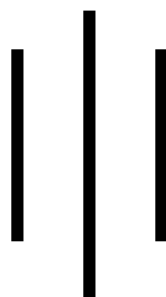
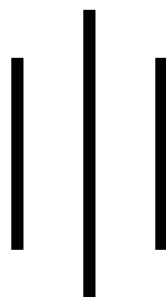


**Rhetoric of Farmer Managed Irrigation System in
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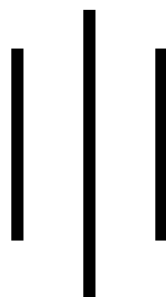


A Thesis
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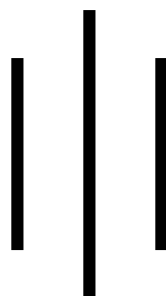


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Kathmandu, Nepal
February 2009

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24 February 2009

RECOMMENDATION LETTER

This is to certify that the thesis entitled “**Rhetoric of Farmer Managed Irrigation System in Rural Development of Nepal: A Study of Tinmuhani Irrigation System of Mainahiya VDC in Rupandehi District**” written and submitted by **Lal Bahadur Pun** has been undertaken under my supervision and guidance for the partial fulfillment of the requirements for the Degree of Master of Arts in Rural Development. I, therefore, recommend this thesis for final approval and acceptance.

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(Supervisor)
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24 February 2009

APPROVAL LETTER

This is to certify that the thesis entitled “**Rhetoric of Farmer Managed Irrigation System in Rural Development of Nepal: A Study of Tinmuhani Irrigation System of Mainahiya VDC in Rupandehi District**” written and submitted by **Lal Bahadur Pun** has been examined. It has been declared successful for fulfillment of the academic requirements toward the completion of Masters of Arts in Rural Development.

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Finally, I alone take full responsibilities of all errors and mistakes found in this thesis work.

Lal Bahadur Pun

February 2009

ABSTRACT

Nepal is predominantly an agricultural country where greater numbers of people depend on agriculture for their source of livelihood and employment. Agricultural economy of the Nepalese people mainly depends on monsoonal rainfall, which comes during the period from June through September. Thus, irrigation requires for increasing agriculture production, high agriculture yielding and generating incomes of the people.

Nepal is rich for the farmer managed irrigation system from the time immemorial that depicts the real picture of irrigation management system. Out of the total 20,45,000 hectares agriculture land, only 17,66,000 hectares land can be irrigated but the recent figure shows that, out of the total 10,55,617 hectares irrigation land, the farmer managed irrigation system covers 5,95,310 hectares land area accommodating 70 percent. Likewise, out of the total cultivated land, the government has targeted to irrigate a total 2,29,400 hectares land by the end of the Tenth Plan comprising of 23 percent. However, government of Nepal has paid very less attention in the promotion and development of farmer managed irrigation system.

Because of the farmers' own initiation and involvement in operation of the system, the farmer managed irrigation system has remained the dominant source of livelihood in Nepal. Farmer managed irrigation systems have thrived in Nepal for several centuries as an adaptive response to a water-scarce place. They are located mostly in the Terai areas of Nepal and demonstrate a very high degree of organizational and managerial inputs, both of which become imperative in view of the shortage of capital for the construction and maintenance of the canals. Overtime, the indigenous organizations have developed their rules and regulations regarding resource mobilization, water allocation, system maintenance, conflict resolution, property rights in water and alike. In this respect, the farmer managed irrigation system has become more significant to incorporate farmers' age long ideas, knowledge, experience, practice, self-help attitudes and culture on the process of mobilization of the system in particular cultural setting.

Having the objectives, a) to examine knowledge, practice and tools used by the rural people and users' groups in operationalization of farmer managed irrigation system, b) to observe the people's underlying cultural patterns and grassroots reality in the operations of farmer managed irrigation system and; c) to propose methodological tools that help to generate policies and strategies for water resource management in Nepal, Tinmuhani Irrigation System has been undertaken into study in the ground of farmer managed irrigation system.

Tinmuhani Irrigation System, which is located in Mainahiya VDC of Rupandehi District with the height of 100 meter, is 8 Km. in distance from Rupandehi District Headquarter, Bhairahawa. It can be taken as an example of farmer managed irrigation system practiced by the local people applying the local knowledge, practice, tools, techniques, methods and experience in the specific cultural setting for about 200 years with the customary rules and regulations.

Two crops cultivation patterns including monsoon paddy and winter wheat are grown in a

year. Farmer managed irrigation system related activities are completely initiated, operated and maintained by the Users' Group (UG) using the local tools and technology. Large quantity of the low land is on the ownership of the Tharu people followed by the Madhise and Pahadi people; however mainly the untouchable groups work on the basis of daily wages in all seasons. Because of the lack of awareness, people do not have habit of using the improved varieties of seeds; fertilizers and technology that are accessible in the command area.

The present research work has been carried out as the farmer managed irrigation system in the ground of rural development. Because of the heterogeneous society, cultural values and norms concerning farmer managed irrigation system, to some extent, are determined and shaped by the existing caste system. External intervention for the management of system is not much influential. So, various potentialities of farmer managed irrigation system to improve the socio-economic condition of rural people are identified on the basis of the local skills, methods/tools and techniques, they have in heart, mind and hand. Existing knowledge and practice of the local people visualizes the pragmatic tools transforming from one generation to another, organizational development, dynamism and diffusion of the system. Dynamic insights and techniques have been gained through the long time trial and error in responses to the changing circumstances. The pattern of interaction and institutional arrangements of the system have been shaped by the cultural values and norms as well as the local skills, methods and techniques for the smooth mobilization of the system. Therefore, institutional arrangements, organizational processes, and technologies for the management of farmer managed irrigation system have been retained as empirical knowledge in practice and have facilitated by the concepts of rules, roles, and groups with the tasks of irrigation management system related activities. Thus, the beneficiaries have been able in creating an irrigation organization for managing the system that becomes useful to incorporate practical knowledge of the people.

The people on the basis of the accumulated experiences evolved practical knowledge and skills in the farmer managed irrigation systems that have cultural value as well. It passes down implicitly from generation to generations. It is the integration of internal and external knowledge; and skills in practice. And, it provides an interdisciplinary overview to the researcher, scholars and the learners. It is dynamic and flexible processes and has scientific validity that reveals a model of sustainability. It carries out socio-cultural values and norms flourishing in the specific environment.

A micro-level study of Tinmuhani Irrigation System has been undertaken into study with the etic approach. However, it is not difficult for rapport building with the farmers of the research site. On the process of field study, census method was used to select the respondents to carry out the tangible information. People from various status and strata like old aged, knowledgeable and intellectual persons were consulted to draw insights and views into the farmer managed irrigation system. The tools applied to analyze various activities are household census, questionnaire, group and key informants' interview, Focus Group Discussions (FGDs) and data analysis process.

Tinmuhani Irrigation System in an arena of the farmer managed irrigation system comprises

of water use activities like water acquisition, water allocation, water distribution and drainage; and control structure activities like design, construction, operations and maintenance; and organizational activities like decision making, resource mobilization, communication and conflict management. The tasks related to irrigation organization have been accomplished with the local farmers' initiation, as those have become ritual and developed as culture. Due to the lack of written rules and regulations, the traditional cultural values and norms are the laws for governing the people and their system. Similarly, functions of irrigation organization have been practiced on the basis of division of labor in this system.

Therefore, Tinmuhani Irrigation System is operated, maintained and mobilized by the local farmers on the basis of cultural values and norms developed as laws flourishing in operating the farmer managed irrigation system to preserve, promote and sustain the system by exploiting the water resource for sustainable use and development.

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ABBREVIATIONS AND ACRONYMS

AD	Anno Domini
CBS	Central Bureau of Statistics
DDC	District Development Committee
DIO	District Irrigation Office
DOI	Department of Irrigation
ERIP	East Rapti Irrigation Project
FGDs	Focus Group Discussions
FIWUD	Farm Irrigation and Water Utilization Division
FMIS/s	Farmer Managed Irrigation System/s
FMIST	Farmer Managed Irrigation System Trust
GDP	Gross Domestic Products
GNP	Gross National Product
INGOs	International Non-government Organization/s
IIMI	International Irrigation Management Institute
Km.	Kilometer
DP	Nepal District Profile
NGO/s	Non-government Organization/s
NIA	Nepal Irrigation Administration
NPC	National Planning Commission
PRA	Participatory Rural Appraisal
RRA	Rapid Rural Appraisal
SLC	School Leaving Certificate
Sq.	Square
TIP	Thana Irrigation Project
TIS	Tinmuhani Irrigation System
TISU	Tinmuhani Irrigation System Users
UG/s	Users' Groups
USAID	United States America International Development
VDC	Village Development Committee
WECS	Water and Energy Commission Secretariat
WUA/s	Water Users' Association/s
WUC/s	Water Users' Committee/s