

Section remarks:

There are both good aspects as well as areas for improvement as regards to accountability in NCFUG. Accountability is reflected through joint agreement on decisions for forest user's rotation for monitoring, plantation in open space and restriction of grazing. Yet there is a need to include the aspirations of all NCFUG members so that each member will be active. There is also a need that Chairperson inspires forest users through regular meetings, and that forest users are given clear information on meetings, ensuring all to be accountable and responsible.

6.2.3 Rule of Law

A. The Awareness on constitution, OP, and rules and regulations

The constitution and operational plan of NCFUG were prepared in 1995 (amended in 2002) as HMGN's (now GoN) policy was to handover forest to community to protect and manage it under the supervision of DFO. These documents were prepared by forest technicians, members of local intellectual groups and forest users to manage forest effectively, to ensure solution to forest users problem, to make ease in the use of the forest resources and to escape pleasing Forest Rangers and providing them unnecessary benefits. In the beginning, according to hill migrants, Danuwar made an effort to establish the community forest. But, massive deforestation occurred with an objective of leasing the forest. The money received for deforestation was collectively shared by Forest Ranger and Danuwar leader. Later, it was informed that forest would not be leased but it will be a community forest.

The NCFUG's EC has 13 members, out of which 3 are women. Four advisors are provisioned in its constitution. Constitution provides guidelines on roles and responsibilities of EC members as well as forest users. However, there is a provision to collect dead and decayed tree parts on every Saturday with small tools. Big tools are also taken occasionally by a few influential forest users.

Importantly, constitution and operational plan were realized for the protection and optimum utilization of forest. Constitution and operational plan were developed to formalize

NCFUG as an institution and to run it institutionally. Additional benefits included that the forest users had control over forest and they had rights in safeguarding forest resources. Rules were developed and forest users were able to get fuel wood, fodder and timber.

Many meetings were organized but the process was not adequately transparent since all EC members of NCFUG were new with little experiences. Rules were developed in an ad-hoc basis. Many forest users took part in meetings and gatherings in the process. However, it was not informed that women should participate in such meetings. Therefore, women representation in preparing these documents was not substantial. Many women were unaware about what is actually going on in the community forest. Now too, they have limited ideas about NCFUG's operational plan, programs, activities, rules and regulations.

There are several norms established for community forest management. These includes: forest monitoring by forest users in rotation system, *Tar Pale* to receive salaries from community forest internal resources, fine and punishment to those who illegally get involved in cutting the forest and poaching and restrictions to enter within the forest boundaries unless notified. But the level of enforcement is very poor. One of the forest users from the category of 'not easily accessible to forest resources' remarked:

In fact, rules and norms were prepared by us (forest users) expecting all the users to benefit. Despite of all agreed on these rules and regulation, the cases of violation are still common. It means the enforcement of rules and norms is poor. Some forest users are continuously charging *Tar Pale* for their poor performance but this is wrong. If forest users violate rules, we cannot safeguard the forest resources.

In addition to above, there are other norms and rules seen in the community. New rules are decided by the meeting of NCFUG unanimously. Some of inherent rules included provision of timber to the houses destructed by the fire, to the house organizing ceremonies like marriages, death rituals and religious functions and provision of litters and trees trunk for O&M of the *paini*.

Approval of new constitution and operational plan of NCFUG was delayed in 2005 due to lengthy legal process of DFO. It was very difficult to get written approval from Forest Ranger Office as Ranger is not happy with the committee regarding receiving unofficial benefits. In zest, this has impacted on the awareness on the latest operation plan and amended constitution.

B. Fine, reward and penalty system

There is a provision that NCFUG sit in meeting to discuss about cutting trees without permission of EC and it can decide on penalties and fines immediately.

There is a mechanism to reward people who help to catch forest encroachers. If the penalty is less than 500, then 50 percent of this amount would be provided to forest users who catch the culprit. This provision is established as a norm for the purpose of encouragement to forest users towards the forest protection. Reward is given to those who get engaged in identifying the culprit with proof and to those who do good works in community forest protection and management. For instance, Mr Shankar Katuwal and Mr Datiraj Giri were rewarded with Rs. 500 each as they caught the person involved in felling of the Sal tree. It is a good initiative to use income made from penalty to reward the users for the sake of encouraging them. NCFUG has rewarded *Tar Pale* Mr Nandi Vaidya with Rs. 500 for his careful work.

There are many cases of penalty. For instance, one meeting was organized to discuss the issue where DFO sent NCFUG a letter stating that Mr Suryanath Vaidya, the former NCFUG Chairperson, has cut down the trees inside the forest. After detailed investigation by forest users, the team decided that Mr Vaidya was ignorant in that case. So he was not punished. Likewise, those who misbehave are called to meeting by NCFUG. When Mr Baija Nath was complained by *Tar Pale* about the fact, he was called to the meeting to know details about the case. Mr Satta Bahadur Gurung was punished with Rs 51 for cutting down a 'hallude tree' and this amount was accounted on income ledger of NCFUG. It was found that Mr Bechan Yadav had cut down trees of khayer inside the forest in his own jurisdiction. So, one of the meetings agreed that the case was correct. So wood was captured and he was punished by penalising Rs 251. There are other similar cases of punishment. Mr Kamal Paswan was arrested red hand while cutting down two dead trees of Sisau. So it was decided to fine him Rs. 60 for the trees and Rs. 151 as punishment. This amount was accounted in the income ledger of the NCFUG. Likewise, buffaloes owned by Mr Padam Bahadur Katuwal damaged saplings inside the forest nursery. It was Katuwal's first mistake and he was punished with Rs. 50. It was informed to Mr. Katuwal that if again the buffalo will be caught within nursery, then he will be fined Rs. 1000. Similar case came from Mr Sabulal who was fined Rs. 51 for illegal timber collection, Mr Tul Bahadur Shrestha who was fined Rs. 100 for violating the community forest rule and Mr Dandapani Pahadi who was fined Rs. 1500 for cutting sal trees. Those who have been punished have been forced to commit that mistakes shall not be repeated. For examples, as Mr Chhabilal Kattel was found cutting trees in community forest, he was fined Rs 51 being his first mistake and he was asked to commit and ensure that he will not repeat such a mistake again. In some cases, there are pre-determined fines. Fine for Rs. 10-151 were levied to those who cut bamboo grass in community forest.

C. Rules and regulation and their awareness

Interestingly, the rules change as executive committee is changed. Existing NCFUG members meet and decide to dissolve existing committee and call GA of all members to form a new EC body. The newly formed EC sees things differently and makes different rules.

Rules have been made by meetings deciding that member of NCFUG could cut down the dead and decayed parts of trees according to a schedule. The roots of dead trees are collected and distributed to NCFUG members after getting approval of DFO. There is a provision that if some forest users need wood to make home, they should apply to NCFUG. Based on their genuine demands, NCFUG provides timber in required amount. It does not allow any vehicles inside community forest to collect woods or other forest products.

There are some rules to control forest fire. It is controlled by informing initially to all users and through awareness campaigns on means and ways of controlling the fire. There is a rule that no one is allowed to smoke inside the forest. There are some other rules developed and agreed by forest users in managing the forest properly. Every Sunday, Tuesday and Friday, users are allowed to harvest grass and every Saturday, forest users can access to forest for firewood collection.

The rules prepared by the NCFUG in relation to the membership award is the submission of migration certificate to that place. Only then, he or she can apply for getting timber for construction of houses. The NCFUG has agreed to organize *Sombare Brata*¹¹⁴ fair in Uttabahini, Kamala mai Siddighat, as a social norm established by forest users. Other agreed rules include providing 30 cubic feet timber as part of incentive/allowances to the staff of Bandipur Range Post and providing an allowance of Rs. 125 per day for the Forest Ranger.

¹¹⁴ A kind of religious promise.

D. Enforcement

In NCFUG, implementation of all rules is not happening. Instead, many norms have been violated. The inability to enforce rules and norms effectively is because of several reasons. The armed conflict situation made fair monitoring difficult and as a result, people have tendency to bypass the norms and rules. They are not in control and the role of *Tar Pale* is not effective as they are reported to be influenced by timber exporters. There were clashes between armed timber smugglers from India and Maoist forces over control of the illegal timber trade in the area.

There is a constant fear that strong action against these who violate the rules will result other social problems. Hill migrants blame that Danuwars are involved in deforestation and it was reported that if EC punishes Danuwar, there are immediate cases of theft in the houses.

It is because of the poor enforcement of the rules that the forest users are not getting equitable benefits. Forest users do not get informed on community forest matters and NCFUG's decision. There are some unclear records about forest income. Sometimes when the EC of NCFUG is about to change, there is loan levied to the forest users. Forest users also opine that they do not follow constitution and operation plan. They get involved in illegal collection of forest products. Some view that well-off and influential forest users get benefited as they do not fear with rules. Despite issues of equity, users blame that during harvest and collection of forest product, poor forest users are forced to be involved in the process but they do not get fair share. One of the forest users from the category of 'not easily accessible to forest resources' remarked:

When we raised our voice about the unequal benefits, no one listened us. It is true that all forest users are benefited in a way or the other but those who are powerful, influential and near from the forest area are more benefited from the forest resources. They can easily ignore the rules to get more benefits.

The analysis of violation of rules and existing enforcement provisions plus the practices in NCFUG indicates that enforcement is a function of effective rules. To add on this, the presence of these rules determines the growth of community forestry as an institution. Therefore, the research finds that to ensure proper enforcement, institutional building and with this consensus building are required. Gilmour and Fisher (1991) also indicate institutional building and consensus building among the forest users as critical elements to ensure governance. However, there are cases of backbiting and responding later once consensus is reached in the NCFUG. The research therefore has found that issues that are not agreeable need to be raised by users at the right time to have sincere impacts and to

seek intended changes. In this ground, Gilmour and Fisher (1991) proposition of consensus building needs to be revived.

D. Provisions of election and membership

The election to the executive committee is organized through a mass meeting. All forest users gather in the process, discuss and select EC members. All forest users have equal say principally but disadvantaged sections get involved less in the process. They are unable to participate fully and meaningfully because of their need to work out to earn a living, and their poor awareness to be the part of election process. However, NCFUG has remained an institution where there is a lot of politics. The community forestry is considered one of the best sources of income and NCFUG is involved to implement various community development activities. Therefore, in order to get the credit, the politics arise in several instances.

Mass meeting is organized during election of a new committee. All users gather, raise issues and discuss on them. When there is a majority in an issue, decision is made. However, in this sort of election process, mostly influential people get elected/selected in committee. However, sometimes new and fresh energetic faces appear to take the lead. When selection is on, majority member of NCFUG tempt to overlook forest protection responsibilities. When inexperienced people reach to the EC, there is likelihood of not abiding by rules and thus resulting poor measures to tackle deforestation.

Section remarks:

There are accepted norms and rules for increasing the members in NCFUG. If some households are left to be included, they are added as members as per constitution. There is a provision of removing members from NCFUG if some members do not abide by constitution, rules and norms. However, until now, this system has not been practiced because of practical difficulties and a decade long armed conflict. New membership is given after levying the membership fee. The forest is well protected and open spaces are planted with tree saplings. There is provision of fine, reward and penalty systems to maintain law and order. All these rules demonstrate the NCFUG's initiatives to establish rule of law among the forest users. Equally, there are other areas for improvements. It is recommended by forest users that the forest should be open in the particular days to harvest firewood so that every forest user can make plan to collect firewood.

6.2.4 Equity

A. Resource mobilization/distribution

i. Cash mobilization

At NCFUG, there are both internal and external resources. Internal resources include the forest resources and other monetary resources that are raised within the forest users. Khayar, Sisoo, fallen trees, Simal tree's fir, etc are the resources for NCFUG. Fine and penalty are other resources for cash.

There are also external resources such as cash generated from the seedling support to DFO/DSCO and technical support to ChFDP. The EC members are more responsible for resources generation because they are able to reach to all places. In the year 2005, Rs. 7 lakh is collected and it is used for electricity purpose.

The forest is rich with various types of tree such as Sal, Karam, Bajh, Khayer, Sisau, Bambo, Tikki and Simal. For the income generation purpose, NTFP, bamboo plantation, *Kachhu* and ginger are grown within the forest.

ii. Labour mobilization

By rules, there is equal right for access to forest resources and therefore all are required to provide equal labour contribution in the forest conservation activities. These seem to be in practice as one each from each household is involved in forest guarding in the rotational basis. Those who do not go need to pay equivalent wage. However, the disabled are exempted from the forest monitoring.

Influential people have more support and they are indicated as present by NCFUG even when they are absent in labour requiring tasks as their support is needed in other functions as well. Despite problems, forest users are satisfied expecting there will be electricity in the village.

The NCFUG is involved in thinning, pruning, and singling of trees to support for the fast growth of the trees together with all the forest users. Until now, no intensive forest conservation activities have taken place as per the operational plan. As the total area and number of households are comparatively larger, it is difficult to mobilise forest users in the forest conservation activities.

iii. Resource collection and sharing

NCFUG is collecting the resources from different sources and as a result, it is mobilizing the resources or sharing the benefits to forest users through different methods. It was found that DDC has provided Rs. 1,40,000 and VDC has provided Rs. 70,000 to NCFUG to support in forest protection activities.

The collected resources are used for different community development activities and the resources are distributed based on agreement in meetings. In Uttarahini, two temples are constructed. Other construction includes two culverts and installation of hume pipe in *mul paini*. Rs. 50,000 has been used for river training works in Kamala River bank. Similarly, Rs. 2,00,000 is given to construct school building in Baltiya. Rupees 7,50,000 has been used in electricity to ensure community benefits and fodder, fuel wood and timber are sold to local contractors to generate extra income. Rs 5000 has been supported to treat snakebite. Some of the resources are used for gravelling of 3 km road. Forest users are given timber for house construction and maintenance. NCFUG has also provided relief materials to those who suffered from house fire. These provisions have motivated all forest users to participate in the forest conservation activities.

Other organizations provide support to NCFUG. For example, Churia Community Forestry Program has supported in plotting, sapling, training and tour. Before 1994, the whole area was used for open grazing and hence there was high level of encroachment. The valuable woods/timber were exported illegally. In 1999, under the program of forest management, fallen woods were extracted and sold. The fund generated from the sale was shared- 40 percent and 60 percent to DFO and NCFUG respectively. NCFUG got Rs. 350,000 from this sale. The amount was used for various community development activities such as repairing *Dharmasala*¹¹⁵ (holy place) at Uttarahini and other community development work as discussed earlier. The money was also used to contribute 40 percent cost to Japan International Cooperation Agency supported primary school building construction as part of community contribution. Rs. 1,00,000 was gained in NCFUG's fund from GTZ's Food for Work programme . However, there were few remarks on both pros and cons of resources used by NCFUG. One of the forest users from the category of 'not easily accessible to forest resources' remarked:

It is true that not all forest users are equally benefited from the forest resources. I am poor and mostly the poor are less benefited from the these resources as we have less/no livestock. But we are happy that we also get

¹¹⁵ Pilgrim's resting place.

some social services from the community development work including the firewood. I think, these services are equally important like forest resources.

NCFUG has also provided Rs. 500 as a monthly salary to *Tar Pale*. In some cases, travel and daily allowance was provided as incentive to those who were involved to put off fire in 2000. Now, *Tar Pale* gets Rs. 1000 per month as salary. During Mr Badri Baidya's tenure, income of the committee reached up to 7,00,000. Salary was also provided to each EC member as part of his or her contribution in forest protection. Now, the financial resources are scare. As part of resource sharing, low-grade woods are being distributed to users along with firewood and high-grade woods are sold out with open and competitive bidding process. Those who need more forest resources use resources from government forest. It is estimated that about 25 percent users of NCFUG also depend upon the government forest of Dhanusha and Sindhuli. Mostly poor and landless take wood, firewood, and sale in Bandipur, a local market, to run their livelihood.

Some forest users opined that most conflicts arise because of income/expenditure matters. However, this is not always true. There are others matters in which users have debated a lot. There are also conflicts on how to best use the committee's income. As for example, majority of users opined that they are in the need of electricity but some are totally against it.

Some conflicts are emerged in issues to provide wood for users. It is very difficult to finalize what types of and how much quantity of wood should be provided to each users. So far, there are no critical conflicts but during and after selling of woods, it is likely to happen. Further, there is difference in perception among the users for the consumption of materials generated by forest whether to consume by themselves or to sell it for income generation. To resolve the conflicts, community has local practices but social norms and mutual benefits have been found significant aspects by this research for forest related conflict resolution. Similar findings also come from Ostrom (1990) who views that coordinated actions based on trust, reciprocity and credible commitment to the rules crafted and agreed by the users can resolve the conflicts and tensions in forest management.

C. Access and control over forest resources

There is a mix opinion of what users say regarding access to and control over the forest resources. Some users opined that deprived sections are not able to benefit from resources distribution because of weak voice and inability to pay the fees as provisioned. But the records reveal that the charge for cubic feet of wood is just Rs. 10 for these users and it is visible that the deprived section are getting fuel wood for cooking. There is also provision of free supply of timber to those families affected by natural hazards like flood and fire. NCFUG has the practice of providing the loan to the users at low interest rate especially to those who like to go abroad. It is found that the poor users are given two-*kattha* land in

community forestry to carry out income generating activities such as *kurilo*, coffee and ginger cultivation. Yet, the problem in equitable distribution seem to exist because all do not participate in meeting, influential users imply them rules, there is tendency to not abide by the rules, there is no proper accounting of distribution of resources and there is inability to identify the real needs.

Many of the influential users force weaker and poor ones to only sign on minutes, but without giving benefits to them. As power to decide on utilization and management of forest resources lie with influential NCFUG members, in order to earn livelihood, there are poor people who get involved in illegal felling of trees. Poor users say that they cannot pay for electricity. So they do not agree on use of resources for electricity. Some extreme groups of people believe that there is no right for poor forest users to raise their voices.

Section remarks:

In order to ensure equity in NCFUG, special training and awareness programs need to be conducted for poor users. They need to be taken to exposure tour to learn how poor are generating resources from community forest elsewhere. They also need to be compulsorily participated in NCFUG.

There are both good and poor aspects regarding equity in NCFUG. Good aspects include provision of equitable participation in forest conservation and social activities, provision of transparency but there are also areas for improvement. Those who are absent in the general assembly and other meetings need to be involved in sub-committees and be provided with some responsibilities. Those who consider themselves as being pushed back need to be identified and given special responsibilities of resource distribution. There is a need to ensure a mechanism of listening to the voice and issues raised by poor users. Their needs need to be addressed and all should be ensured to develop a feeling of ownership of community forest considering it as a social process. In this aspect, Gilmour and Fisher (1991) go on to define community forestry as forestry which is locally controlled and which allows the benefits to be distributed locally. Dalits, ethnic group, women are represented in EC member and there is arrangement of periodic review and reflection events to bring into discussion and for realizing everybody's rules and responsibilities. In this issue, Bhatta, (2002); Chhetri et al., (2001); Tiwari, (2002); and Warner, (2001) observe that there are mostly disproportionate benefits and this research only partly accept this findings as it is evidenced that there are few cases of such discrimination in NCFUG. These will collectively contribute in resource mobilization, collection and equitable access, control and sharing.

6.2.5 Participation

A. Decision making Process

i. Regular participation in meetings for group decisions

In NCFUG, meetings are organized as per the needs such as for discussing on special issues and for selling fuel wood or timber. Community structures reveal that in such meetings, influential user's voices are loud. They have special interest in such meetings to get information on what is going on in the forest and to ensure they have their say in all decision making process that benefits them.

There are different meetings where other users are also involved. Users attend meetings where these meetings get involved in settlement of income and expenditure, provision of planning for forest protection and conservation, resource collection from NGO/INGO, sale of forest products, making of contracts, preparation of committees and sub-committees, registration of motion of no confidence, fine and penalty discussions, etc.

NCFUG plays a greater role in decision-making process because influential users are in the committee, and poorer sections do not actively participate in the process because of their economic difficulties, inadequate awareness and inability to clearly raise their voices and concerns. Many of the meetings are ended without decisions. In that case, only a few people make the decisions and they send the minute to sign it to all the users at their doors.

The participants for capacity building activities are selected based on their abilities to learn, come and share the learning to users. However, it is found that in some cases NCFUG has discriminated while selecting the participants. It selects whom it likes to participate in tours and trainings. One of the forest users from the category of 'not easily accessible to forest resources' remarked:

Though the committee is fair in majority of the cases while nominating for the training and study tours but in some cases, some nearer and dearer get opportunity more than 10 times while other like me do not have even a single chance. This is particularly because we do not get information on who is selected and where he /she visits.

It is generally found that poor users also participate in forest planning, thinning and cleaning programs and as they are paid, they do not hesitate to work. Influential users participate in meeting to discuss and decide in financial issues, networking works, etc.

In the opinion of some users, meetings are not regularized. Only when important issues are to be discussed, meetings are organized. The reasons for the poor participation in the meetings are poverty that has made everybody busy at their work for living, poor awareness on the benefits of participation and ignorance because of other priorities.

ii. Leadership review and changes

Users opine a mixture of ideas in leadership review and subsequent changes. EC members change quickly because of poor planning to benefit all. Usually, influential users want to be in EC. It is therefore observed that all want to be leaders one by one. It is found that some

influential users have tried to be in EC because of the large internal resources over which there may be access to. Some poor users blame that they are forced to resign from EC position and their opinions are not respected at all.

Leadership remains to be following an inclusive approach. In other words, the NCFUG is formed with the principles of social inclusion. There are six people of Brahmin and Chhetri. Five members are from dalit community. Five members represent poor farmers but EC is mostly led by middle well-being category of users.

iii. Women representation/membership

Men are more involved than women as they think they get additional benefits by participating in decision-making. Men tease women who participate in meetings because despite the new initiatives to include women, men doubt on their abilities. Women share that they do not try to take advantage for individual benefit but it is the men engaged in deciding in their favour. Because some users have observed women's contribution, they advocate for their participation. In such case, users believe that if women voices are not heard, then half of the full voices are unheard. These beliefs correspond to what Gilmour and Fisher (1991) find. The researchers indicate the need to acknowledge the important role of women in the key activity of community forestry-forest management for local community benefits and to ensure that their interests are considered and their voices are heard. One of the forest users from the category of 'not easily accessible to forest resources' remarked:

Yes, we are invited for the sake of increase the numbers in the meeting. As we are notified quite lately, we unable to reach on time in the meeting. Once we reached at late, we could not visualize the context of the meeting. Neither we were shared about the key point discussed and decided nor we dared to put our concerns in the meeting. This is the story of majority of the meetings. I think this is a wastage of time ...

B. Participation in Forest Conservation

Users are involved in forest conservation activities like thinning, pruning, cleaning, etc. as decided by NCFUG. It is shared that hill migrants cut Khayer and Sal to construct houses and NCFUG is unable to punish them because these people are powerful. In addition, it is blamed that Danuwars are most violators the rules. Yet, locals inform that both hill migrants and Danuwars who are powerful get more benefited from the forest resources. It is the reason that it de-motivates poor households and particularly women to participate actively in forest conservation activities. Therefore, these dynamics are relative and the ultimate solution is to engage all possible including the women is essential for forest protection, conservation and management. Gilmour and Fisher (1991) argue that an approach to community forestry that puts community at the centre (rather than forests) must be based on an understanding of the dynamic nature of social processes and the complexity of social structures and institutions. They speak of continuous consultation for developing management plans and

their implementation in a participatory way. The researchers also identify that in order to achieve well-governed forest institution, there is a need to ensure legitimate interest of disadvantaged groups with active attempts to empower these groups to enhance their effective role in forest management decision making.

Section remarks:

Users have certainly benefited from community forest but there are still some ethnic disputes regarding the use of forest products and their participation in meetings, the obvious reasons related social structures and process. From the perspectives of participation, there are both good aspects and areas for further improvement. Good aspects include meaningful participation for good works such as plantation of trees, distribution of fuel wood and timber, control of forest fire, etc. However, a mechanism needs to be developed to ensure all users meaningful presence and participation in forest protection and conservation, in meeting and decision making process.

6.2.6 Predictability

A. Vision, mission, goal, and objectives

An analysis of the VMGOs of NCFUG indicates that users are aware on the importance of it. However, understanding of what each of these aspects needs to be further required. Accordingly, VMGOs of NCFUG are concentrated to ensure greenery for present and future generations, make fuel wood, fodder and timber locally available by sustainable harvesting and carry out community development works with the benefits from the forest.

B. Program Planning

There are different plans, ideas and directions that NCFUG want to execute, practice and move as regards the forest protection and management. From the income generated from the forest products, users plan to bring electricity in the villages. Apart from the forest conservation and silviculture activities, NCFUG has ideas to support development works as in the past. Previously, it has supported in school building construction and road gravelling. The latest key planned activities includes: continue to contribute to access electricity facility, to improve the performance of irrigation and drinking water, to construct rural road (6 km length from Uttarahini to highway), to build culvert and bridge and to improve the health and sanitation of the village (toilet supports to poor users). NCFUG is improving coordination to achieve the targeted plans. One of the forest users from the category of 'not easily accessible to forest resources' remarked:

One of the key successes of the NCFUG is generating the external resources for forest management as well as community development initiatives. The forest management activities could not be successful in

isolation without fulfilling the concerns of locals, like us. The involvement of NCFUG in improving the social services is highly admirable by locals hence their attitude towards the forest activities is positive.

The research has found that investment on useful infrastructure helps the users in multiple ways: increasing income, promoting leadership and education. However, Bhatta (2002) and Ghimire (2000) observe that CFs invest in non-productive sectors. Therefore, this research rejects their finding as NCFUG has been investing on roads (supports marketing), electricity (supports entrepreneurship), schools (leads to light) and drinking water (reduces expenses for health). Because of social investment for productive future of users, users have increased their ownership over NCFUG.

C. Linkage and coordination

There is coordination with district and VDC agencies for community forest and development activities in areas of catchments pond, income-generating activities including *Kurilo* farming and other development purpose. Because of coordination with VDC, Rs. 12,000 was received for check dam while Rs. 50,000 for electricity purpose. Coordination with DDC was beneficial for obtaining Rs. 90,000 for graveling the village road and Rs. 50,000 for electricity. Likewise, while DFO has provided seedling support, employment generation skills with awareness activities are being conducted with support from Federation of Community Forestry User Group of Nepal (FECOFUN) District Chapter.

Community forest has undertaken support activities as part of enhancing the coordination. It has provided the timber of 8 Sisau trees for Security Base Camp, Bandipur. Timber was also supported for the construction of building of Nepal Ex-Military Association and Self-help Development Income Generation Group. On the other hand, it has sought the assistance of local Clubs for the construction of NCFUG office building. Thus, it is found that NCFUG has managed to adapt to needs with other's support and to support others to adapt utilizing its strengths. The findings resemble to that of Gilmour and Fisher (1991) who clearly observe the need of setting local arrangements for a functioning community forest.

Section remarks:

The good aspects of NCFUG in terms of predictability includes presence of VMGOs, a good programme planning for the use of the local resources and to seek additional resources from external agencies and stakeholders and also the initiatives and results from coordination. Planning for future means sustainability of the benefits to derive from the forest, which they own. Yet, clear strategies for supporting the users in areas of livelihood improvement at household level need to be further explored.

CHAPTER VII

GOOD AND POOR GOVERNANCE IN CBIS: FORCES AND FACTORS

This chapter establishes the key essence of the research based on the analysis of the issues and concerns that have been explained in the above chapters. By analyzing the contextual outcomes, the chapter initially presents the identified forces and factors promoting good governance in the selected CBIs providing space for further use in similar other institutions to understand the similar context. This section in the chapter follows to forces and factors creating poor governance in CBIs.

In order to identify the forces and factors as explained in the succeeding chapters, initially, a through analysis of the six elements on both these CBIs was carried out. The analysis was done in various elements of transparency, accountability, rule of law, equity, participation and predictability, the elements/pillars considered by this research to influence the governance. Further, the breakdown of elements/pillars into secondary elements and further into the tertiary elements have contributed to better understand and analyze the factors and forces of governance. In addition, the secondary and tertiary elements developed in consensus with the community have provided opportunity to understand in depth the community dynamics and understanding in influencing governance.

The research has prepared the ground to compare the findings from Nepal to similar research findings from other scholars in CBIs particularly for WUA and CFUG. In this case, the research findings are compared to the theoretical framework taken reference for analysis.

7.1 Forces and Factors Determining Good Governance in CBIs

i. User empowerment: Force for quality records

The thorough analysis of the community dynamics and the system in practice revealed that the abilities of the users to seek the information and voice against any misdoing influenced the record keeping system of both the CBIs. The users of the NCFUG were found be more empowered exercising the rights to information related to community forest at any time. It is because increasing number of users has positive perceptions and beliefs on records, reducing the doubts and confusions, which could have emerged in absence of records. Therefore, the record keeping was maintained in minute books in NCFUG. Further, in KUWUA as well, the increasing demand of the users on the overall system has forced to improve the records with time functioned by the level of awareness and positive changes. The degree of system efficiency is further determined by empowerment initiatives taken. As for example, after the WUS, the record keeping system is found to be improved.

The explanation to these inferences is simple but the meaning these inferences make is wide. The presence of records within the CBIs means all users can reach the decisions on all aspects. Thus, this has maintained transparency in these CBIs. As for example, in KUWUA, people are aware on the implication of bad records. For instance, failure to produce records means position of the EC members is critical as people think of alternatives. This is the reason that KUWUA has begun to provide receipt for *bighatti* and *paipatti* to the users and make all activities transparent. With this, the EC members have become more responsible. This has contributed in promoting the good governance.

As stated above, the most important aspect seen in NCFUG is the clear minuting no matter the type of the decision, be it significant or nominal. The analysis of the minute book revealed the trends of decision, type, nature of decisions and verification. This also contained other information related to community forest. Accounts on income and expenditure are maintained in ledger book, and maintained separately. With people raising conscious ideas, any mistakes within the institutions could be recorded. As for example, the payment mistakenly given higher to the *Tar Pale* in NCFUG was later reconciled. It could be possible with users aware on the provisions for the *Tar Pale*.

The cases of these CBIs in Siraha therefore have clearly established that the quality of record keeping practices depends upon the level of empowerment, understanding and awareness of users. More the empowered users, CBIs become more transparent.

There are some users who opine that records have no significant roles and what matters is communication. The priority of these users is on social closure, collective action, collective conscience, and common sense knowledge to a formal system of recording. The view is motivated from the belief that if there is a system of recording, there will be tension created in the local level. However, interestingly, those of this sort of idea are influential people in the community who undermine the powerless and the innocent users. As few people are least empowered, observations reveal that they are even miss-communicated. Therefore, whenever the users exhibited ignorance and whenever there was underprivileged group, the tendency to miss-communicate from EC rather than putting things clearly in front of the users has tempted for poor records. Thus, the poor records are the results of widespread illiteracy, social inequality, marginalization, social discrimination, social miss-behaves, ignorance of the benefits of record keeping, and attitude of users not to question the powerful local political leaders who have the influence over the CBIs.

Despite the efforts to make a good and appropriate record keeping system, because of the inadequate knowledge and resources, poor social solidarity, social interaction and social consensus, the EC and the members were not able to bring the system in place in both CBIs. Therefore, many a times, the poor recording is also the outcome of the lack of technical and managerial skills to make proper documentation. Therefore, trainings on appropriate

documentation from the parental organization such as FECOFUN and NFIWUAN were considered necessary.

The resistance to change from the existing practices in fear of getting blames from users has also contributed to poor records in these CBIs. When there were initiatives to introduce new documentation system in NCFUG, there was resistance from some users without understanding the system as such. It is because there is ignorance at one hand and on the other the hidden interest behind poor recording for individual benefit. The problem can be resolved with the vibrant users and empowered with the significance of records. Hence, the research has come up with the inference that the power the users have plays a significant role in determining the quality of records, which form the basis of analysing governance.

ii. Education: A force that links transparency, rule of law and predictability

The literacy rate of 49 percent indicates that the research area is quite poor in terms of education. However, the situation at different times and in different places varies when talking about the members in EC of these CBIs. Sometimes, in the EC, there are well-educated members while sometimes, there are uneducated members. It was found that the CBI where the members were educated had improved transparency with rules and regulations in place including effective enforcement and future plans. For instance in NCFUG, during the chairpersonship of Mr. Chandra Bahadur Poudel, there were educated members in the EC. It was the time when NFGUG started to maintain records and availed for all users to see. The EC then also developed number of rules and maintained the plan of action for future. Likewise, in KUWUA, during the tenure of Mr. Ganesh Adhikari, EC members were more literate and thus there were initiatives for land inventory, preparation of Bylaws for the first time and extension of command area.

In both the CBIs, it is the Secretary and Treasurer mostly responsible to maintain the records: both administrative and financial. However, in KUWUA, education is not a priority in these positions. Therefore, the record keeping system during the time when there were no educated people in these positions was found weak. Further, in KUWUA, both Secretary and Treasurer are from Brahamin and Chhetri communities whereas Chhetri and Danuwar lead these positions in NCFUG. The hill migrants of KUWUA in these positions are found not giving priority to education. They are after leadership skills and power, rather than the education.

The trend and result analysis from the research of the EC structure and composition over the period of time has highlighted therefore that when educated force comes to play in the politics of CBIs, there is high importance laid on managing social and human capitals, knowledge and maintaining integration. From the sociological perspective, the factors are many. An educated person sees things at distant and takes actions just a step ahead with longer-term vision to win the society's trust. This person may reap the benefit of integrating

the society from changes in community. Uneducated person might have good knowledge but poor at management which ultimately effects social integration and in achieving the collective goal. In those CBIs where EC addresses common interest to individual interests, there is high participation, clear and transparent achievements, mutual trust, cooperation and positive attitude and beliefs and common rules binding all the users equally. So, record keeping was observed poor in KUWUA in comparison to NCFUG largely resulted by the educational level.

Therefore, this research found that the level of awareness resulted by the education of the members at decision making level contribute to transparency, rule of law and predictability.

iii. Culture of advance notice: Social asset

In both CBIs, it was found that there is a culture of advance notice/message if one is unable to present in the meeting or activity such as cleaning forest, attending *urdi* work, etc. It applied to both executives and the users. Otherwise, there was a practice of compulsory attendance in the meetings and other works. If one would not be able to attend, clear justification is sought by the EC to avoid penalty against him/her. This system encouraged people for compulsory presence in meetings, which used to be postponed earlier for several times. As a result, all were accountable to each other and rule of law is enforced. As for example, there was a practice of informing the users almost a week before the GA and users could prepare the questions for clarity with EC members to make them accountable in case of any wrongdoing and to develop any new rules. Advance notice has helped the CBIs to make predictions of likely changes as in the background of an event or a decision. It has left impressions that all are considered equal users thus maintaining the social energy and trust contributing to social solidarity. This has been a process for socialization and in bringing the balance resulting from group dynamics.

iv. Community friendly communication: Effective to formal means

Different CBIs have different communication practices among their users. NCFUG issues a notice for all users to attend the GA meeting. However, the notice is pasted in the public place when there is insufficient time. As a result, many of the users are not able to be informed. Subsequently, the quorum to the GA is not achieved which leads to postponement of GA. Therefore, communication in the forms of letters and pasting in public places such as teashop, public buildings and *Chautara*¹¹⁶ where the mobility of the people is high, is systematic approach but still unsuitable for illiterate population. This system is only targeted to literate users. Even the literate Danuwar women do not understand Nepali and so communicating in Nepali through letters would again be the problem. Further, as 51 percent users are illiterate, there is a question of effectiveness of written communication

¹¹⁶ A location which is normally used as a landmark and resting place for the passer-by, have the bar and papal plants

and display of notices in public place. In addition to this, as 37 percent households are Danuwars and mostly Danuwar women have problem of understanding Nepali language, it is again the question of functionality of written communication and displaying notices for information and communication purpose.

Given these limitations, oral communication in local dialect is considered effective for all to understand. In KUWUA, there is less formal communication and as a result, there is more interaction among the users. Users have an opportunity to put their issues and concerns even in front of those who bring the notices and this helps to note the issue as agenda for discussion in the meetings.

On the other hand, the communication with social procession (to draw the attention of the villagers) through musical drums is practiced by KUWUA and it is found quite effective. It symbolizes the duty and responsibilities of the villagers to participate in the communal activities with great interest.

The recent mechanized communication practice is found to have promoting exclusion to traditional groups who used to depend on communicating through their special instruments. This also was shared in the community to have reduced the social interactions among various groups. As a result, the scale of information reaching to all users has declined. Users share that if traditional methods of communication are used, all would be present in the meetings and discussions and each of them would share their ideas. Experiences have shown that communication embedded with the traditional norms will be more effective as this fosters social movement for integration of varying interest groups into a common purpose. Following social norms also means providing space for socialization and social solidarity because the practice develops neighbourhood and brotherhood among all types of people.

In analyzing the significance of the community friendly communication, there is also a need to analyze social practices that are linked to communication and the result these practices leave. In KUWUA, display of notices for communication is found limited but sometimes there is a practice that Chairperson communicates to SIs through letter. It is revealed that Chairperson disseminates messages to the users in *sakha* after holding meetings with the SIs. SIs are given responsibility to ensure that users know the information. As SIs receive exemption from *urdi* work, it remains to be the motivating factor for them to perform responsibilities. Further, KUWUA communicates to users through other user who is entitled to receive exemption from *urdi* work. This motivation to those involved in communication is found to increase because of additional benefits. These people consider that supporting in communication is like a day gained as after communicating in mornings and evenings, he/she would not need to be present in *urdi* and carryout personal tasks in the day. This is a good example of flexibility in authority. This social practice has motivated others to work

voluntarily to demonstrate seriousness in communication work, which has increased the participation of users in the meetings and *paini* activities.

In order to make the institution accountable to all sorts of users, KUWUA has also provisioned for the use of the poor and landless by paying him/her for communication purpose. The person responsible is provided a bicycle and an honorarium of Rs. 100 a day for door-to-door communication to users. As a result of this strategy, landless and poor also have increased mutual trust, cooperation, friendship, ownership over the irrigation system. This subsequently has promoted a sense of equity. It is found that this will promote participation in *ghar lauri urdi*.

KUWUA, for a few years faced the problem of sufficient labour because of mismatch between the fines for not going to *urdi* and rate for daily wage labour. When people earned more from labour outside, they were tempted to avoid participating in *urdi* work and rather pay the fine, which was less than the wage earned. When this situation was perceived to have created problem in system O&M, EC decided to make fines higher than the daily wage rate. Subsequently, users have started to increase their presence in such works. Users believe that increased participation from the users themselves would sustain the system.

Hence, this research has noted that one of the forces behind promoting governance is the way communication is being done with the community friendly system accepted by people and engaging many as well as being incentive-driven.

v. Size of CBIs: Factor for information dissemination and rule of law

The size of KUWUA (870 households) is two times higher to the size of the NCFUG (400 households) in terms of the number of households. With higher number of households, EC members of KUWUA have difficulties in reaching to the concerns of all the people. The information dissemination and maintenance of transparency are challenged with this large number of users. The EC in KUWUA is found to have little accountability because they could not listen to all the users instantly.

When the CBIs are small, it provides sufficient time for the leaders to listen to user's concerns and incorporate them in time in adequate amount. However, when CBIs are as big as KUWUA, ensuring the participation of all users in feedback and complaint processes is also difficult. More planning is required with more resources to abide by all principles of governance.

The size of the CBIs also affects the rule of law. As it is said, 'too many cook spoil the food', it is difficult to manage the higher number of users each with varying ideas and beliefs. Therefore, there are strong violations of rules. Enforcement of formal rules is also difficult as in the case of KUWUA.

In NCFUG, where there are 400 HHs as users, information sharing is found to be effective. *Tar Pale* could manage to inform on new rules, meetings, plantation and other planning. As a result, there is immediate response from the users. On the contrary, in KUWUA, in some of the issues, there is a feeling that 'everybody's responsibility is nobody's responsibility' thus making difficult to initiate the work. Sometimes the SI assigns particular person to act as a messenger and in such a condition, his *urdi* is exempted as a part of his incentive.

The household-land ratio is 0.68 ha/household in KUWUA while it is 1 ha/household in NCFUG. Therefore, when per household resource availability is higher for the same efforts, people usually have motivation to protect the resources available in more amounts. Therefore, it is found that users are keen to protect forest resources more openly. Thus, it is learnt from this research that smaller the institution, better it can be managed.

Additionally, the size of the EC is also observed to have direct effect in the institutional system. The lesser the number of EC members, more quickly can the decisions be taken. In KUWUA, one-member committee is formed in each *sakha*, i.e. at branch canal level. SI is the Chairperson and overall in-charge within the *sakha* committee. It is found that SI is able to organize meeting, make decisions immediately, enforce the rules, go into the action, monitor, and evaluate the performance of irrigation. This also does not require fulfilling the quorum because of small size. Some SIs inform that because of the delegation of power to them alone to decide on various aspects, they feel special responsibility and accountability to work for benefits of all the users within their jurisdiction.

The context is different in NCFUG. Whenever the meeting of NCFUG is organized in order to make the decisions, there used to be no unanimous decision at several times. In the past, several meetings were postponed in absence of some of the members not meeting the quorum. Because of no obligations to meet quorum second time, some of the decisions had to be made by only a few members without having the opinion of the others thus limiting users access to participate and influence the process and correspondingly affecting the rules and norms.

vi. Participatory conflict resolution: Enhanced rule of law

Rule of law of the CBIs is found to be linked with the resource-use related conflicts. Each CBI has a system of addressing these conflicts. KUWUA adopts five-tiers of conflict resolution steps. These include: (i) discussion between conflicting users through the mediator from neighbours, (ii) informal meeting in the neighbours with/without presence of SI, (iii) *panchayati* at *sakha* level, (iv) *panchayati* at KUWUA, and (v) complain to Police for *Panchayati* through written or verbal recommendations of KUWUA. The mode and nature of penalty is found to be dependent on social threat or financial burden, but the penalty becomes a financial burden when the cases are forwarded to police station.

Organising *Panchayati* for conflict resolution is the traditional practice in CBIs especially in Terai. Once there are some conflicts between and among the users, different social leaders at local level try to resolve the conflicts considering social values, neighbourhood and brotherhood. In case of KUWUA, all users feel that eventually they have to live in the society and for this, they need to help each other, trying to resolve conflicts at sources. If the conflicts are resolved at *Sakha* level, it indicates individual leadership and performance of SI i.e. he/she receives social recognition with users obeying his/her ideas. When issues cannot be resolved locally, they are taken to KUWUA. Further unresolved at KUWUA level, the cases are forwarded to police instead of VDC. EC members consider that their position is prestigious and cases can be resolved quicker when links are established with the police force. However, from 1996 to 2006, 6 percent (7 of 129) cases were complained to police. Mostly, these police cases are associated with poor users from whom the police too can benefit with the use of force. Had the cases been forwarded to VDC, it would have taken a longer time to resolve as VDC would decide on well-being¹¹⁷, basis. However, leadership performance is questioned when cases are forwarded to police.

The above situation can be linked with the similar inferences. It has been found that the level of education, awareness and social harmony among the users determine the settlements of conflicts at local level. Sufficient handling of conflicts and their solution among users may make the WUA an attractive forum. However, a better level of education provides a more flexible atmosphere in which all the matters regarding management and organization can be comfortably handled. Education can be regarded as a sign of progressiveness, which allows sufficient room for new ideas on conflict resolution. Moreover, education enhances the ability to profit from different information sources in a much better way. This research finds that it is not only education but a combination of other factors such as social composition, sense of neighbourhood and social security that collectively contribute to resolve the disputes locally.

Similar processes and procedures are followed by the NCFUG in resolving the conflicts. Whenever there are conflicts, there is intervention from local Range Post and DFO, if not resolved at committee level. But, the police cases are avoided. However, this contradicts the LSGA, 1999 that provides VDC the authority to handle all cases related to resource management, utilization and conflict resolution.

¹¹⁷ Well-being of the people is generally based on the land size, social power, sources of earnings and others many social indicators. The well-being category (well-off, medium, poor and ultra poor) of the people is classified by well-being ranking. The ranking exercise is entirely based on the social indicators made by the local people. The social indicators include: education, land size, livestock, earning sources, housing patterns, off-farm income sources, etc. The social indicator varies from one village to another and caste to caste.

Therefore, this research has found that well-being, resource distribution and sharing practices among the resource users also influence the magnitude and frequency of the conflicts and ultimately affects the governance.

vii. Social norms and values: Milestones for promoting governance

Many scholars in their social researches have identified that community established norms have power to maintain governance than the formal rules as they are the mutually agreed or handed-down norms of behaviour that place group interests above those of individuals. These are sometimes called the rules of the game (Taylor, 1982), or the internal morality of a social system (Coleman, 1990) and the basic values that shape beliefs (Collins and Chippendale, 1991). A high social capital implies high internal morality' with individuals balancing individual rights with collective responsibilities (Etzioni, 1995).

According to Olson (1965) and Taylor (1982), on the other hand, formal rules and norms can trap people within harmful social arrangements encouraging conformity, perpetuate adversity and inequity and mutually-agreed sanctions ensure that those who break the rules know they will be punished. According to these scholars, as the formal rules are usually prepared by the elite people, majority of the people are ignorant about these rules and regulation resulting poor ownership and enforcement. Formal rules are those set out by authorities, such as laws and regulations. Fine and penalties in monetary form sometimes create the frustration among the users and can be the de-motivating factor to be involved in the sustainable resource management.

Similar results are observed in the CBIs studied. In KUWUA, majority of the irrigation related activities are found running based on agreed norms and values making difficult task of diverting water from Kamala River possible. Social norms and values have contributed to maintain social energy, social solidarity, social insurance, and social forecasting. As for example, one has to maintain the canals if bullock cart or vehicle destroyed the canal in any form. No one is allowed to dismantle the field channels. Water thieves are excluded from community gatherings and ritual ceremonies and these norms motivate people to obey the rules. Some other established social norms include involvement in *urdi* work as per the need, regular maintenance of canal (before wheat and paddy crop cultivation), conservation of canal bund, restriction of cultivation of crops and legume and grazing along the canal bank, water distribution on the basis of rotation (6 *Ana* and 10 *Ana* or 4 days and 5 days schedule), etc. All these established norms are proved to be effective than the formal rules.

As in the KUWUA, NCFUG is found to possess similar norms, which are accepted by the community and acted as the rules. Rotational monitoring system to safeguard the forest resources is not a rule, but the community has agreed to practice the same. Other norms such as providing care to the young plants and restricting them from being fallen,

disallowing harvest of the grass from newly planted area, limiting movement in the forest with smoking cigarette have contributed in the protection of the forest resources.

The evolution of these practical and community/society owned norms are based on constraint and problems they have faced. These norms keep on changing with adjustment to modifications required based on experience and in tune with societal culture and values. In addition, kinship, marriage and family relationship ease to establish and enforce social norms.

In these CBIs, it was thus found that social norms are established by the people as per their local and institutional needs driven by societal conditions to which people have faith and obey.

viii. Age of CBI's: Determinant of maturity

The age of the irrigation system, on one hand, and the related maturity of tradition of cooperative activities, on the other, affect positively or negatively on users' participation. In the areas, which have been under irrigation or community forest for a long time, users will have more knowledge of and experience with water and forest. According to Uphoff (1986, p. 94) participative activity will be of great benefit when the CBIs are matured, both in matters regarding O&M, and in the design and construction of the system. The supporting evidences for this statement come from age of KUWUA and NCFUG where there were evidences of critical issues resolved in 46 years old KUWUA that could not be documented in NCFUG (12 years old). Culture of participation in special needs is found to be more impressive in KUWUA where they had tested, adopted, altered and modified various channels of participation in the past. Age of resource –based institutions, therefore, builds options and help to select from the alternatives that best can serve the need of resource management.

ix. Incentives: Force behind meaningful participation

In order to develop the feeling of ownership over the CBIs related to natural resources, incentives are seen effective. The incentives of exemption from *urdi* work in KUWUA and income generation opportunities in NCFUG are examples of incentives that have worked well. In KUWUA, users are found to be exempted from the *urdi* work when there are religious ceremonies and during urgency of work in the house, though notification is required. In addition, when some users are involved in message dissemination, they are also exempted from *urdi*. This is able to accommodate the interest of users.

In NCFUG, some poor users do not have the land. In order to ensure that these users also have a means of livelihood and they also participate in the forest management activities, they are provided small plots of land inside the forest. They grow vegetables and cash crops

like sweet potato, taro, ginger, turmeric, etc inside the community forest. Likewise, users near the forest boundary are provided community forest land for income generation activities with the consent of NCFUG. There is also the provision of providing timber for the poor families at low price or without price. These incentives have been able to resume interest of poor and landless users in overall forest management on one hand and on the other hand, incentives are proved to be more cost-effective in the long run.

Thus, these CBIs have promoted the rules of positive discrimination, as there are incentives in the rules and regulations, and users are encouraged to participate in the protection and utilization of resources for which these institutions are operating.

x. Ethnicity: Role for system management

In KUWUA, the *sakhas* other than 3, 5 and 10 have maintained good records related to irrigation activities. It was found that the SIs from hill migrants dominated *sakhas* have maintained good records because of educational background, the culture of keenness and system approach, the attitude of people to work and willingness of users to see the status of records.

However, the records kept by the SIs in the Terai dominated *sakhas* are found very poor. It is because of the socio-cultural reasons such as poor educational level of the SIs and poor sensitiveness of users in these *sakhas* about the information and records. Social discrimination, poor trust on each other and tendency of obeying *thulo manchhe* (great men) are reasons why there is poor system management in these *sakhas*. Further, as the Terai caste people have less landholding, for them in addition to irrigation, other off-farm activities are also of priority. Terai people would therefore be compelled to work as *Jan* and *Haruwa* to earn some additional income and they always do not put efforts in understanding what is going on in irrigation management.

The Chairperson of KUWUA with the objective of making a balance in power is found to be little more flexible and softer to SIs from Terai dominated *sakhas*. It is because consensus is required for *urdi* mobilization, water management, resource mobilization, and decision-making from all groups of users. As a result, hill migrants blame that Terai dominated *sakhas* mishandle the financial resources without appropriate documentation. Consequently, this has influenced to increase some misunderstanding between hill migrants and Terai people creating challenges for good governance.

xi. Self-monitoring: Means for ownership and responsibilities

Participatory monitoring of the activities carried out by the institutions is found to be an important element influencing good governance. It is found that in NCFUG, monitoring of the forest area is carried out by a team of EC members along with *Tar Pale*. Forest

conservation committees are found monitoring the six forest blocks based on three main *toles* in the rotational basis. The monitoring roles of users living near the forest boundary are intense demonstrating awareness-generated self-monitoring of their collective resources. It is a voluntary monitoring without seeking any benefits or without the formal request of EC. The people residing near the boundary of the community forest always keep eyes to see if there are any persons illegally entering the forest or if any livestock enters the forest. Users report to NCFUG with the evidences for further actions including punishment.

Similarly, in KUWUA, there is a practice of community surveillance and monitoring of the system operation. Water monitoring by upstream users about the condition of river flood, the discharge of water in the *mul paini* and amount of *urdi* work required to cope with the problem is also found to be carried out voluntarily. Based on the situation, users have the practice of informing the SIs and Chairperson, which later would take the decision.

Likewise, a group of SIs observe the tail to see the water availability condition and make appropriate decision in managing water to the tail end users. As part of the self-monitoring, in KUWUA, irrigation cultures (rotation system, fines and penalty, social norms and values) were brought to the place by the migrants from the hills.

It is found that these self-monitoring practices remained to be important contributing factors to maintain the governance of CBIs as they are more effective than guided monitoring in terms of building ownership and social responsibilities. Self-monitoring practices are pushed by the feeling of the ownership over the resources as the resources determine their livelihood given the fact that 65 percent population of the study area depends on the irrigated agriculture. Further to ownership, self-monitoring is observed to be the indicator of promoted accountability and participation, which also helps in maintaining the rules within the CBIs.

xii. Devolution of power and authority: Accountable institutions

The executives in the lower position of the CBIs report that whenever there is power delegation, they felt like being more responsible and carrying out right tasks. It is also informed that whenever the role is just to agree on whatever has been decided, there is little incentive to work. Some key executives opine that it is not wise to stop the regular and planned activities of the institutions even if the leaders in EC are absent.

The delegation of power is visible in KUWUA where each BC is independent with full authority to make rules, fix the fines and raise penalties within its *sakha*. The BCs are also independent in selecting their chief: the SI. However, it is found that if the Chairperson is unable to select his/her favoured SIs from each *sakha*, he/she would not easily delegate the power to SIs for resource mobilization in terms of cash, kind and labour.

However, independence is relative among the *sakhas*. Interestingly, *sakha* 1-4 located in the head reach with privilege of getting relatively more water are more independent with authority to collect the *bighatti*, *paipatti* and other fines and penalties by themselves and to mobilize within the BC. On the other hand, *sakha* 5-10, which are located at the middle and tail end of the command area, mostly rely on the decision of KUWUA collectively and are not fully independent. Users here agree on the role of KUWUA to ensure water availability to middle and tail end rather on separated efforts of the *sakhas* themselves because the prime task of the WUA is to manage water in the tail end as well. This requires collective action in terms of *urdi* mobilization and *bighatti* collection.

In NCFUG, the formation of different committees to systematize the forest related activities are also the examples of devolution of power and authority. Under the NCFUG, there are four committees formed namely auction, firewood distribution and management, monitoring, and forest conservation and management. These committees, temporary in nature, are given full authority in carrying out specific tasks. The committees are found to be socially inclusive to make the power balance irrespective of caste, gender and well-being.

The analysis revealed that the degree of devolution mainly depends upon the clarity on roles and responsibilities among the EC members. The reducing cases of water theft, less number of serious conflicts among the resource users and full participation are the evidences of clear roles and responsibilities, devolution of power and authority. Despite of water shortage during the paddy flowering period, which is considered the most critical time to require water, they generally are found abiding by the rules.

xiii. Shared values and mutual cooperation: Enhanced social harmony

For achieving understanding and unity among the users of these CBIs, it is observed that shared values have played important function. As for example, in KUWUA, there are shared values of the community towards system O&M where the users are ready to pay justifiable *bighatti* amount for the mobilization of excavator. Even after providing contract to contractor, users agree and work in the *paini* to support the contractor in diverting water from Kamala River. In addition, the *tole* wise *urdi* mobilization is found to be another good example of shared value to avoid the managerial difficulties likely to be faced as some users have land plots in different *sakhas*.

Similar shared values are seen in the NCFUG. The practice of positive discrimination in distributing the firewood, and timber to ultra poor at affordable rate indicates a shared value in favour of poor. Likewise, shared values within the institutions and their users are also observed in terms of security to the village from likely looting from the looters. This has also maintained social cooperation. The common strategy to keep all safe is found to promote cooperation in the institutional works.

The way people select/elect members to EC also determine mutual cooperation. For instance, though election to the EC through the votes of the members or the users would be a more democratic process, it is likely that looser in the process usually will not support the one who wins. Thus, it is found depleting social harmony specially when the CBIs are large. On the other hand, general consensus based selection process relied on common community value is more powerful and binding in the society.

Commitment in the work, coordination capacity to mobilize internal and external resources and ability to balance the power within the society are key indicators that locals have been using most of the time in selecting the leaders. In KUWUA, there was election system initially. However, the EC formed that way could not function well. Therefore, these days, they have the practice of selecting the members by consensus and this is found working better in gaining more confidence of the users and engaging them in the work.

Therefore, the results from the research indicate that presence of social harmony through enjoying shared values establishes cooperation to contribute to maintain governance in CBIs.

xiv. Equitable resource mobilization: Promotes participation and ownership

When people notice that they are not treated equitably, there is mistrust and it is presumed that there is no transparency as well. Further, prejudice-led resource mobilization brings least incentive for participation. Therefore, the labour and other resources from various users need to be uniform. In KUWUA, it is found that there are equitable practices of labour mobilization in the *paini* activities. For this, it has set the rule of one *jan* for one *bigha* of land, two *jan* for two *bigha* and three *jan* for more than three *bigha* of land. The mobilisation of labour for *mul paini* is found slightly different. For this, rule is to allocate one *jan* for one *bigha* of land and half a kilogram of rice per *kattha* in addition if one has more than one *bigha* of land. The difference in resource contribution in *mul paini* is because this task involves heavy work and feast needs to be organized for labourers. The rice collected is used for this purpose. The female-headed houses until 2004 had to hire a male labour but after that, women are considered equal to men in the activities as they have contributed even for the *urdi* work. *Bighatti* collection is also equitable as it is raised on per *kattha* basis. In resource mobilization, there is also a provision to retain the interest of smaller landholders in irrigation facilities.

The equitable resource mobilization practices are also carried out by NCFUG. The forest conservation and management activities carried out on the rotational basis mobilizing the *toles* represent one of the good examples. The committee is found to set up the rotational monitoring of three hamlets viz. Ratanpur, Baltiya and Bayerbani to look after the six blocks.

This research found that the effectiveness of the equity in resource management depends upon historical, cultural, social, economic, political and institutional aspects of the users and the area.

xv. Resources distribution: Sharing for equity and social justice

Equity, which is contributed by social and economic factors, includes fair distribution of resources, rights, opportunities and well-being among users over time. In other words, the inclusion in decision making of those most affected by the proposed development intervention should be seen as social justice. It is considered that all members of the community group need to have equal participation in management in order to provide benefits for economically disadvantaged groups. Equal participation is also necessary to create effective and equitable management for collective decision-making, which ensures equal benefits for all user groups. Further, involvement in community forest management practices is necessary to have access to desired forest products (Devkota, 1998).

Kanel (2004) find that despite high income of Terain CF than CF in hills, socially dominant, relatively wealthier villagers capture most of the benefits, and poorer CFUG members bear a disproportionate share of the management costs in terai. It indicates that there are big challenges for equitable resource mobilization and there need to be stringent measures to address them, some of which need to aim to increase bargaining power of all users. However, Sharma (2002) contradicts and finds that both well-off and poor users benefit from the community forest. The latter finds no caste and well-being discrimination within the distribution of forest products with benefits equally distributed to all user groups.

In KUWUA, equity issues among the users are observed to be based on the benefits they received from water management. As land tenure right is the prerequisite for getting benefits from irrigation water, equity between landowners with higher and lower quantity of land remained a key issue of governance. The EC mobilizes its time and energy to ensure that users receive water in the most equitable approach to raise more *bighatti* from those having higher landholding and subsequently they receive water to irrigate their land.

In case of NCFUG, grasses are found to be consumed locally and timber and firewood are sold to get income once it is enough for local users. Users opine that these products are used to support subsistence livelihood needs. In order to ensure that the income is invested for equitable benefits, NCFUG utilize the income for community development activities such as river training, road and culvert construction, school building construction, *dalit* scholarship, etc. With such investment, those with no share in community forest are also benefited.

However, in some cases, there are serious concerns raised by different scholars on community forestry not benefiting the livelihoods of women and poor households on an

equitable basis (Malla, 2000). This fact is rejected by this research as NCFUG is found moving towards an 'equitable' system, which includes specific consideration of poorer household's particular needs. Poor users are given timber and firewood as explained in preceding sections. However, some benefits may be accrued with particular groups of people. As for example, only those who have livestock are benefited from the fodder obtained through community forest.

This research contradicts findings from Sharma (2002) but the findings from Neupane (2003) and Malla (2000) resemble to what this research finds regarding disproportionate benefits. It is found that use or consumption levels of resources such as irrigation water and forest products depend on demand pressures stemming from household size, number of livestock and cultivated areas; on household labour availability; and on alternative livelihood options. Poorer households tend to have a higher dependence on government forests and poor mostly sufferer from grazing control thus affecting equitable sharing of costs and benefits.

xvi. Participation in decision-making: Motivation for shared values

Various scholars explain different ideas and philosophies in linking participation, decision-making, transparency and rule of law. The physical and social environment is much more complex than participation. But no matter how complex it is, the expansion in the area under irrigation is, however, directly related to participation, which according to Uphoff (1986, p. 19) will increase output/yield, area under plough, and cropping intensity and motivate users to accept greater responsibilities. The sense of belonging, ownership and responsibility can be strengthened by involving users in all phases of system development. According to Uphoff (1986, p. 80), WUAs function well when water is equitably distributed to tail end users encouraging all to participate. According to Chambers (1980, p. 32), the main incentive, which influences the users' decision to participate, is the acquisition of an adequate and reliable supply of water.

The users will participate in an irrigation management activity enthusiastically when they hope for a better control over water supply. Such a situation can arise from a general scarcity of water and, when water is a scarce factor, its use can be improved through the users' active participation. Further, the participation of each of the stakeholders will be governed by the opportunity available to them in the decision-making process and the benefits they derive from their involvement in such a process. Participation involves a person's commitment of individual resources and this could be in various forms. Stakeholders' role and degree of their involvement in the management of the common property resources determines the impact on the institutionalization process of the management activities of WUA and CFUG. In the same line, users participation in irrigation schemes is always helpful for improving relations and reducing conflicts, not only between government officials and users but among users as well (Uphoff 1986, p. 87).

In KUWUA, settling disputes regarding the water management is transparent as it is conducted through *panchayati*. Most of the decisions are made based on consensus and thus there are no major arguments. Decisions on water management are open and transparent, with equal sharing of costs and benefits of the investment and inclusion of women, *janajatis* and *dalits* in overall system management. All these decisions have been recorded in the minute book providing space to reflect transparency.

In NCFUG, whenever decisions are to be made on important issues, they are found to invite other social leaders including those who can listen, understand, share, suggest and inspire them. Provision of advance notice to seek the ideas and suggestions from all users are also in practice. The recent days have witnessed participatory and inclusive decision making creating ample opportunities for improving governance.

xvii. Representative EC: Force to keep the system active

The strategy chosen and adapted for selecting the representatives in the EC of CBIs plays an important role to keep the systems functioning. There is a need to ensure representation on geographical coverage, the types of ethnic groups and gender.

The challenge for WUA is involvement of the tail end users in the system O&M. As the size of landholding and tenure pattern has a direct impact on users' participation, the users from the tail end also possess land to be irrigated which generates their responsiveness to ensure water reaches the tail. Interestingly, how representative is the EC in terms of selecting the members from the tail end plays an important role in balancing power, ensuring ownership and keeping the overall system live. Similarly, in case of community forest, representatives from different hamlets are essential to be involved in EC to maintain a balance on the distribution of benefits.

In KUWUA, a review of the key EC members and their homes within the command area revealed that absolute majority (84 percent) key EC members are selected from middle and tail part of the command area. As a result of this, there is motivation of the representatives to involve the users from their areas in the system O&M. Otherwise, users who usually receive less water and work more would not be motivated to work. Further, influential users from middle and tail end also provide opportunity for working hard and keeping the system functional. It is also found that the presence of EC members and influential farmers from these parts help in seeking various resources and mobilizing them to keep the system performing well.

In case of NCFUG, the composition is maintained including representatives from hill migrants, Terain-caste people and Danuwars and each member representing these groups have primary responsibility to bring uniform understanding among the members of their groups.

Social inclusion in EC is another major consideration in terms of governance. Issues of inclusion have been in the minds of many scholars and the research results from various scholars explain the benefits that social inclusion brings in building trust, improving participation and maintaining transparency. According to Mosse et al. (1995b), even many 'participatory' approaches to eliciting community objectives may place barriers on women articulating their interests and needs. The extent of participation by men or women, in organizations for resource management is the outcome of two factors: rules for membership, which determine eligibility to participate, and the balance of costs and benefits to be derived from involvement, which influence individuals' decisions to participate. While membership criteria and incentives for participation have received attention in analyses of users' associations generally (Ostrom, 1992), there has been much less attention to gender differences in either of these critical areas (Agrawal, 1997a).

Degree of solidarity among the users is usually found to be directly related to the effectiveness of the group. The common interests, needs, attitudes and behaviour pave the path for a more active and effective WUA. Therefore, to table the voice of different interest group's people, there should be provision of involving such interest group in decision-making processes. Pokharel (2002) sees age, gender, ethnicity, and wealth of the people to affect participation. Baral (1993) states that the ethnic composition, political ideology and culture are important issues for social inclusion. It is identified that participation of different interest groups is important to minimize the risk of excluding access to certain resource-poor groups of people within the CBIs.

In KUWUA, the women participation in EC is zero, though irrigation policy considers 33 percent women in EC. The water users expressed that the hardship of physical labour in the system O&M hindering the participation of women in *urdi* hence the involvement of women in the EC too. There was low female participation in *paini* O&M despite high involvement of women in irrigated agriculture and agricultural decision making. The EC is socially inclusive except the gender consideration in the EC. On the other hand, NCFUG is socially inclusive. The EC is formed considering gender, caste and ethnicity as well as political ideologies. So, all these groups of people are informed on what is going on inside community forest though the level could be different.

As a result of inclusive EC, the problems that otherwise would have cropped have reduced and it has been easy for the EC members to make conclusions on certain issue. These practices have been found contributing to streamline the inclusive process towards governance and Gilmour and Fisher (1991) also state that addressing the needs of divergent groups including the women is crucial for better functioning community forestry.

xviii. Friendship and social energy: Drivers for meaningful participation

Friendship binds the users, it allows learning from the mistakes and to build upon it. It has inherent power of generating closeness for a common goal. General welfare is the outcome it results. When friendship cements the varying beliefs, social energy provides psychological inputs to participate and own.

In KUWUA and NCFUG, whenever users demonstrated this energy, many problems have been solved. Friendship among the users of KUWUA has led to timely presence for urdi. Self-benefit approaches have taken the opposite path when users have realized the benefit of connectedness in social spheres. Living together means sharing the common issues for these users and therefore when there is support of fighting the outsiders, there is also support for institutional activities in NCFUG and KUWUA. Users can not be alienated for self-centredness when for other reasons they need collective efforts. Therefore, the users at several occasions have united and voiced the same issues. Those who have understood the significance of social energy, despite being at the head reach, are also concerned for the benefit of tail end water users in KUWUA. Physical hardships have been able to be addressed due to these cognitive assets. In NCFUG, encroachment has been lessened by providing opportunities for the poor to farm in selected areas. This has induced cooperation from the poor people living around the periphery of the forests.

xix. Livelihood and participation: Case of big and small landholders

As important incentive of protecting the natural resources, the poor seek immediate benefits to improve livelihood. When the CBIs provision certain outcomes of the institutions as livelihood incentive, users are motivated to work for which they will get benefit. These sorts of views and remarks are made by different scholars. Normally, users whose holdings are insufficient for subsistence often have other sources of income; this reduces their interest in devoting much time and labour to their land and ultimately to the WUA as well. The big farms, on the other hand, are mostly managed by sharecroppers and /or tenants; as a result, water management activities are also performed by them. The work done by these sharecroppers and/or tenants is mostly of low quality and this reduces the efficiency of a WUA.

Among the users of KUWUA, 65 percent are found to be entirely dependent on irrigated agriculture to run their livelihood. Only 35 percent people work in other areas. Hence, the users concerns and interests over the water and forest resources are still more and this also influences the performance of CBIs. In addition, as the majority of the users are small landholders, the practice of sharecropping is 32 percent. Partly, these users also own land. Hence, it is observed that the livelihood pattern where sharecropping is dominant partly influences overall irrigation management in KUWUA as interest of sharecropper to contribute to irrigation system management is limited.

The findings in the research area somewhat contradict with the normal prepositions because despite the high percentage of people in agriculture here, most of them do not employ sharecroppers/tenants and thus question of low quality of work is not valid.

xx. Meetings: Effective means for community trust

In the KUWUA, it is found that there is irregular meeting. However, the users and the EC members organize meeting whenever it is felt needed. There is a little advance communication to those with whom meeting is scheduled. Thus, some of the decisions taken are quick. However, in NCFUG, they have a provision of monthly meetings with people's reluctance to take part in similar meetings always. A strategy to organize a monthly meeting in the last week of Saturday is one of the good provisions agreed by the users. This is found to promote trust and belief that planned meetings shall be held in time and therefore the users can book their time for participation in advance. Further, the seasonality, the day, time and venue, duration, informed agenda, etc. were also important planning steps required to ensure the effectiveness of the meeting. It is learnt that users are not satisfied when the meetings are organized at times that should have been allocated for the children by the parents.

xxi. Good coordination: Beneficial for external resource mobilization

KUWUA is found to maintain good coordination with different agencies for the external resource mobilization. The VDC, DDC, DADO, NCFUG, DIO, GTZ, DSCO, KIP, etc. are some of the agencies that have supported external resources to KUWUA. For example, the mobilization of excavator from Dol and KIP are some good examples. Since there were some influential members as users who had links to government and non-government agencies, the institutions could generate more resources. Similarly, NCFUG has also received external resources from DDC, ChFDP, DSCO, Food for Work/GTZ, etc. and the resources are mobilized for the benefit of the users. It is therefore found that higher the coordination of CBIs, more was the resource generated as coordination is an opportunity to share the plans, the resource available and the identified gaps to seek other's support

xxii. Accessibility to resources: motivation for protection

There are users who have easy access to forest resources and those who have limited accessibility to resources because of their location. The concerns for the forest protection are relatively more for those users who directly have access to resources. It is found that distant users on the other side of the community find it difficult to go to the forest and participate in protection measures. They feel that if the benefits of forest conservation are utilized for more productive purposes such as construction of culverts, building of schools and temples, then only they will be more interested to devote their time for the forest management activities. The research revealed that users near the forest are active in the protection issues.

7.2 Forces and Factors Determining Poor Governance of CBIs

Whatever factors have been discussed as the factors promoting good governance, if such indicators are not achieved, then the same factors can be the forces for poor governance. However, the research has found some separate issues that are considered to be responsible for the poor governance of the CBIs. They are explained in the subsequent paragraphs.

i. **Formal communication: Limitation in reading and writing for the communities**

Users believe that that if formal communication exists, then the users will not be satisfied with the EC because many a times, the written letters are received two weeks after the events take place. Users opine that it is more trust worthy to notify about the meetings through other means such as oral communication, processions and pasting notices in public places. In the local area, verbal communication system, which is informal system, is found to be mostly practiced to communicate. It is because, in addition to risks of written formal letters being lost, there is illiteracy and the target person might need to take help from others, which may make him/her understand differently.

However, a mix type of communication system can be followed by various institutions. As for example, in NCFUG, written, verbal and displaying means of communication are practiced and all these are found to have worked well. Users could avoid the fines and penalties because they are informed in time and they could also have access to the benefits as they will not be missed. Therefore, it is found that an easy and understanding communication means is vital.

ii. **Absence of public auditing: Means for mishandling the fund**

A transparent organization needs to make appropriate plans and annual audits. However, KUWUA is found to be weak in the annual auditing. There is no practice of external auditing too. Annual plans and programmes are not disseminated through public notice boards. Periodic progress and other information on finance are also not presented in public notice boards. There is no system of public auditing to aware the users about income and expenditure.

It is found that during ISP period, users raised Rs 200,000 but there were no proper records. They started to raise their voice as they were aware on their rights and responsibilities. In order to neutralise the situation, EC key executives were also not asking about the records of amount from fines and penalties from *SIs*.

In some cases, there were no *bighatti* raised which was disclosed later when some users requested KUWUA to show the detail records. It was taken seriously and Co-secretary had to resign to KUWUA verbally asking for excuse, but acknowledging the mistake. It showed

that even EC members are not fully accountable towards the users. If there were updated records, this sort of issues would not have been raised. Public auditing in this way opens avenues to unfold the unseen issues.

In NCFUG, plans in community forest management are prepared by calling meeting, identifying needs, getting feedback from intellectuals, informing other users, etc. However, it is found that in the initial days, the committee suffered from mishandling the funds caused by previous Chairperson Mr Badri Vaidya and Mr Bagh Bahadur Kunwar. It is also found that some incentive was provided to other executives in order to curtail the case. The case is still debated. Danuwars and hill migrants blame each other about the mishandling of fund and power. Even ex-EC member also charge the committee about the poor financial transparency. Here too, if the auditing would have been started earlier, this case could have been avoided.

iii. Poor reward, fine and penalty provisions: Disincentives for governance

Factors related to community principles, attitudes and beliefs influence the effectiveness of the reward and penalty system and absence of such system provides clear disincentives for promoting governance. In NCFUG, 50 percent of fine is given as incentive to the one who reports on illegal cutting of forest products without permission, but sometimes this is not found much effective due to the behaviours of people. The users opined that they are not much interested to take risk of grabbing the illegal timber exporter for getting rewards. Similar types of expressions are also recorded from the users of KUWUA. It is found that those who are arrested in misdoing can take counter actions against those who arrest.

The tendency of the executives for getting unofficial tips from the contractor is also the hindering factor for the enforcement of the rules. This is the reason that the extraction of sand and boulders from the riverbank has not stopped. Though by rule, Rs 551 could be charged per trip of truck, this rule has not been enforced. Water users believe that the extraction undermines the bed level of the river, which further affects the diversion of the water from river. DDC contractor also discourage local poor who would have earned their livelihood from collecting boulder and sand from Kamala River.

In KUWUA, the unavailability of the water for irrigation in peak season also affects the penalty system. As the water is unpredictable, the EC sometimes is unable to charge the penalty from them. The system of sharecropping and leasing in the cultivation of paddy is another hindering factor for poor penalty system. As some landowners are out of village or not directly involved in irrigation, in such case, it is difficult to penalize the sharecroppers who bear less ownership about the system and are less familiar about the fine and penalty system.

In NCFUG, there are several rules of fines for those entering the forest and damaging the forest resources. However, some of these rules are poorly enforced paving space for weak governance.

iv. Poor Dissemination of rules and poor enforcement: Poor rule of law

The improvement of rule of law is based on the level of awareness and understanding of the constitutional provisions, rules, roles and functions. It is revealed during the FGDs that only 25 percent of forest users are familiar with the constitutional provisions. This percentage is even low in water users (20 percent). Among the water and forest users, women and lower caste households are almost ignorant on these aspects. This means, there is poor dissemination of the provisions in the constitution.

In KUWUA, the EC often changed the rules and regulations to accommodate the emerging necessity of the users, which is itself a good practice. When there is insufficient sensitization and awareness program, there is little realization of rules and regulation among the users. As a result, people try to escape from the mistakes or intended actions in the name of the mistakes.

The norms, rules and regulation amended or decided through meetings should also be disseminated. A careful analysis of meeting minutes of last 10 years showed that there are many decisions but there are limited mechanisms to enforce and follow up. It is also found that same nature of decisions are repeated several times but no serious steps are undertaken. In NCFUG, there were 168 meetings and a total of 842 decisions in a decade (1994-2004) and only 138 (16 percent) decisions were found to be enforced. A total of 212 (25 percent) decisions were made at least twice. Likewise, in KUWUA, there were 102 meetings where 449 decisions were taken. The enforced decisions were 98 (21 percent).

The poor enforcement of the rules has links to poor rule of law. Since the needs of the people or the users are different, a particular rule will not be accepted by all at the same level. In NCFUG, new rules often become hard implication for poor forest users, when they loose the unlimited access to forest products and grazing in nearby forest areas. Especially when inexperienced people reach to the EC, there is likelihood of not abiding by rules and thus there are poor measures to tackle deforestation. It is found that the enforcement is low as explained in the above paragraph. The enforcement becomes hard with dynamic needs of head reach and tail end users in KUWUA trying to restrict tail end users by the head reach. Failure to maintain proper land inventory has affected the *bighatti* collection. Nepotism and favourism have both affected the use of the water. Further, the varying needs of users living near and away from the forest cause poor enforcement of rules.

v. Unequal power utilization and prejudice: Poor transparency

Ideally, it is considered that in the EC, the roles and responsibilities need to be divided clearly. There should be full power balance between the members. Further, one member should not intervene the other without a serious concern. However, both in NCFUG and KUWUA, the Chairpersons are found to overtake/intervene over the roles and responsibilities of other officials. Other officials remain in low profile and inactive. Chairpersons have a practice to overtake the activities of the Treasurer specially to handle the finance of the CBIs. On one hand, this sort of practice contributes to de-motivation to the responsible officials, position holders and on the other hand, this is not the sign of being accountable and transparent systems. This also represents violation of rule of law.

In addition to seizing the power from other members, there is also a tendency to hold power by assigning the key roles to members within the family. This tendency is an important cause for mistrust among the users. This raises several questions on the transparency of the decisions and financial aspects related to the institutions. Whenever there are members from same family, same *tole* then, they tend to influence the decisions beneficial to them only. This further raises questions on records of the CBIs.

In KUWUA, majority of the key EC members are found from Brahmin and Chhetri communities. They have very strong social closure and solidarity due to different kinship arrangements. However, it is found that the same social relationship has affected the transparency of the records as no one questions about the status of income and expenditure with Chairperson, Secretary and Treasurer.

vi. Inadequate mutual trust: Week accountability

Mutual trust is a significant driver of listening everybody's voice. A trusty institution means, there are all efforts of the executives for a common benefit and equitable benefit for all. But, when this trust degrades blaming each other for the wrongdoings and misuse of resources, there is a question of the EC members being fair to all. The hill migrant blame Danuwars are arrogant and are involved in water theft and illegal cutting of trees. On the other hand, Danuwars blame that hill migrants are clever, powerful and influential and therefore use these strengths to get more resources such as grasses for livestock, water for larger plots of land and timber for better house.

Terain people in the tail end of the irrigation canal blame that disproportionate use of water by the head reach is intentional. Though it is agreed that rules should be followed by all, head reach farmers are found to violate these rules as they are opportuned to receive water due to the location upstream. But, they do not get behind to blame the tail end users. This again erodes mutual trust and ownership and therefore more misunderstanding is likely. It is found that when the powerful executives are from a particular origin or area, then concerns raised by the other users is sometimes not duly considered.

vii. Inequitable labour mobilization: Impact on ownership and participation

Equity needs to be maintained to ensure that there is effective participation from all sorts of users. However, there are some cases of unequal labour mobilization documented in both CBIs. These cases in NCFUG include: poor people involvement in the process without expected fair distribution during collection and harvest of the forest products, loss of access to products that they use to sell, or that they rely upon for their traditional occupations, prohibition from selling the firewood in the market, increase in modern houses (of bricks and cement) as a result of which there is no requirement of annual repair hence no need of timber and hay, etc. Further, favouritism in product distribution – e.g. allocating timber to friends and relatives has induced inequitable resource mobilization.

Likewise, in KUWUA, tail end users are involved for more days in *paini* work but receive less water compared to head reach users. Because of continuous use of excavator through *bighatti* collection, there is a limited requirement to be involved in *urdi* work and sometimes use of Kamala eastern canal is used to irrigate the tail part of the command area in Dachhin *tole*, thus de-motivating users to participate and contribute labour mobilization in KUIS in equitable basis. This is a significant factor for de-motivating users for ownership over the institution. Likewise, the presence of *bhit khet* in the middle of the command area also contributes to reduce motivation to users for labour mobilization because there is no facility of irrigation for *bhit khet*.

The research has found that because of inequitable distribution of benefits, users' ownership over the CBIs is affected resulting poor participation of users.

viii. Poor physical infrastructures: Poor motivation to participate

The efficiency and ownership of users' participation in system depend upon the nature and functionality of the irrigation infrastructures. Technical efficacy of a system is the capacity of a system to deliver water from headworks to outlets. It is concerned with whether or not the infrastructure is well maintained. In KUWUA, the intake is of brushwood dam and hence frequently it is eroded by flood of Kamala River. This is the main reason to organize several days *urdi*. As water seepage problems are high due to earthen canal and the flow dividers are not working properly in other *sakhas* except 3-7, these instinct features are found to be de-motivating factors for increasing participation.

ix. Participation and decision-making: Two reinforcing essentials

In connection with decision-making, there could be three forms-rules by one person, by a few persons or by many. Following this pattern, a local organization may be ruled by an executive, by a committee(s) or by an assembly of participants (Esman and Uphoff 1984, p. 44). The users' committee is often dominated by elites and traditional decision makers. When marginalized and poor people are often not included in the user's committee, this influences forest management decisions. Even if they are represented in the committee,

women and members of disadvantaged groups are not usually listened at the community meetings and assemblies.

This research has also found that in KUWUA, landless are obliged to participate in maintenance but not in decision-making because they have no membership. Membership is issued on the basis of land. Another reason is the unequal social structure in terms of class, caste, and gender that also hinder access to decision-making, to opportunities, to contribute and to benefit. It is believed that irrigation work requires physical hardship with skills to make tough decision. Women are considered not able to contribute in decision-making with existing social values and male dominated structure.

On the other side, in NCFUG, users are actively involved in decision-making, benefit sharing and forest management activities as a result of which there is relatively better shared value and mutual cooperation to carryout the forest management work.

x. Immediate and longer term planning: Strategy for sustainability

From the research, it is found that the CBIs are mostly involved in the physical improvements i.e. improvement of irrigation system, construction of culvert and rural road, regular forest conservation and development activities. However, their planning is not found much focused on the improvement of livelihood of poor users to retain their motivation in safeguarding the natural resources. This fragmented approach has also resulted poor sustainability and replicability.

The absence of VMGO, strategy to run the institution, collect long-term resources, management strategies for O&M, and programs to link livelihood of poor users are found affecting the predictability of both the CBIs.

In a nutshell, there are both types of forces and factors contributing to good and poor governance. The way, each factor is acknowledged, understood and undertaken determine the direction of governance the CBIs are taking place. However, taking the good part of each factor and trying to avoid the poor part is necessity of today's CBIs to get recognition from the users and other agencies. Only then can these institutions survive.

xi. CF's resources for development work: Conflict of interest in resource use

Most CFUGs generate income from a variety of sources such as the sale of forest products (green fuel wood, poles, timber, seeds, grass, tree seedlings), membership fees, fines, cash payment by members in lieu of labour, contributions, donations and reward support from the DoF (Malla, 2000). In NCFUG, the funds generated by various ways are spent on community development activities like school, road/trail construction. The amount is also used in the salary of a teacher, *Tar Pale* and most importantly, the fund is being used in credit mobilization for small-scale income generation activities viz. livestock rearing, vegetable farming, etc. In addition, increasing trend of educated family members makes fuel wood collection increasingly unprofitable due to higher opportunity cost of time in

collection and gathering and therefore, some families are reluctant to participate in fuel wood collection while they also raise new sorts of issues for the resource use.

As the researches and studies have pointed out, there is a conflict of interest in NCFUG in using the fund. Majority of the poor users are more interested in the investment of fund in income generation activities whereas other users were interested in community development activities, mostly physical infrastructure improvements including rural electrification. Some users from NCFUG opine that the gravelling of road is also VDC/DDC responsibility while construction of school building is DEO's responsibility. Spending larger resources by NCFUG in these community development activities, in some users' view, leaves little for conservation and protection measures, hence ultimately affects the governance of CFUG.

xii. Alternative resource abundance: Poor participation in CBIs

When there are alternatives, people have multiple choices and the interest to devote for a more difficult task is less. Access to the national forest for forest products means that some group of people have reluctance to engage in community forest protection. Users who did not have easy access to NCFUG depend on alternative national forest on the northern and western part of NCFUG. There are similar observations from other researches. Bhatta and Lamsal (2000) explain that this is because of the fact that the pressure on forest has now shifted from one part to the other, from community forestry to national forest due to poor governance.

In case of irrigation, there is Kamala Eastern Canal flowing south of the tail end of KUIS command area. Those users around the tail end acquire water from the Kamala Eastern Canal. When some or most of the needs to some farmers is met through this supply, their motivation to work and contribute to KUIS is less.

Likewise, in the northern-eastern part of KUIS command area, there is a conservation pond constructed with the support of DSCO. The part of *Sakha* 9 and 10 could be irrigated with the water in the pond. The users therefore are discouraged therefore to maintain KUIS as they think that though supply from KUIS will not be available, there is some alternative for them to irrigate their land.

CHAPTER VIII

SUMMARY, MAIN FINDINGS AND DIRECTIONS FOR FUTURE RESEARCH

Within the scope of the research, numerous issues have been reviewed and documented. Yet, there are many other issues that are yet to be covered. At the end of the research, it is useful to recap the process of the research and let others know its essence. Therefore, this chapter provides a brief summary of the findings especially on the characteristics of governance in two CBIs under research and associated forces and factors to lead this state. In the mean time, the findings are connoted to conclusions. As mentioned earlier, the research has limitations and therefore, towards the end of the chapter, there are recommendations for future direction in researching similar issues.

8.1 Summary

The crux of the research has focused on understanding the governance issues and the underlying principles/forces and factors to contribute to good and poor governance of the CBIs. In doing so, the research has assessed the practice of governance in the CBIs taking case of NCFUG and KUWUA in Siraha district of Nepal. Considering the ample opportunities available for learning on forest protection and irrigation management, as well as pressures on these resources, the site in Siraha was selected for this research. In selecting the specific CBIs, multi-ethnic setting, presence of institutional diversity and opportunities of analysis of governance were considered.

The research has explored into six elements of governance viz. transparency, accountability, rule of law, equity, participation and predictability in the CBIs studied making an effort to go through every element, identify sub-elements and even trace the tertiary elements for minute analysis. Based on various tools and techniques, forces and factors contributing to good and poor governance in these CBIs have been identified.

The research was guided by two key theoretical perspectives, which established the theoretical context of this research though for review, other relevant theoretical perspectives were also considered. These theoretical perspectives include '*Structural and Cognitive Social Capital for Participatory Irrigation*' and '*Community Forestry as a Social Process*', chosen to ensure these theories correlate the set objectives.

The research has intended to understand the governance issues and the underlying principles to contribute to the success and failure of the CBIs based on these issues. It has identified the ways the records are kept, disseminated, audited and systematized and the level of the awareness of these records among users and EC members. Emphasis has been

made to explore accountability of executive members and users on their roles and responsibilities in power delegation, service delivery and O&M/conservation activities.

The research has pinpointed the mechanisms of enforcing constitution and other rules, social norms and values, attitude and beliefs as well as resource collection and sharing to establish institutional systems in CBIs. Meaningful participation practices through involving different categories of users in O&M as well as decision-making process are also documented in the research. In order to identify the long-term plans of the CBIs, the research has explored strategies followed by these institutions.

Guided by the research questions, the research has made an effort to explain the extent of work and the analysis framework. The research has followed a qualitative and analytical based on descriptive framework considering the elements of CBIs on a qualitative scale. Both primary and secondary data have been used to make inferences and make judgements on each of the elements. Primary information was retrieved through the use of household survey, well-being ranking, RRA, FGDs, GIs, KIIs, observations and case study of CBIs.

The research has analyzed transparency utilizing the means for information and communication as well as decisions and realization of decisions among the users. It is revealed that when there is fairly broad base of decision-making, issues of transparency are locally solved as Gilmour and Fisher (1991) identified the need of substantial element of effective control over decision making through informed system.

It is traced that both of these CBIs have now started keeping records of the activities performed but it is noted that despite recording, their system is not yet properly institutionalized. The research has inferred that record keeping allows an opportunity to learn, a similar finding also revealed by Gilmour and Fisher (1991) where activities in community forestry are themselves part of a learning process. Uphoff (1996) also explained that the 'learning process' approach in Gal Oya and how poor discipline in water management could impede transparency. In KUWUA, learning by doing could be observed through meeting minutes, assignment of responsibilities with agreed rules and norms yet in cases little reluctance. It is found that external stimuli has sometimes positively influenced record keeping such as WUS programme after which records on visits and meetings are properly placed. Uphoff (1996) explains the need of strong decision-making process and a mechanism to document these decisions.

The research has not only pinpointed the weaknesses and the reasons but also has advocated the need of promoting good practices for improving the governance. The improvements observed in KUWUA with simple accounting system in place, separate accounts for income and expenditure for various sources including the fines from those who violate the norms of NCFUG could be taken for deducing positive inferences on financial recording of NCFUG.

It is learnt that sometimes-poor information dissemination has hindered the opportunity of the users to participate in meetings to contribute with their ideas. As users also link this with KUWUA's deliberate action to charge fines, they think that the devolution of power to SI has contributed in reducing this problem. According to Gilmour and Fisher (1991), many users with legitimate interest failed to attend meetings because they were not informed by the committee comprising politically active people. In NCFUG, despite the invitation to all users in mass meetings intended to furnish the information, those who were absent were deprived at occasions and they missed the opportunity to be the part of decision-making. The research has suggested that users meeting need to guarantee that all people with potential interests in forest use need to attend, present their ideas and own any decisions made. It was found that committees formed were not representative in some periods and at occasions were unable to make decisions that best serve the users. Had there been no such practice, decisions made by the committee would have represented the consensus of the users. Underlying this situation is the anthropology of social process.

It is found that the information communication involves a mixture of traditional approaches of using from *chaudikar* and cobblers to oral communication in person to person in KUWUA. Additionally, in NCFUG, it is found that there is a practice of pasting notices in the public places, which indicate a more formal approach. In this context, the research found that informal communications are effective and have additional advantage that they enable divergent users to be present. Gilmour and Fisher (1991) have pointed that community forest is most likely to meet the objectives of diverse groups if they are represented this way and their interests are taken into account.

Proper accounting and auditing including public auditing gives users a feeling that there is no mishandling of the funds. This also reduces the possibility of any disputes among succeeding EC. However, the research has revealed that KUWUA is relatively weaker in the annual audit reporting than NCFUG. It is also found that favouritism sometimes is responsible for poor documentation of decisions.

The research has deduced the role of instability in EC in promoting reluctance to understanding institutional norms. Instability of the members in KUWUA and frequent changes associated have made KUWUA and *sakha* committees not properly updated with the institutional norms and rules. Uphoff (1996) has identified institutionalization of the learning process as key characteristics of active CBIs. With more frequent meetings in NCFUG, the executives were in a better position to understand institutional norms and values. This is found to have resulted more trust, closeness and thus the social energy.

Power centralization and favoured decisions impact the governance. Social recognition, unseen economic benefits and political exercise are found to be some of the forces causing the Chairperson to take full responsibility of the CBI. In the researched CBIs, it was observed

that KUWUA's Chairperson is most powerful and majority of the decisions are in his favour. Ignoring the role of Treasurer, the records of income and expenditure for a long time were with him.

In both the CBIs, it is partly found that there is realization of roles and responsibilities among the users. Sense of ownership towards irrigation system is found to be the most important aspect of governance. In this context, Uphoff (1996) highlights self-correcting mechanisms through participatory monitoring and evaluation as important element of governance. Likewise, the responsibility taken by the forest users in guarding the forest in a group on a rotational basis reflects the presence of social energy and ownership over the CBI. This is an adjustment and Uphoff (1996) observes the need of making adjustments in the CBIs to cope with new demands and in this context in the delegation of roles is essential.

The research has recognized that there are practical reasons why the CBIs need to be concerned with equity. Ideologically, equity is seed to commitment while in practice, lack of such commitment is another seed to poor management and function of the CBIs. These findings in KUWUA are similar to what Uphoff (1996) has found in the initial days in Gal Oya- problems arising from poor structures made equitable distribution of irrigation water a difficult task. Contextually, in the benefit sharing, participatory decision-making process, including poor, landless and women is considered in the recent days thus promoting mutual respect and trust among the users. In KUWUA, the users also feel that mutual trust and co-operation are improving due to realization of social inclusion and cohesiveness. Additionally, the proportion of benefits received by users is found to influence mutual trust. When all NCFUG members received equal benefits over forest users, there was good relationship between them against the time when there was inequitable distribution. Gilmour and Fisher (1991) observe that these sorts of disputes need to be resolved through local initiatives as seen as recent trends in these CBIs.

It has been identified that power delegation is responsible to promote accountability of SIs. There is on the other hand a practice of delegating power except to make important decisions and those related to financial aspects. KUWUA has given power delegation to its *sakha* committees to organize GA in selecting SIs. On the other hand, many of these functions of KUWUA have been found to be flexible enough to adjust to the needs in the institution.

The research identified that in the past, to run the system efficiently, the KUWUA could not enforce its rules and regulations as provisioned despite the fact that there were many rules and regulations for system O&M. However, the analysis now is found to provide major guidelines for the institutional growth and decision-making. Though it is reflected that there are flexibilities in rules, the opinion of Chairperson is considered as a rule itself thus putting questions to rule of law on consensus. Again the enforcement of financial rules at times is

more problematic. The dynamic nature of NCFUG is that the rules are found to change as EC is changed and new EC sees things differently and makes different rules.

The research has inferred that in general, poor land records are the causes of conflict in the use of irrigation water during *urdi* mobilization. Conflicts related to refusal of payment of fine (absence in *urdi*), rate of penalty amount differing for similar activities, increase of fines and penalties and SIs flexibility for nearer and dearer ones are most common reasons for poor enforcement. In NCFUG, the inability to enforce rules and norms effectively is because of several reasons: weak monitoring due to conflict, clashes between armed timber smugglers from India and Maoist forces and possibility of further social problems when actions are taken to enforce the rules. This has indicated a weaker mechanism in NCFUG for enforcement. In both CBIs, however, these issues are found being resolved with common consensus and understanding to avoid further serious misunderstandings.

The practice of solving these issues at various levels reflects democratic practice. Therefore, this research has pointed that fines and penalties are important aspect of conflict resolution process, but fining and punishing defaulters is generally difficult and time-consuming task. A particular mention is necessary at this situation: less water has been the hindering factor for not raising penalty on time, it is very difficult to pressurize water users to pay penalty in water scare condition.

The decisions on fines, penalties are found to be guided by the meetings organized to decide on these aspects. Together with fines, the presence of the reward system to those who help in protecting forest and informing the violators is positive aspect in NCFUG. There is a mechanism to reward people who help to grab forest encroachers. The provision of reward through the fine raised is established as a norm for encouraging forest users for forest protection. In terms of irrigation management, Uphoff (1996) has identified that farmer's ability to handle O&M activities and conflict management at the local levels can ensure a governing and a functioning institution.

KUWUA is found to have limited experience on election process as there has been only one election undertaken so far. Therefore, the process of nominating/selecting the members in KUWUA is not found transparent and still favouritism is perceived by the users in selecting the executives. In NCFUG, the election to the EC is organized though a mass meeting but it remains a CBI where there is a lot of politics. Because of such un-institutionalized election process, only influential people were elected/selected in NCFUG. However, sometimes new and fresh energetic faces appear to take the lead and this also reduce the chances of losers not supporting the winners in the EC

In terms of membership, despite of clear provision in constitution of KUWUA, the membership distribution is not given high importance. In NCFUG, one has to produce certificate of migration to this place for membership.

In KUWUA, the mobilisation of labour is reflected through users' participation for *paini* O&M. At the *sakha* level, SIs are responsible to mobilise the resources whereas at the system level, key EC members of KUWUA have authority to mobilise internal as well as external resources providing an opportunity at all levels to possess equitable decision making and thus the resource sharing. As *urdi* mobilization takes place by determining the work volume of headwork in KUWUA, it is explored that to reflect equitable practice, many exemptions to executives and those identified by them and reluctance of the big landowners to send required labourers at the time of *paini* might bring disincentives to other users. As land inventory is crucial to raise the required amount in an equitable basis, the use of old land records is found to create some disputes.

At NCFUG, the cash resources are found to be generated through the sale of the forest products, fine and penalty as well as through support of other agencies engaged in forest protection. By rules, there is equal right for equal access to forest resources and therefore all are required to provide equal labour contribution in the forest conservation activities. This reflects the theoretical perspective. Gilmour and Fisher (1991) go on to define community forestry as forestry which is locally controlled and which allows the benefits to be distributed locally. These seem to be in practice as one each from each household is involved in forest guarding in the rotational basis. Additionally, exemption for disabled people for forest guarding is a positive discrimination taken by the users.

While it was learnt that organising social feast is an interesting case for resource collection and sharing in KUWUA, equitable water distribution is reflected with a mechanism in place for the use in rotational basis. However, water sharing is found to be problematic because of poor functionality of some flow dividers in the system. In such cases, users are found to resolve the problems acknowledging the neighbourhood and mutual support.

The research has presented the complexities of these CBIs in resource collection and use. It is identified that NCFUG is collecting the resources from different sources and as a result, it is mobilizing these resources or sharing the benefits to users through different uses especially for community development activities. However, within NCFUG, the conflicts are found to revolve around use of forest income and provision of wood but are being solved locally. Users have access to forest products as these products are distributed to users at a time interval. They are found to engage in monitoring of the forest and in protecting and conserving it. However, from some poor users, it is learnt that they are not able to benefit from resources distribution because of weak voice as well as in absence of their participation in decision-making meetings. Likewise, it is reported that many of the influential users force weaker and

poor ones to only sign on minutes, but without giving benefits to them. Thus, it is inferred that despite access, control over the resources for some users is still primitive.

Regular meetings are organized by KUWUA and *sakha* committees in recognising the need of broader representation including women and landless. Gilmour and Fisher (1991) include women, poor, lower castes and people specializing in distinct economic activities as interest groups for forest protection. In NCFUG, meetings are regular, with the dominating users usually at the forefront expecting additional benefits from the decisions made. However, it is generally found that poor users also participate in forest planning, thinning and cleaning programs and as they are paid, they do not hesitate to work. As Uphoff (1996) has identified that CBI's orientation and structural changes are necessary for participatory management of these institutions, it is found from this research that there is increasing awareness and sensitivity with the KUWUA EC on ensuring the management through best possible participatory approaches.

Empowerment involves recognizing the various elements in a heterogeneous user society and consciously focusing attention on disadvantaged groups. Theorists of community forestry as a social forestry see women involvement as central to this. However, in NCFUG, the research has spotted that position for women is still low in conservation and protection. In KUWUA, active participation of women in WUS is documented. However, it is reported that there are certain challenges-religious belief restricting women to touch water, thus affecting *paini* O&M.

CBIs are supposed to have a vision and supporting missions, goals and objectives with clear indication of where the CBIs want to reach and how. The research has identified that CBIs that have these plans also have strategies to cope at times of problems and can sustain easily. It has been found that the KUWUA does not have written and documented VMGOs though executives are aware of their importance for the institutional development. On the other hand, there are VMGOs at NCFUG and the users are found informed on them. In addition, KUWUA is found to be little weaker in programme planning inferred with its limited ability to fulfil the water needs. In NCFUG, it is found that it has different development plans, ideas and directions that it wants to execute, practice and move as regards the forest protection and management. A good co-ordination with district line agencies is possible through the continuous efforts of KUWUA and NCFUG executives. Political linkage and coordination has been found supportive to expand the list of resource generating agencies. NCFUG is considered to be in a better position to expand linkage and coordination with its forest resources, which it is providing to other agencies as well.

The research has used above discussions and explanations to explore some forces and factors for improved or deteriorating governance system in the researched CBIs. In doing so, the research has explored issues and the reasons they contribute to.

-) The level of empowerment especially the abilities of the users to seek the information and voice against any misdoing are found to influence the record keeping system of the CBIs. It is found that education is a force that links transparency, rules of law and predictability. In CBIs where the members are relatively educated, the activities are transparent and follow established rules and regulations with users engaged in planning.
-) Advance notice is found to contribute to accountability promotion and maintaining of the rule of law thus planting the feeling of social solidarity. In addition, the form of letters and notice board is found to be a systematic approach but unsuitable for illiterate population and to Terain women when the letters/notices are written in Nepali. Given these limitations, oral communication in local dialect is considered effective for all to understand.
-) The size is found to put immense affect in ensuring the system of any CBIs. In small CBIs, there is sufficient time for the leaders to listen to user's concerns and incorporate them, unlike in bigger CBIs. Further, it is traced from the research that ethnicity that values education with the culture of keenness and system approach, the attitude of users to work and willingness of users to see the status of records makes a better system.
-) As rule of law of the CBIs is found to be linked with the resource-use related conflicts, participatory conflict resolution at local levels led by local leaders is identified as necessary way to promote social values, neighbourhood and brotherhood, which ultimately contributes to promote rule of law. Likewise, the research has indicated that whenever the power is delegated, those users to whom power is delegated feel like being more responsible and carry out suitable tasks with instinct incentive to work.
-) The research has identified that in order to promote ownership and make users accountable, monitoring also needs to be participatory. The monitoring roles of users living near the forest boundary are intense demonstrating awareness-generated self-monitoring of their collective resources. Similarly, in KUWUA, there is a practice of community surveillance and monitoring of the system operation. In addition to this, it is observed that shared values have played important function in terms of security to the village from likely looting by the looters. This common strategy to keep all safe is found to promote cooperation in the institutional works.
-) Social norms have advantage over formal rules. Majority of the people are ignorant on the formal rules prepared by the elites, resulting poor ownership and enforcement. Social norms and values are found to contribute to maintain social solidarity, social insurance and social imagination.
-) The participation of the users in the development of the CBI is found to be largely influenced by socio-economic incentives in place especially to develop the feeling of ownership over the CBIs. As these CBIs, have promoted the rules of positive discrimination, as there are incentives in the rules and regulations, people are encouraged to participate in the protection and utilization of resources for which these CBIs are operating. However, the

research has found that creation of the inequitable environment, prejudiced resource mobilization can lead to mistrust, and poor transparency while alternately, equitable resource mobilization is found to contribute to ensure ownership over the CBI. On the other hand, it is found that distribution of resources on equitable basis is necessary to be owned by the users and that users are motivated to contribute to achieve the goals of CBIs when they are involved in decision-making process.

) The strategy chosen and adapted for selecting the representatives in the EC of CBIs is found to exercise a significant role to keep the systems functioning and for balancing power and ensuring ownership. With this the age of the CBIs is crucial factor for their institutionalization and external resource mobilization.

) The research has explained the power of friendship and social energy for meaningful participation. It is found that among the users of NCFUG and KUWUA, these factors have led to bind them, allow them to learn and build on the experiences. Social energy is identified as a psychological asset for the users, which could be mobilized for reducing tensions, solving problems and directing to collectiveness from self-centredness as evidenced in both the CBIs.

) Those users who entirely depend on forest resources, who are close to the resources and can access them, have more concerns on forest protection than those who seldom benefit from them directly. The distant users who do not depend on forest products except benefiting only when the income from the forest is used for community development activities, are less ready to protect the forest. The people on the left side of road to Uttarbahini are not much concerned on NCFUG management issues.

Though above inferences deduce the factors for promoting good governance, the research has identified that there are critical factors that have caused to result poor governance.

) The delay in receiving the information through formal means such as letters is found to perform limited goal in illiterate communities.

) Poor mechanisms for reward, fine and penalty are identified disincentives for governance as these reduce user's initiatives to identify those involved against protection and maintenance of CBIs.

) Despite the need of equitable power sharing, whenever those who have their own roles and responsibilities assigned do not follow these sorts of norms, in the studied CBIs, it is found that transparency is questioned. Likewise, absence of public auditing is found to weaken the way records are kept and as a result, it creates conducive environment for manipulating the funds.

) The research has identified that only few portion of the users are familiar with constitutional provisions, rules, roles and functions. As a result, it is found that poor dissemination of institutional norms and rules as well as their poor enforcement has contributed to poor rule of law. Because of

inequitable distribution of benefits from the CBIs, users' ownership over them is affected resulting their poor participation at instances.

-) In CBIs where physical infrastructures play an important role in resource and benefit sharing, it is found that there are questions on efficiency and ownership of the users with inability to maintain these infrastructures. Sometimes it is found that CBIs fail to address all of the needs from the limited resource available within these CBIs. Whenever, there are influential people in the EC, the decisions are made to suit their interests and in such cases there are cropping disputes.
-) Participation and decision-making are two reinforcing essentials to bring synergy between the two and to collectively contribute to develop sense of ownership. In absence of VMGO, strategy to run the CBI and collect long-term resources, management strategies for O&M, and programs to link livelihood of all users including the poor users, it is inferred that CBIs shall not be able to sustain.
-) When there is no trust among the users, leading the CBI to everybody's benefit becomes difficult. Blaming by one group of people to another erodes mutual trust and ownership and therefore more misunderstanding is likely. It is found that when the powerful EC members are from a particular origin or area, then concerns raised by the other people is sometimes not duly considered because one would prioritise locational or ethnic concern.
-) Presence of a national forest near the NCFUG has led to reduced motivation for some users to engage in community forestry protection as their needs are partly met by the national forest. Likewise, presence of a government managed Kamala Eastern Canal and a conservation pond supported by DSCO have provided alternative for some farmers to irrigate their land for times when they do not receive water supply from KUIS. As a result, these farmers are less active in irrigation management activities in comparison to those farmers who do not have these types of options. It is therefore inferred that having options means that the efforts are divided and having easy options means efforts are less for initiatives that require more time and energy.

8.2 Main Findings

Broad conclusions from the research

The research has an explored into six elements of governance as discussed above guided by two key theoretical perspectives. Within these perspectives, findings of the CBIs are compared. Following are the major findings on the governance of the CBIs.

i. Empowerment and governance

When users and executives have technical and managerial skills, there is proper documentation of the processes and decisions resulting transparency. It is found that illiteracy, social inequality, marginalization, social discrimination, social miss-behaves,

ignorance of the benefits of record keeping, and attitude of people not to question the powerful local political leaders contribute to lessen transparency. Likewise, whenever educated persons are represented in the EC of the CBIs, there is high importance laid on managing social and human capitals, knowledge and maintaining integration. Additionally, ethnicity that values education with the culture of keenness and system approach makes a better system. Therefore, it can be concluded that empowerment of the user's influences the record keeping system of the CBIs. The research findings fully support Gilmour and Fisher (1991)'s findings where it is clearly mentioned that empowerment is an offset to 'capture the benefit' approach.

ii. Choosing the means of communication

With advance notice from executives, it is found that users recognize them being accountable. A clear dissemination of information on local dialect, if possible traditional methods of communication motivates users to be present in the meetings and discussions to share their ideas. As communication embedded with the traditional norms fosters social movement for integration of varying interest groups into a common goal, it is concluded that these means ensure that everybody is respected. It is also concluded that oral communication is effective means of communication because the delay in receiving the information through formal means such as letters is found to perform limited goal in illiterate communities. While Uphoff (1996) identified the need of formal support for a successful irrigation system, this research has partially rejected at this scope that formal government support is not necessary. KUWUA with its informal structures at the branch level has been able to maintain its functions of communications. This inference from this research however, accepts Gilmour and Fisher (1991)'s theory where, informal communication and discussions in meetings yield effective results.

iii. Rewards and penalties-issues of ownership

Poor mechanisms for reward, fine and penalty reduce user's initiatives to act. This becomes disincentive for governance. Rule of law of the CBIs is linked with the resource-use related conflicts, and participatory conflict resolution at local levels led by local leaders is identified as necessary way to promote social values, neighbourhood and brotherhood. It is sufficient enough to conclude that self-monitoring practices are more effective than guided monitoring in terms of ownership and social responsibilities to abide by the rules. This is one of the clear findings from Uphoff (1996). On the other hand, in small CBIs, there is sufficient time for the leaders to listen to user's concerns and decide on rewards and penalties, which is quite difficult in bigger CBIs. Therefore, it is also inferred that in bigger CBIs, everybody's responsibility becomes nobody's responsibility especially affecting rewards and penalties as have been evident in the KUWUA. Gilmour and Fisher (1991) have similar inference as they

see empowerment as an element to administer rules, their enforcements, rewards and penalties.

iv. Social norms-beneficial to formal rules

Social norms are agreed by the general users, and are based on local context and can be easily enforced than the formal rules. They also contribute to maintain social solidarity. These norms that generate shared values also play important function in terms of security to the village from external threats. Therefore, it is inferred that social norms have advantage over formal rules. This can also be proved with the fact that when only few portions of the users are familiar with constitutional provisions, rules, roles and functions, there is poor dissemination of formal rules as well as their poor enforcement. Again when social norms promote the need and practice of power delegation, it is concluded that those users to whom power is delegated feel like being more responsible and accountable.

Socio-economic incentives such as positive discrimination and exemption from certain task and fee influences ownership over the CBIs. In both NCFUG and KUWUA, the research has found that enforcement of social norms are easy while formal rules have acted as means by elites to dominate over the poor and disadvantaged.

v. Equitable resource distribution and governance

Creation of the inequitable environment and prejudice-led resource mobilization can lead to mistrust and poor transparency as well as poor ownership while alternately, equitable resource mobilization giving space to address needs and concerns is found to contribute to ensure ownership over the CBI. Additionally, despite the need of equitable power sharing and labour mobilization, whenever roles and responsibilities assigned are not followed, transparency is questioned also affecting accountability. Therefore, it is concluded that distribution of resources on equitable basis is necessary to be owned by the users. However, additionally, it can be said that socio-economic incentive including positive discrimination for those needy people is part of equity. These inferences from this research have close meaning with the theories referenced because these theories clearly explain that inequitable distribution makes task of repair and maintenance difficult, leads to dis-incentives for work for those not benefiting equally and this results to collapse of the CBIs.

vi. Delegated power and public auditing

Users are motivated to contribute to achieve the goals of CBIs when they are involved in decision-making process. However, as the Chairpersons are found to exercise the power assigned for other officials, it de-motivates users and other executives. Likewise, when responsibilities are assigned based on kinship, there are problems of poor record keeping. The situation becomes more problematic when public auditing is not organized. These facts

can be considered to make the inference that power delegation and a mechanism to monitor the performance with public auditing are essentials of a well governing CBI. While Uphoff (1996) explains this by linking delegation with various levels of meaningful participation of the irrigating farmers, Gilmour and Fisher (1991) clearly spell the role of putting in place the local arrangements to consider the interests of various users. Therefore, the research findings accept those of theories.

vii. Structure and infrastructure for fair institutions

At some occasions, influential people in the EC force to take biased decisions, which can contribute in increasing disputes. Though older CBIs manage to address such problems, there is a need to restructure such mechanisms where such biases will be eliminated. Further, in CBIs where physical infrastructures play an important role in resource and benefit sharing, there are questions on efficiency and ownership of the users with inability to maintain these infrastructures. It is thus concluded that accepted and conscious based structuring and infrastructure is essential to achieve a functioning CBIs following governance principles. To achieve this, realistic planning and wider coordination is essential. Uphoff (1996) has clearly mentioned how realistic planning could result globally recognized results in Gal Oya in Sri Lanka. Similarly, Gilmour and Fisher (1991)'s theory is accepted by this research. Their theory shares the need of documenting the community forestry as a social process to keep on growing.

Governance of CBIs: Strengths and areas for improvement

Though above sections describe numerous inferences based on several cases and examples, it is useful to briefly summarize some good aspects and areas for improvement of the CBIs in terms of governance indicators. Some of the key strengths and areas for improvement from the research are listed below:

Strengths

-) Record keeping is promoted by agreed rules and norms especially with the roles and responsibilities assigned to the users and EC member. Sole responsibility of keeping records is with the EC members in KUWUA. There is clear minuting in NCFUG.
-) KUWUA has realized the importance of financial record for transparency and now registers and accounts are maintained. It has started to provide receipt for *bighatti* and *paipatti*. It has also started keeping the records of the fines collected.
-) Oral communication is becoming popular and there is person-to-person communication using *Chaukidar* in KUWUA. However, KUWUA has started to send letter for information dissemination. In NCFUG, users are given information on financial and other aspects time to time by organizing mass meeting and by formal communication.
-) KUWUA has a practice of settling disputes regarding the water management in a transparent way organising *panchayati*. Decisions on disputes are mostly carried out based on consensus. There is also a practice that decisions are not taken if the presence of users in the meeting is low. In NCFUG, when disputes need to be solved, EC in meetings invite other social leaders including those who can listen, understand, share, suggest and solve the problems.

-) Clear indication of responsibilities is assigned to KUWUA, *sakha* committees and users. Mobilisation of *urdi* takes place according to tole and executives take responsibility of M&E.
-) In KUWUA, there is power delegation to *sakha* committees to organize GA in selecting SIs and for *bighatti* and *paipatti* collection. Decentralized management practices to *sakha* committees encourage them to fulfil their roles effectively.
-) NCFUG members are aware on their responsibilities and roles in protecting the forest. EC members and users have put in place a mechanism of rotation for regular monitoring in community forest.
-) There is special provision and practice of considering the issues of the poor forest users. This is found to promote ownership over resource even by the poor sections of the users. In NCFUG, there is a practice of providing the loan to the users at low interest rate especially to those who like to go abroad. Poor households are also provided with land in community forestry to carry out income generating activities such as *kurilo*, taro, turmeric, coffee and ginger cultivation. These efforts are able to contribute to equitable resource sharing.
-) There are certain rules from operation to management in both KUWUA and NCFUG. Water management practices of KUWUA have more specific rules, responsibilities and procedures. Rotation practices are adapted from tail to head also. Local conflicts among users are resolved locally. Social norms play significant role in promoting trust among users to follow rules. There are systems of rewards, fines and penalties in both CBIs and these systems are agreed by the users in the meetings.
-) In KUWUA, mobilisation of labour for *paini* O&M is also equitable and it is the volume of work, which determines the amount of *urdi* mobilization. Likewise, water is distributed in an equitable basis through rotation system and the users have access to their field channels.
-) There are regular meetings organized by KUWUA as well as *sakha* committee with users. Women have started going to field for irrigation, attending in the *urdi* for physical work and taking part in meeting regarding water management. There is ethnic diversity and mutual respect in involving the users.
-) In NCFUG too, there is meaningful participation for good works such as plantation of trees, distribution of fuel wood and timber, control of forest fire and forest monitoring.
-) It is good now at least those users have realized the importance of VMGO in KUWUA. Likewise, appropriate coordination between head reach and tail end users has also been enhanced locally while there is good co-ordination with district line agencies and various political parties. Presence of VMGOs in NCFUG, a good programme planning for the use of the local resources and to seek additional resources and also the initiatives and results from coordination are some other positive aspects.

Areas for improvements

-) In order to maintain transparency, keeping and updating the land inventory is essential in KUWUA. The practice of well-off farmers to avoid *urdi* and influence of party politics remain some issues here. It was weak monitoring and evaluation of the rules, which have led to poor recording of proofs and documents and manipulation in the rates of fine and penalties.
-) As the research finds, deliberate tendency of not informing the water users on certain calls or decisions just to charge more fines and penalties is another concern. There is a need to present periodic progress and other information on finance in public boards and to organize annual audit reporting and PA. When the records are not in the illegible form, there are issues over the income and expenditure in NCFUG. Other concerns here include documents without supporting bills and receipts, unaccounted money spent by NCFUG EC members as they go out and poor auditing system. These days, the users are raising the issues of PA to maintain the financial transparency.
-) Powerful Chairpersons in both CBIs means that it is this position that makes decisions and it is sometimes found that there are unaccounted benefits taken by Chairpersons.
-) In KUWUA, mismatch of *toles* and command area of *sakhas* is the result of poor accountability and there are few cases of disputes between head reach and tail end users. It is also found that sometimes there is unwillingness for mobilization of internal resources and is another factor for poor service delivery.
-) Some members of NCFUG are not oriented on their roles and therefore have limited understanding. This has reduced the accountability and responsibility of those who ought to be. Users identify that limited information on meetings and decision is shared to them.
-) As it is found that the opinion of KUWUA Chairperson is itself a rule, there is greater chance of manipulating the rules. Though rules are in place, the level of enforcement is sometimes very weak. On the other hand, as a single person has become Chairperson for several times, this has questioned on meeting the requirements as in the rules.
-) In NCFUG as well, powerful and influential forest users sometimes disobey the rules. The worst thing is that the rules change as EC is changed affecting the enforcement. Other concern also includes poor election process at times where only influential people are represented/selected.
-) When there is less water in the *paini*, equitable water distribution is not effective. Further, poor functionality of flow dividers result disproportionate supply of water. Critical issue on equity is limited right of women over water management activity.

-) Though the influential people are absent, they are noted as present in the meetings. Many of the influential EC members force weaker and poor ones to only sign on minutes, but without giving benefits to them.
-) Despite the involvement of all types of users, yet women's involvement is found to be ineffective in both the CBIs. There is a need to ensure all users' including women's meaningful presence and participation in forest protection and conservation, in meeting and decision making process.
-) Absence of written VMGOs in KUWUA is found responsible for lacking long-term plan and program. Hence, it is unable to generate many resources externally. In NCFUG, clear strategies for supporting the users in areas of livelihood improvement at household level, as it is weak at the moment need to be further identified.

These findings reveal that mostly, the outcomes have similar findings from theoretical perspectives taken reference for this research.

Some Cross Cutting Issues

There are several crosscutting issues this research has identified as essential aspect for further consideration. Maintenance of inclusiveness, capacity building of users and CBIs for planning and implementation, making realistic plans for coordination and resource generation, and promotion of participatory and self-monitoring mechanism are other such essential aspects identified by this research for putting in place well-governed CBI. Having discussed these various facets related to two CBIs, there are particular and specific issues in each governance indicators to make further discussions.

i. Inclusiveness

The time has now shifted from excluded to an inclusive system where there is representation from various groups of people including women, poor, dalits and disadvantaged groups in all CBIs. Having analysed the inclusive face of CBIs, it is identified that this has still remained an issue for giving more consideration. Inclusive structure in CBIs could be achieved with the engagement of local NGOs in empowering the people at one hand and sensitising the CBIs on the needs of inclusion. As being included is a human right issue, there is a need for mainstreaming all sorts of users in both KUWUA and NCFUG. Giving hopes to those who do not have it, showing path to those who have not seen it and bringing qualitative change in cultural beliefs from that which restricts inclusiveness are some of the recommended measures for CBIs to this end.

ii. Capacity building

As the skills required to manage the CBIs are dynamic, a distinct gap seen in the CBIs where this research is undertaken, revolve around local capacity building. Users together with the indigenous skills and knowledge need to have specialized skills-this opportunity of new skills

and ideas can help users to engage in appropriate planning for sustainability. The technical skills can support CBIs in their institutional development. Local government agencies and NGOs have to fill this gap. Gilmour and Fisher (1991) also indicate institutional building and consensus building among the forest users as critical elements to governance.

iii. Planning and linkage

Both the CBIs are found to lack an agreed plan except for NCFUG's operational plan. This is likely to erode the strategic thinking of the EC in power and might be miss-guided or not guided at all. Supporting CBIs for strategic planning therefore becomes a visible need at the local context. This planning has to be clearly linked to local, district and national level resources. As LSGA (1999) recommends using the local resources locally, there is a need to link VDC resources with the CBIs's resources. In other words, a need of local resource based planning is vital to avoid frustration related to achievement of planned interventions. This sort of horizontal linkage leaves behind the sense of equal access to and sharing of resources.

iv. Monitoring

Varying levels of monitoring is required but monitoring in today's sense should be accompanied with facilitation to build on the CBI's capacity. Participatory monitoring can contribute to transparent progress of the CBIs but the need to identify the areas for improvement and the actions to address those gaps can help CBIs grow wider in terms of programme and benefits to users. The monitoring by affiliate apex institutes for CBIs means an opportunity to share latest techniques of management, which CBIs can grab and grow on. The regular monitoring at various levels help to understand the overall issues related to the CBIs.

v. Enforcement of policies

There are clear provisions for community forest and irrigation management but their enforcement remains a question in many CBIs guided by them. Though Irrigation Policy of 1996 requires at least 33 percent female participation in each WUA, it is found lacking in most WUAs including KUWUA. While it is also mentioned that water-user shall participate in all stages of the construction and rehabilitation of irrigation structures, participation of women is still found poor. Likewise, Forest Act 1993 postulates that CFUGs and forest hand over will not be affected by political boundaries but it is found that there is a lot of politics in NCFUG. It is also stated that government shall provide technical assistance and advice, yet this has been found a major gap. Therefore, enforcement of policies remains a question in CBIs and there is a visible need of abiding by the policies with a clear tracking mechanism in place.

The research has thus established the associated links to a particular situation of both the CBIs in terms of governance citing examples where possible. Inferences are drawn to compare the governance indicators in these CBIs. In doing so, it is found that both NCFUG and KUWUA have some good reasons to reflect good governance while it is also found that both of them have few limitations on which they have to work, foster and bring qualitative change. Obviously, it is to sum with few key findings, which shall help to get zest of the research. Means of information dissemination makes a big difference on how people feel about the transparency. On the top of that, the way each responsible person behaves and conducts is reflective of realization of roles and responsibilities. Users are found to be positive among those who duly perform the responsibilities assigned to them. These sorts of EC members are also acknowledged if their duty for ensuring access and control is fulfilled.

The research also has found that enforcement of rules is critical aspect in ensuring rule of law. However, it is reflected that there are numerous challenges for the same. The need for inclusiveness is also responsible for this challenge while it is considered as a pillar for the ownership on the CBI. This situation can be improved through a planned strategy and it is

inferred that planning and coordination can help CBIs to cope with the problems and design a sustainable mechanism to continue the CBIs.

Research findings: significant similarities and differences with theories

The findings from this research have multiple dimensions, some theories postulated by the researchers are similar to the findings from this research, some partly resemble while in some cases, there are new or additional issues and inferences in comparison to similar researches. While analyzing the findings, it is found that the key theoretical perspectives from Uphoff (1996) and Gilmour and Fisher (1991) that have been the basis of this research are also somewhere partly rejected though majority of the inferences are same or similar. Uphoff (1996) draws key inferences on transparency such as that related to the need of proper record keeping system and the need of strong decision making and their documentation. This research also infers that both are equally important to inbuilt trust and transparent system. Learning by doing and building on lessons as identified crucial elements of governance by this research are explained as presence of self-correcting mechanisms and potentiality of adjustments to cropping needs and demands by the researcher. This research has observed that users' adaptability to new circumstances is a major factor in the success of KUWUA. This supports Uphoff (1996) findings where he highlights the need of supportive provisions for a governing institution.

Uphoff (1996) argues that in many irrigation institutions, leaders are likely to manipulate many resources- fund, forces, status, etc. This research partially accepts this inference taking evidence of executives repeatedly taking the roles in EC. As evident in KUWUA, social energy partially could minimize the disputes due to expected benefits taken by executives, and Uphoff (1996) argues that social energy animates individuals and groups to improved performance for collective purpose rather than taking individual benefits. It can be only partially accepted as attitude of leaders depend on many other things like trust in addition to social energy. To achieve collective benefits, the research finds that positive ideas and friendship are more important. As Uphoff (1996) has identified that CBI's orientation and structural changes are necessary for participatory management of these institutions, this research finds that not only orientation externally, but realization internally is pushing this approach. Therefore, the findings partially reject the fact that structural changes are possible only through external orientation. Maoist movement is found to force to engage all groups of people in the resource management.

The finding from this research partially accept Cernea (1985) findings but does not fully agree that mere participation is ultimate step for ensuring organizational density and governance. Chambers (1983) explains that people are primary. But, considering farmers as only experts from 'farmers first' approach (Chambers (1989) in planning is also not always true. The research has established that bringing innovations, lessons

and skills from other areas is essential to grow CBIs. So, this research partially rejects the fact that farmers are ultimate experts as it is evident that systems from other CBIs are useful for farmers to plan for management and to improve the performance of their CBIs. This research also believes that learning approach is primary as Korten (1990) observes to simply placing defined knowledge as supreme governing factor. The research findings relate to Cernea (1985) observations where he explains the need of trained human resources for ensuring sustainability of CBIs and the benefit of social fabric as well as coordinated actions and trust. This research partly rejects the findings of Chambers (1980) as only incentive which influences the users' decision to participate in O&M is not only the acquisition of an adequate and reliable supply of water as he explains. Notable mention on Pradhan (1989) findings is essential as this research finding reveals that FMISs cannot be successfully managed and sustained without external support as his finding. It is seen that in absence of support from outside, KUWUA has faced difficulties at times to rehabilitate/repair the system. Bromley et al. (1992) and this research suggests that in order to increase productive efficiency, some external support is really necessary from the very beginning of the system development.

This research is in line with Uphoff's (1996) and Bagadion's (1997) inference on the need of proper recoding systems and Ostrom and Gardner (1993) findings on representative EC for fewer disputes among users. Likewise, this research partially accepts observations of Uphoff et al., (1991); Ostrom and Ahn, (2003); Uphoff, (2004) because their observation has not adequately addressed the relation of fines and rewards for system performance. This research identifies the enforcement of the rules as another critical factor for valuing the flexible rules. While Martin and Yoder, (1983) explain the need of written rules, in KUWUA, written rules have seldom failed to be functional. In addition, the research partially rejects the findings of Bagadion (1997) who emphasizes sophisticated financial management systems because in smaller CBIs like KUWUA, simple systems are found to be more workable and functional.

Inferences from community forest are also similar to findings from irrigation institutions. As identified and explained by Gilmour and Fisher (1991) in their theory of 'community forestry as a social process', effective forest management in NCFUG involves information exchange and this is required to reflect that a community forestry is following the governance framework in its conservation and utilization actions. The findings from this research correspond to what Gilmour and Fisher (1991) find in recognizing the need to acknowledge the important role of women in the key activity of community forestry and an approach to community forestry that puts community at the centre based on complexity of social structures and institutions. It is found that NCFUG has managed to adapt to needs with other's support and to support others to adapt utilizing its strengths. The findings resemble

to that of Gilmour and Fisher (1991) who clearly observe the need of setting local arrangements for a functioning community forest.

However, Gilmour and Fisher (1991) observe that disputes in forest use need to be resolved through local initiatives. But, despite the fact that local issues need to be resolved locally, there are instances when users have taken support of VDC, Range Post and even police stations to punish the defaulters and illegal timber suppliers. Sometimes, having all mechanism to resolve locally provides opportunities for crossing over of many rules and norms thus resulting a state of poor enforcement. Likewise, Gilmour and Fisher (1991) also indicate institutional building and consensus building among the forest users as critical elements to ensure governance but this research finds the need to revive their proposition. There are cases of backbiting and responding later once consensus is reached in the NCFUG. The research therefore has found that issues that are not agreeable need to be raised by users at the right time to have sincere impacts and to seek intended changes. In this context, Ostrom (1990) views that coordinated actions based on trust, reciprocity and credible commitment to the rules can resolve such issues in forest management.

Gilmour and Fisher (1991) define community forestry as a forestry which is locally controlled and which allows the benefits to be distributed locally. Similar findings are observed by this research but Bhatta, (2002); Chhetri et al., (2001); Tiwari, (2002); and Warner, (2001) observe that there are mostly disproportionate benefits. Likewise, the research has found that investment on useful infrastructure helps the users in multiple ways: increasing income, promoting leadership and education. However, Bhatta (2002) and Ghimire (2000) observe that CFs invest in non-productive sectors. Therefore, this research partially rejects their finding as NCFUG has been investing on roads (supports marketing), electricity (supports entrepreneurship), schools (leads to light) and drinking water (reduces expenses for health).

8.3 Directions for Future Research

This research findings and conclusions have been made and presented under the broad parasol of two theoretical perspectives, one each for irrigation and community forestry. The key elements of research have focused on the wider results and inferences drawn by the researchers in their researches to come to postulate these theories.

The research has used six pillars of governance in the analysis. However, various literatures have recommended other areas of governance that needs to be looked at carefully and analysed minutely. The research has not been able to directly analyze aspects such as human rights and democratisation aspects in these sorts of CBI as OECD puts. Neither, this research has been able to fully cover resource management issues and stability concerns of the CBIs as IMF sees in a full governing CBI.

Various local CBIs are also found to be contributing to human development as well as giving special consideration to ecological soundness to ensure that governance exists. This research in addition to these issues has not fully dealt with protection of minority groups. However, these are some of the important areas for further research.

This research has focused on forces and factors of governance of two CBIs in Siraha but it also has limitations. The single research is not able to address all the requirements to assess governance of CBIs. Given this, the research further recommends similar type of research in other areas. Some of the directions for further research are:

i. Coverage

This research is on only two CBIs-community forest and irrigation system. However, the findings from this research could have limited implications as regards to other CBIs. In our communities, there are other CBIs such as cooperatives and farmer's group as well. The governance structure of these CBIs is also necessary to make more generalized impressions on CBIs and their governance. It is recommended that future research focus on other CBIs in other areas so that the findings from those researches can be shared to compare with results from researches on irrigation system and community forestry.

ii. Power dynamics and governance

This research has been able to address the power dynamics especially in participation and accountability pillars of governance. Even within these pillars, the analysis is not in depth considering the research needs. However, power dynamics remains to be an important and critical aspect of assessment and analysis. The forces and factors to explain why social structure brings forward the power play in CBIs from governance structure and how these forces and factors bring impacts in CBIs need to be further explored. It is recommended that future research should aim at carefully understanding the political issues at local level and how they tend to impact the CBIs.

iii. Policy and practice review

This research has provided overall policy provisions on the CBIs under the research. However, under its jurisdiction, detail policy review was not a priority. Therefore, still there is a need of identifying the related policies and reviewing them. Particularly, it is important to review the provisions related to contribute to maintaining good governance of the CBIs they govern to.

Despite the policy provisions, many a times, the implementation is found very weak. The weaker implementation is the result of numerous factors such as inappropriateness, ineffectiveness, unrealistic nature, etc. Therefore, it is also recommended that policy

practice aspect need to be reviewed by the future research. Emphasis is also necessary to track the progress of CBIs in terms of governance.

iv. Diversifying the theoretical perspectives

This research was grounded on two key theoretical perspectives of Uphoff (1996) and Gilmour and Fisher (1991) for assessing governance of irrigation and forestry respectively. It is obvious that there are other perspectives, which can give similar or different findings on the governance aspect. Further, new findings from the new perspectives can also suggest ways to synergies other researches. Therefore, it is recommended that other researches are undertaken referencing other theories.

v. Societal composition and governance

It can be assumed that the social and cultural features have significant contribution in the functioning of the local CBIs and their governance. It is the society that directs its people and it is the culture, which shapes people what they are. Therefore, it is perceived that there shall be interesting findings on the co-relationship between governance and societal features. It is recommended that future researches consider these aspects to come with findings to compare the impacts of society and culture on governance.

vi. Impact of alternative resources on governance

It is identified that alternative resource availability can influence the way the local CBIs are institutionalized and governed. Having common property resource, which becomes an alternative to the resource protected and managed by the community might mean little incentives to be engaged in managing and protecting the resource. Therefore, in different types of CBIs, it is recommended that future researches identify the direct impacts of alternative resources on the governance and how such situation is addressed by the CBIs.

Gilmour and Fisher (1991) in the theory have concluded that attempts to intervene in resource management always result in social processes developing within the community. It is only by explicitly recognizing these processes and by matching them with attempts to assist with consensus building and CBI building that community forestry can claim to be a special form of people centred forestry. The conclusions deduced through this research do accept most of the conclusions and theoretical discourses their researches have evolved. On the other hand, Uphoff (1996) in his theory has concluded that if farmer organizations are to maintain their validity, they must keep changing, growing and altering, according to the wishes and capabilities of the local communities. This research has explored changes, growths and transformation within KUWUA. Both the theories, which this research has used for developing the overall framework are clear enough to explain the activities in the CBIs as the social process. As to the framework designed on these theories, the research has mostly accepted their propositions, in some cases, partly accepted and only in limited cases rejected.

Having a through discussion on theories and perspectives from various researches and agencies, practical examples and demonstrations in KUWUA and NCFUG, the key inferences need to be drawn relatively and cautiously. In explaining what issues are central to governance, both inductive and deductive analysis needs to be made. When transparency is to be maintained, it is not only keeping records of all kinds, it is also using them wisely for the institutional growth and dissemination to all users to seek constructive feedback. This can also be linked to say that performing the assigned roles does not make one accountable but reflecting the changing needs in the work is essential. Having stringent rules or recorded

regulations mean less when there is no opportunity for addressing the changes required and when they are rigid enough to change to bring expected impacts. When we say participation is essential, there is a need to rethink why participation is sought, what differences it brings, who participates and how and if participation brings ownership. Usually, future predictions and planning and coordination to realize such plans is essentially talked about but seldom there is analysis of whether that planning and coordination generate sustainable resources in terms of moral or physical support. Thus, this research observes that an in-depth process of each elements of governance in CBIs is of paramount importance.

The research findings presented here are the means for scholars and researchers but consciously should not be taken as the ends. Other researches as recommended above are suggested, encouraged and welcomed to depict a complete picture on governance of CBIs.

APPENDIX

Appendix 1: Number of Sampled Households in KUWUA and NCFUG

In case of population size known

$$S = \frac{X^2 NP(1ZP)}{D^2(NZ1) \Gamma X^2 P(1ZP)}$$

S = required sample size

X² = the table value of chi-square for 1 degree of freedom at the desired confidence level (2.71)

N = the population size

P = the population proportion (assumed to be .50 since this would provide the maximum sample size)

d = the degree of accuracy expressed as a proportion (.05)

Number of sampled households in KUWUA

For KUWUA (870 Households)	
X= Table value of chi square @ degree of freedom =1 for 0.1 confidence level	2.71
N= Population size	870
P= Population proportion assumed 0.5	0.5
q= 1-p	0.5
d = Degree of accuracy (expressed as proportion)	0.2
Sample size:	183

Number of sampled households in NCFUG

For NCFUG (400 Household)	
X= Table value of chi square @ degree of freedom =1 for 0.1 confidence level	2.71
N= Population size	400
P= Population proportion assumed 0.5	0.5
q= 1-p	0.5
d = Degree of accuracy (expressed as proportion)	0.15
Sample size:	150

Appendix 2

Format and Checklist for Household Survey

SN	Description	Characteristics			
1	Name of household head				
2	Population <i>(Pls fill the exact numbers)</i>	Male	Female	Total	
3	Education <i>(Pls tick the mark)</i>	Illiterate	Literate	SLC	Above SLC
4	Key occupation <i>(Pls tick the mark)</i>	Agriculture and livestock	Service	Labour	Enterprises
5	Land size <i>(Pls tick the mark)</i>	>4 <i>bigha</i>	1-4 <i>bigha</i>	1 <i>kattha</i> -1 <i>bigha</i>	Landless
6	Nature of farmers <i>(Pls tick the mark)</i>	Owner cultivator	Owner renting- out land	Farmer renting in land	
7	Use of forest resources <i>(Pls tick the mark)</i>	Forage/grass	Timber	Litter	Income generating activities

[Note: This format was used for the purpose of household survey through RAs]

Appendix 3

Checklist for Rapid Rural Appraisal

A. Information about Nepal, Siraha and study area

1. Geographical setting
2. Physical features
3. Altitude
4. Temperature (minimum/maximum)
5. Rainfall
6. Vegetation
7. Population composition
8. Land use patterns
9. Available water resources
10. Available forest resources

B. Information about Badharamal: the study VDC

1. Detail description of Bandipur
2. Emergence of settlements
3. Irrigation and forest development

C. Socio-cultural situation in study area

1. Household information
2. Number of settlements and housing pattern
3. Major caste/ethnicity

Caste/Ethnic Composition and HHs in Bandipur

Caste	No. of HHs	Percent

4. Education and literacy status
5. Facilities on health, water and sanitation
6. Traditions, norms-values, rituals and local customs
7. Major festival, local dialects, and customary practices
8. Dress and ornaments

D. Political situation

1. Major political parties and their performance in local community development
2. Role of political parties in natural resource (water and forest) management

E. Economic situation

1. Local markets
2. Employment opportunities within the village
3. Status of business entrepreneurship within the village
4. Seasonal and permanent migration

F. Agricultural pattern/systems

1. Type of land and size
2. Nature of tenancy
3. Production (cereal, vegetables, cash or other subsistence crops, etc)
4. Trend of crop production (decreasing, increasing or stagnant)
5. Cropping calendar and cropping pattern
6. Correlation between past and present agricultural patterns/systems
7. Changes in economic and social status because of existing agricultural patterns/systems
8. Impact of agricultural patterns/systems on resource management practices (esp. irrigation and forestry resources)
9. Contribution of agriculture sector in irrigation and forestry development
10. Types of organizations (CBOs, NGOs, INGOs, GOs) and their positive/negative impacts on agriculture patterns/systems

G. Physical infrastructures

1. Drinking water and sanitation
2. Electricity
3. Communication
4. Road/transportation

H. Institutional situation

1. Types of CBOs (CFUGs, WUAs, Farmers Groups, S/C Groups, local clubs, mothers group, etc)
2. Types of NGOs (local and national)
3. Types of GOs (Forestry, Agriculture, Livestock, Irrigation, Health, Education, etc)
4. Types of service provided by these organizations

Types of groups in Bandipur

Types of group	No. of group	Types of service provided

I. Natural resource management

1. Water resource (rivers, small torrents, ponds, small rivulets, etc)
2. Forest resource (community forest, government forest, private agro-forestry, etc)
3. Land resource (agriculture land, grazing land, forest land, land along the riverside, wetland, etc)
4. Others

Description of CFUGs of Bandipur

Name of CFUG	Area (ha)	No. of HH

J. Major forms of irrigation

1. Farmer managed irrigation system
2. Government managed irrigation system
3. Conservation pond for irrigation
4. Shallow tube wells
5. Deep tube wells
6. Sprinkle irrigation
7. Others

K. Major forms of forests

1. Community forest
2. Private forest
3. Natural forest (government owned)
4. Leasehold forest
5. Religious forest
6. Private agro-forestry
7. Others

Appendix 4

Checklist for Focus Group Discussion

A. General information

A1. Use of water resources

1. Irrigation
2. Domestic use (drinking, cleaning cloths and utensils, etc)
3. Feeding livestock
4. Fishery promotion
5. Others

A2. Use of forest resources

1. Fodder for livestock
2. Leaf-litter
3. Domestic fire wood
4. Timber
5. Firewood for selling
6. Other

A3. Organizational analysis of CBIs (KUWUA and NCFUG)

1. Origin and composition of EC of CBIs
2. Date of formation of CBIs, involvement and participation in conservation, O&M activities
3. Gender representation during the formation of CBIs
4. The composition of CBIs executive committee members by sex and caste
5. Executive committee member's prior experience to CBIs
6. Managerial difficulties faced during the initial periods of CBIs and their coping strategies
7. Election/selection procedure of EC members of CBIs, criteria followed during the selection/election, the gender ratio, types of procedure (democratic or non-democratic)

B. Governance analysis of CBIs (KUWUA and NCFUG)

B1 Transparency

1. Information and communication within the CBIs

-) Record keeping systems/practices
-) Financial records management
-) Information dissemination process/practices
-) System of communication among the users
-) Planning/public auditing systems/practices to ensure the transparency at CBI level

2. Decisions and realization of decisions within CBIs

-) Documentation of decisions by CBIs
-) Awareness of decision among the EC member
-) Awareness of decisions among the general users

B2 Accountability

1. Responsibility/ownership

-) Major responsibilities of KUWUA and NCFUG for accountability promotion
-) Realization of roles by users and sense of ownership among the users
-) Reflection of needs and concerns and mutual trust among the users

2. Delegation of authority/service

-) Informed power delegation among the executives
-) Service delivery and maintenance/conservation to ensure irrigation and forest resources to the users

B3 Rule of law

1. Functions of KUWUA and NCFUG

-) Main functions of CBIs in managing water and forest resources to the users

2. Formal and informal rules

-) Formal rules practiced by CBIs in managing the resources
-) Informal rules practiced by CBIs in managing the resources
-) Social norms and values practiced by CBIs in managing the resources

3. Enforcement of rules/norms/values

-) Violation of rules by users and their implication for resource management
-) Enforcement of rules and its impacts on overall governance system
-) Conflict resolution mechanism in win-win situation for resource use
-) Fines and penalties provisions within the CBIs
-) Attitude and beliefs of users and EC members in the enforcement of rules/norms/values

4. Plan and policies of CBIs

-) Plans/Policies/Acts that hinder or favour the overall water and forest management
-) Attitude on local culture, cognition, traditions, values, norms, etc
-) Influence of existing plan/policies/Acts for the resource management and governance of CBIs

5. Local level conflict and their management

-) Types of irrigation and forest related conflicts at local level
-) Trends of conflicts (increasing or decreasing)
-) The rationale and reasons behind those conflicts
-) Conflict management practices/strategies undertaken at local level
-) Major impacts of conflicts in resource management
-) Use of traditional practices, skills, knowledge for conflict resolution
-) External interference in resolving conflict for resource management
-) Role of indigenous institutions and cognition in conflict management

6. Election/membership

-) Election/selection process of EC members and their effectiveness
-) Membership pattern and criterion
-) Tenure of the EC members
-) Users' perception towards EC members (positive, negative, neutral)

- B4 Equity**
- 1. Resource mobilization/distribution**
 -) Cash mobilization
 -) Kind/materials mobilization
 -) Labour mobilization
 -) Resource collection and sharing to ensure equity
 - 2. Access and control over water**
 -) Access and control of users over water and forest resources
 -) Access and control over the resources by poor and deprived sections of society
 - 3. Benefit sharing and financial management system**
 -) Basis of benefit sharing approach/ equity or equality notion and their reasons
 -) Resource mobilization, generation and management
 - 4. Caste/ethnicity impact on natural resources management**
 -) Impact/influence of caste/ethnicity on participation in natural resources management
 -) Interrelationships between different ethnic/caste groups at the time of management of natural resources management
 -) Status of caste/ethnic intra and inter relationship in resource management, decision making and benefit sharing
- B5 Participation**
- 1. Decision making process**
 -) Level of participation in meetings for group decisions
 -) Leadership review and change as per the need
 -) Women representation/membership in CBIs and their implication in participation
 - 2. Participation in operation and management of resources**
 -) Women representation/membership in CBIs
 -) Women participation in forest resource management
 -) Women participation in O&M of irrigation activities
 -) Role of social energy, friendship and mutual trust for overall participation
 - 3. Socio-cultural, gender relationship and its implications on governance system of CBIs**
 -) Present social-cultural relationship between different groups
 -) Impact and implications of gender on user group's participation in CBIs
- B6 Predictability**

1. Clear Vision, Mission, Goal, Objectives

-) Existence of VMGO and its rationale
-) Present and future roles and responsibilities of CBIs in achieving VMGO
-) Status of present activities and performance directed towards achieving VMGO
-) User's perception towards CBIs management practices
-) Implication of VMGO for the governance of CBIs

2. Program planning

-) Involvement of user in CBIs's program planning and implementation
-) Level of enforcement of planned program at local level

3. Linkage and coordination

-) Inter linkage between the CBIs i.e. KUWUA and NCFUG and its role in improving governance
-) Linkage between CBIs and other CBOs, NGOs, GOs at local level and their significance for the good governance
-) Performances of other CFUGs, WUAs, NGOs, GOs for resource management
-) Types of major supports provided by NGOs/GOs to CBIs in enhancing governance
-) Effectiveness of these linkages and support for the governance improvements

C. The influential factors for irrigation and forest governance

-) Culture (cultural and social norms)
-) Tradition, customs and rituals
-) Indigenous knowledge/technology and experiences
-) Local economy
-) Administrative and technical factors
-) Involvement of caste and ethnic groups
-) Gender empowerment and social inclusion
-) Participation of users in plan formulation, decision-making, programme implementation, management and execution, benefit sharing, conflict management and monitoring and evaluation
-) Etc

D. Sociological perspectives in irrigation and forest governance

-) The evolution of CBIs
-) Traditional/indigenous irrigation and forestry management approaches/practices
-) User's involvements (including gender, caste, etc)
-) Involvement of upstream and downstream, near and distant users in irrigation and forest management
-) Use of community and societal norms and values for resource management
-) Social and cultural sentiments for the governance of CBIs

E. Inventory of forces and factors for good and poor governance of CBIs

-) Resources distribution systems/mechanism
-) Age of CBIs (old and recently established/formed)
-) Modes and frequency of meetings and level of enforcement of decisions
-) Coordination among the stakeholders at local, district and national level
-) Participation of users in decision-making process

-) Inclusive representation in CBI's EC
-) Mechanism for participatory conflict resolution
-) Self-monitoring systems for resource optimization and resource sharing
-) Devolution of power and authority within the institutions
-) Shared values and mutual trust/cooperation among the users
-) Honour of social norms and values in managing irrigation and forest resources
-) Level of empowerment of users
-) Educational status of the EC and general members of CBIs
-) Culture of advance notice / information dissemination
-) Existence of ethnicity (homogenous and heterogonous)
-) Provisions of social and financial incentives to users
-) Systems and practices of resource mobilization
-) Users livelihood dependency and level of participation
-) Immediate and longer term planning
-) Public auditing system
-) Labour mobilization mechanism
-) System of reward, fine and penalty systems
-) Power influence in major decisions and acts
-) Physical infrastructures in the CBIs

G. Competency analysis of CBIs (KUWUA and NCFUG)

-) Strengths (of CBIs in managing irrigation and forest resources to the locals)
-) Weakness (of CBIs in managing irrigation and forest resources to the locals)
-) Opportunities (of CBIs in managing irrigation and forest resources to the locals)
-) Threats (of CBIs in managing irrigation and forest resources to the locals)

Appendix 5

Checklist for Group Interviews

- B. Governance analysis of CBIs (KUWUA and NCFUG)**
- B1 Transparency**
- 1. Information and communication within the CBIs**
 -) Record keeping systems/practices
 -) Financial records management
 -) Information dissemination process/practices
 -) System of communication among the users
 -) Planning/public auditing systems/practices to ensure the transparency at CBI level
- 2. Decisions and realization of decisions within CBIs**
 -) Documentation of decisions by CBIs
 -) Awareness of decision among the EC member
 -) Awareness of decisions among the general users
- B2 Accountability**
- 1. Responsibility/ownership**
 -) Major responsibilities of KUWUA and NCFUG for accountability promotion
 -) Realization of roles by users and sense of ownership among the users
 -) Reflection of needs and concerns and mutual trust among the users
- 2. Delegation of authority/service**
 -) Informed power delegation among the executives
 -) Service delivery and maintenance/conservation to ensure irrigation and forest resources to the users
- B3 Rule of Law**
- 1. Functions of KUWUA and NCFUG**
 -) Main functions of CBIs in managing water and forest resources to the users
- 2. Formal and informal rules**

-) Formal rules practiced by CBIs in managing the resources
-) Informal rules practiced by CBIs in managing the resources
-) Social norms and values practiced by CBIs in managing the resources

3. Enforcement of rules/norms/values

-) Violation of rules by users and their implication for resource management
-) Enforcement of rules and its impacts on overall governance system
-) Conflict resolution mechanism in win-win situation for resource use
-) Fines and penalties provisions within the CBIs
-) Attitude and beliefs of users and EC members in the enforcement of rules/norms/values

4. Plan and policies of CBIs

-) Plans/Policies/Acts that hinder or favour the overall water and forest management
-) Attitude on local culture, cognition, traditions, values, norms, etc
-) Influence of existing plan/policies/Acts for the resource management and governance of CBIs

5. Local level conflict and their management

-) Types of irrigation and forest related conflicts at local level
-) Trends of conflicts (increasing or decreasing)
-) The rationale and reasons behind those conflicts
-) Conflict management practices/strategies undertaken at local level
-) Major impacts of conflicts in resource management
-) Use of traditional practices, skills, knowledge for conflict resolution
-) External interference in resolving conflict for resource management
-) Role of indigenous institutions and cognition in conflict management

6. Election/Membership

-) Election/selection process of EC members and their effectiveness
-) Membership pattern and criterion
-) Tenure of the EC members
-) Users' perception towards EC members (positive, negative, neutral)

B4 Equity

1. Resource mobilization/distribution

-) Cash mobilization
-) Kind/materials mobilization
-) Labour mobilization
-) Resource collection and sharing to ensure equity

2. Access and control over water

-) Access and control of users over water and forest resources
-) Access and control over the resources by poor and deprived sections of society

3. Benefit sharing and financial management system

-) Basis of benefit sharing approach/ equity or equality notion and their reasons
-) Resource mobilization, generation and management

4. Caste/ethnicity impact on natural resources management

-) Impact/influence of caste/ethnicity on participation in natural resources management
-) Interrelationships between different ethnic/caste groups at the time of management of natural resources management
-) Status of caste/ethnic intra and inter relationship in resource management, decision making and benefit sharing

B5 Participation

1. Decision making Process

-) Level of participation in meetings for group decisions
-) Leadership review and change as per the need
-) Women representation/membership in CBIs and their implication in participation

2. Participation in operation and management of resources

-) Women representation/membership in CBIs
-) Women participation in forest resource management
-) Women participation in O&M of irrigation activities
-) Role of social energy, friendship and mutual trust for overall participation

3. Socio-cultural, gender relationship and its implications on governance system of CBIs

-) Present social-cultural relationship between different groups
-) Impact and implications of gender on user group's participation in CBIs

B6 Predictability

1. Clear Vision, Mission, Goal, Objectives

-) Existence of VMGO and its rationale
-) Present and future roles and responsibilities of CBIs in achieving VMGO
-) Status of present activities and performance directed towards achieving VMGO
-) User's perception towards CBIs management practices
-) Implication of VMGO for the governance of CBIs

2. Program Planning

-) Involvement of user in CBIs's program planning and implementation
-) Level of enforcement of planned program at local level

3. Linkage and coordination

-) Inter linkage between the CBIs i.e. KUWUA and NCFUG and its role in improving governance
-) Linkage between CBIs and other CBOs, NGOs, GOs at local level and their significance for the good governance
-) Performances of other CFUGs, WUAs, NGOs, GOs for resource management
-) Types of major supports provided by NGOs/GOs to CBIs in enhancing governance
-) Effectiveness of these linkages and support for the governance improvements

Appendix 6

Checklist for Key Informant Interviews

A. Kamala Uttarbahini Water Users Association (KUWUA)

1. Physical condition of KUIS

-) Background
-) Intake
-) Mul paini
-) Sakha and Sahayak Painis

Sakha Paini and Sahayak painis Command Area along with Major toles

<i>Sakha paini</i>	<i>Sahayak painis</i>	CA estimated during ISP (bigha)	CA as per <i>Bighatti</i> collection (bigha)	CA calculated from DLAP study (bigha)	<i>Paini</i> length (km)	Major toles

-) Operational tasks
-) Maintenance tasks

Use of Excavator for System Maintenance

Year	Institution	Works performed	Duration (days)	Approximate cost (Rs)

2. Water management

3. History of Irrigation System and Institutional Development Process

-) Various periods
-) Tenures and successful examples

Tenure-wise Chairperson and Representation from the Canal

Period (B.S)	Names of the Chairperson	Representatives

B. Nandababa Community Forest Users Group (NCFUG)

1. Physical Characteristics of Nandababa Forest

-) Conditions of Forest
-) Borders of forest by sub-division
-) Details of forests by sub-division
-) Production area and quantity and quantity of fuel wood in sampled area
-) Product balance and total estimated yearly income by sub-division

2. Institutional Development of NCFUG

-) The oral history
-) Social and institutional characteristics of the NCFUG
-) Rules, regulations and rewards
-) Community development activities

Caste-wise Composition of NCFUG

Caste/ethnic group	HHs number

Percentage of Forest User with Range of Landholding

Land size	HHs	Percentage

C. Governance performance of CBIs

-) Performance of CBIs in plans and programs
-) Success that CBIs have achieved so far in improving the governance
-) The weakness of CBIs that have hindered good governance
-) The emerging challenges that CBIs had to face/will face for improvements in future
-) The opportunities that CBIs have in the way of progressing or improving the governance
-) The status of transparency in all endeavours that the CBIs carried out
-) The mechanism to ensure that CBIs are accountable towards its EC and general users to ensure quality of services
-) The level of participation within the CBIs work/activities

-) Establishment of rule of law to enforce rules in regularizing the services
-) The equitable distribution of resources among the beneficiaries
-) The VMGO of the CBIs for their predictability to enhance CBI's working performance
-) The noticeable changes that have observed in the recent years as part of improving governance system within the CBIs
-) The external or internal factors that are responsible to improve the governance of CBIs
-) The forces and factors that are contributing for the good and poor governance of CBIs
-) Suggestions to CBIs for improving the governance in the days to come

Appendix 7

Checklist for Observation

3. Kamala Uttarbahini Irrigation System

-) Physical situation of intake, main and branch canals as well as tertiary canals
-) Water distribution devices/structures
-) Urdi mobilization
-) Annual desilting work
-) Meeting and decision making process
-) Conflict resolution process
-) Monitoring of flood and water rotation practices
-) Improvements in physical infrastructure to ensure irrigation

4. Nandababa Community Forestry User Group

-) Physical situation of forest
-) Forest area affected by river cutting, landslides, eroded by small torrents, etc
-) Forest conservation activities
-) Fire protection work/initiatives
-) Forest management practices (thinning, pruning, singling, etc)
-) Forest resource distribution mechanism (time, frequency, methods/process)
-) Mechanism for forest guarding (who, where, how often, etc)

Appendix 8

Summary of Secondary and Tertiary Level Elements of each Governance Element

Note: This is a summary of secondary and tertiary level elements of each governance element. These are developed through the participatory focused group discussion with key executives of NCFUG and KUWUA. These were also shared and feed-backed from the general users during the FGDs. Scale values were provided from 1 to 3, one indicating worst situation and 3 indicating the best situation.

A1. TRANSPARENCY

1. Record keeping and financial records

SN	Tertiary elements with scale value
1	Records are there but are not systematized-1
2	Records are systematized but not available -2
3	Records are systematized and are available-3

2. Information Dissemination and System of Communication

SN	Tertiary elements with scale value
1	No systematic information dissemination and communication-1
2	Information dissemination but no clear communication-2
3	Information dissemination and clear communication-3

3. Planning/ Public Auditing

SN	Tertiary elements with scale value
1	There are poor plans and no public auditing-1
2	There are poor plans and occasional public auditing-2
3	Appropriate plans and regular public auditing-3

4. Documentation of decisions in a systematic way

SN	Tertiary elements with scale value
1	Poor documentation of decisions-1
2	Documented decisions but not systematized-2
3	Documented decisions and systematically organized-3

5. Awareness among CBI executives about rules/norms

SN	Tertiary elements with scale value
1	CBI executives are less aware about rules/norms-1
2	CBI executives members are aware about rules/norms-2
3	CBI executives members are aware about rules/norms and are in action-3

6. Awareness on general users about rules/norms

SN	Tertiary elements with scale value
1	Know only the existence of constitution provisions/rules-1
2	Understand complete provisions of constitution-2
3	Understand complete provisions of constitution and act accordingly-3

A2. ACCOUNTABILITY

1. Responsibilities of Committees

SN	Tertiary elements with scale value
1	Ignorance of responsibilities-1
2	Clear responsibilities but not followed-2
3	Clear responsibilities and strict follow of these responsibilities-3

2. Realization of roles and ownership

SN	Tertiary elements with scale value
1	Understand roles but there is no realization-1
2	Users/committees members realize their roles-2
3	Users/committees members realize their roles and take necessary actions-3

3. Reflection of needs and concerns and mutual trust

SN	Tertiary elements with scale value
----	------------------------------------

1	Occasional reflection of influential people-1
2	Occasional reflection of all people-2
3	Regular reflection of all people-3

4. Informed Power/responsibility Delegation

SN	Tertiary elements with scale value
1	Verbal responsibility delegation without power-1
2	Verbal responsibility delegation with power-2
3	Written responsibility delegation with power-3

Service Delivery

SN	Tertiary elements with scale value
1	Untimely service delivery-1
2	Timely service delivery without advance notification-2
3	Timely service delivery with advance notification-3

5. Maintenance/Conservation

SN	Tertiary elements with scale value
1	Maintenance/conservation but irrespective of need-1
2	Maintenance/conservation as per the need-2
3	Systematized maintenance/conservation as per the need-3

A3. RULE OF LAW

1. Constitution

SN	Tertiary elements with scale value
1	No clear provisions in constitution-1
2	Clear provisions in constitution but not acted-2
3	Clear provisions in constitution and acted accordingly-3

2. Rules and norms

SN	Tertiary elements with scale value
1	No rules and norms-1
2	Have rules and norms and are not in use-2
3	Have rules and norms and are in use-3

3. Violation of rules

SN	Tertiary elements with scale value
1	Occasional violation of rules-1
2	Violation of rules in exceptional cases (rituals, emergency needs, ceremonies)-2
3	No violation of rules at all-3

4.

5. Enforcement of rules

SN	Tertiary elements with scale value
1	Rules exist only in documents/commitments-1
2	Rules are occasionally enforced-2
3	Rules are mostly enforced by the committees-3

6. Fines and Penalties

SN	Tertiary elements with scale value
1	Have provisions of fine and penalties but nobody pays-1
2	Have provisions of fine and penalties and few defaulters pay-2
3	Have provisions of fine and penalties and most defaulters pay-3

7. Election and Membership

SN	Tertiary elements
1	No basis of election and criterion of membership-1
2	Irregular basis of election and membership-2
3	Regular basis of election and membership-3

A4. EQUITY

1. Availability of Resources

SN	Tertiary elements with scale value
1	Resources are available but insufficient-1
2	Resources are sufficient but not as per the plan-2
3	Resources are available in CBIs as per the plan-3

2. Labour Mobilization

SN	Tertiary elements with scale value
1	Less than 30% users attend labour work-1
2	31-90% users attend labour work-2
3	More than 90% users attend labour work-3

3. Cash mobilization

SN	Tertiary elements with scale value
1	Cash contribution without rationale-1
2	Cash contribution according to requested need-2
3	Cash contribution as per the resource use-3

4. Resource collection

SN	Tertiary elements with scale value
1	Resource collected through external agencies-1
2	Resource collected through external agencies and main committees-2
3	Resources collected through external agencies, main committee and users-3

5. Resource sharing

SN	Tertiary elements with scale value
1	Resource sharing without established norms and basis-1
2	Resource sharing according to the wish some users-2
3	Resource sharing irrespective of caste, gender/ethnicity/class-3

6. Accesses and Control

SN	Tertiary elements with scale value
1	Only committee members have access to and control over resources-1
2	Only well off households and few other users have access to and control over resources-2
3	All users have access to and control over resources-3

A5. PARTICIPATION

1. Representation

SN	Tertiary elements with scale value
1	Committee consists of only well off users-1
2	Committee consists of users but is sometimes discriminatory-2
3	Committee consists of members from all ethnic groups and disadvantaged-3

2. Participation in meetings for group decisions

SN	Tertiary elements with scale value
1	Group decisions are made by involving less than 33% users-1
2	Group decisions are made by involving 33-66% users-2
3	Group decisions are made by involving more than 66% users-3

3. Review of leadership

SN	Tertiary elements with scale value
1	Committee only sits to review the performance of the members-1
2	Committees and users review the performance of the members but review outcomes are not enforced-2
3	Committees and users review the performance of the members and review outcomes are acted-3

4. Women participation in decision-making

SN	Tertiary elements with scale value
1	Women participate but they are not respected-1
2	Women participate and share their views but they are not duly respected-2
3	Women participate and share their views and their opinions which are also respected-3

5. Participation in Operation and Maintenance

SN	Tertiary elements with scale value
1	Only committee members contribute to O&M-1
2	Only committee members and active users contribute to O&M-2
3	Committee members and all users contribute to operation and maintenance activities-3

6. Participation in M&E

SN	Tertiary elements with scale value
1	Only committee members are engaged in M&E-1
2	Only committee members and active users are engaged in M&E-2
3	Committee members and all users are engaged in M&E-3

A6. PREDICTABILITY

1. Clarity in the vision, mission and strategies

SN	Tertiary elements with scale value
1	Clear vision but unclear mission and strategies-1
2	Clear vision, mission and strategies but poor programming-2
3	Clear vision, mission and strategies and programming accordingly-3

2. Preparation of programs, guidelines and directives

SN	Tertiary elements with scale value
1	No programmes, guidelines and directives but realized by the institution-1
2	Programme, guidelines and directives exist but they are not clear-2
3	Clear Institution driving programmes, guidelines and directives in place-3

3. Resource collection and mobilization

SN	Tertiary elements with scale value
1	Resource collection only from community-1
2	Resource collection from community and relevant government agencies-2
3	Resource collection from community, relevant government and donor agencies-3

4. Institution's competency analysis

SN	Tertiary elements with scale value
1	Institution is not realizing the importance of assessing its competency-1
2	Competency analysis is in place but not in actions-2
3	Competency analysis is in place and actions are taken to enhance strengths, lessen weaknesses, harnessing opportunities and minimizing threats-3

5. Cross learning and replication

SN	Tertiary elements with scale value
1	No practice of learning and replication from own and others' past lessons-1
2	Learning from own and others' lessons but not practising and replicating them-2
3	Learning from own and others' lessons and practising and replicating them-3

6. Linkage and coordination

SN	Tertiary elements with scale value
1	Linkage and coordination with like minded institutions at the local level-1
2	Linkage and coordination with like minded institutions at the local and national level-2
3	Linkage and coordination with like minded institutions at the local, national and donors' level-3

Governance in Tabular Form

SN	Key Indicators of Governance	Scale value for KUWUA			Scale value for NCFUG			Total marks as per performance	
		1	2	3	1	2	3	KUWUA	NCFUG
1	Transparency								
1.1	Record keeping and financial records							1	2
1.2	Information Dissemination and System of Communication							2	2
1.3	Planning/ Public Auditing							1	2
1.4	Documentation of decisions in a systematic way							1	2
1.5	Awareness among WUA/CFUG members about rules/norms							2	3
1.6	Awareness on general users about rules/norms							1	2
	Subtotal 1							8	13
2	Accountability								
2.1	Responsibilities of Committees							2	2
2.2	Realization of roles and ownership							2	2
2.3	Reflection of needs and concerns and mutual trust							2	2
2.4	Informed Power/responsibility Delegation							1	2
2.5	Service Delivery							2	2
2.6	Maintenance/Conservation							3	3
	Subtotal 2							12	13
3	Rule of Law								
3.1	Constitution							1	2
3.2	Rules and norms							3	3

3.3	Violation of rules							2	2
3.4	Enforcement of rules							2	3
3.5	Fines and Penalties							2	3
3.6	Election and Membership							1	2
	Subtotal 3							11	15
4	Equity								
4.1	Availability of Resources							1	2
4.2	Labour Mobilization							2	3
4.3	Cash mobilization							2	2
4.4	Resource collection							3	2
4.5	Resource sharing							3	3
4.6	Access and Control							3	3
	Subtotal 4							14	15
5	Participation								
5.1	Representation							3	3
5.2	Participation in meetings for group decisions							2	2
5.3	Review of leadership							2	3
5.4	Women participation in decision making							1	2
5.5	Participation in Operation and Maintenance							3	3
5.6	Participation in M&E							3	3
	Subtotal 5							14	16
6	Predictability								
6.1	Clarity in the vision, mission and strategies							1	3
6.2	Preparation of program, guidelines and directives							1	2

6.3	Recourse collection and mobilization							3	3
6.4	Institution's competency analysis							1	2
6.5	Cross learning and replication							3	3
6.6	Linkage and coordination							3	3
	Subtotal 6							12	16
	Grand total								

Note: These values have come from FGDs in head reach, middle and tail end of the command area, near and far from the forest area and after consolidation of all the score.

Indicator	Scale value	
	KUWA	NCFUG
Transparency	8	13
Accountability	12	13
Rule of Law	11	15
Equity	14	15
Participation	14	16
Predictability	12	16
Total	71	88

Note: Scale value less than 66% (two-third) of maximum obtainable value means that these indicators demand further actions by CBIs.

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