

**IMPACT AND STATUS OF IMPROVED COOKING STOVES  
IN RURAL AREA: A CASE STUDY OF BANNIGADHI  
JAYAGADH RURAL MUNICIPALITY, ACHHAM**

**A Thesis Submitted to:  
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## Letter of Recommendation

This is to certify that Mr. Govind Giri has completed this dissertation on "**Impact and Status of Improved Cooking Stoves in rural area: A Case Study of Bannigadi Jayagadh Rural Municipality, Achham**" under my guidance and supervision for the partial fulfillment of the requirements for the degree of masters in rural development. I hereby, forward this thesis to the evaluation committee for final approval.

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Date: 2075/08/16 B.S.

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## Approval Letter

This thesis entitles "**Impact and Status of Improved Cooking Stoves in rural area: A Case Study of Bannigadi Jayagadh Rural Municipality, Achham**" submitted by **Govind Giri** in partial fulfillment of requirements for the degree of masters in rural development has been approved by evaluation committee.

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## **Declaration**

I, hereby declare that the thesis entitled **“Impact and Status of Improved Cooking Stoves in rural area”**: A Case Study of Bannigadi Jayagadh Rural Municipality, Achham District submitted to the Central Department of Rural Development, Tribhuwan University, is entirely my original work prepared under the guidance and supervision of my supervisor. I have made due acknowledgements to all ideas and information borrowed from different sources in the course of preparing this thesis. The subject matter presented in this thesis report is the result of my own work.

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## **Abstract**

Traditional Cooking Stoves used in Nepal are simple structures made from clay or having stone or metal tripods. These stoves are very inefficient because they have poor air flow and insulation. As a result, they consume a lot of biomass and produce high levels of indoor air pollution. So this cooking stove is not useful for cooking. Now Improved Cooking Stove (ICS) is more useful for cooking in rural area of Nepal. Improved cook stoves (ICS) particularly mud-brick ICS with and without chimney is one of the most simple, inexpensive and widely used technologies designed to improve combustion efficiency of biomass and reduce exposure to indoor air pollution.

The thesis was carried out in Bannigadhi Jayagadh Rural Municipality Ward No-1, Ganjra of Achham district. The research is primarily focused to discuss and analyze the present situation and impact of Improved Cooking Stoves at research area. The objectives of the study are to discuss the impact, financial requirements & current status of ICS. It has identified health impact on women, senior citizens and children and lastly tries to identify causes of drop out of ICS user of the study area.

For the study, the extensive field visit was conducted in Bannigadhi Jayagadh-1, Ganjra of Achham. For the study, Improved Cooking Stoves (ICS) users were selected by purposive method both men and women. It is based on empirical data along with available pertinent secondary data. For primary data household survey and focus group discussion are major study method with questionnaire and checklist tools respectively and the secondary information was collected from previous researches, journals, books, report, publications and related materials of ICS. The study is descriptive and analytical in nature in which descriptive statistic is applied for the analysis of the data. The analysis of the data is done manually, 66 households of the universe were taken as the sample size and random sampling method had been used for this study.

The finding of the study has shown that the impact of ICS is effective in the study area. It is an effective technology for the conservation of forest and decrease environmental pollution. Due to this, different projects are launched for the promotion of ICS. From the field survey, out of 334 households, 66 households are taken as sample. It shows that due to the use of ICS; household members, especially

women saved nearly 1 hrs. per day compare with traditional cooking stove. The costs and benefits of this technology are most affected by their relative fuel costs, time and fuel use efficiencies, the incidence and cost-of-illness of acute respiratory illness, and the cost of household cooking time. Combining these results with the fact that households often find these technologies to be inconvenient or culturally inappropriate leads us to understand why uptake has been disappointing. Given the current attention to the scale up of ICS, this analysis is timely and important for highlighting some of the challenges for global efforts to promote ICS.

The benefits of ICS includes increased thermal efficiency, conservation of forests by reducing fuel wood consumption, reduction in women's' drudgery, reduction in indoor air pollution and hence smoke-related health disorders, and prevention of fire hazards. So ICS is very helpful to increase socio-economic condition of rural life in our country.

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## Abbreviations

AEPC	Alternative Energy Promotion Centre
BJ	Bannigadhi Jayagadh
CBS	Central Bureau of Statistics
CDM	Clean Development Mechanism
CRT/N	Centre for Rural Technology Nepal
DoI	Department of Information
GDP	Gross Domestic Product
GJ	Giga Joule
GoN	Government of Nepal
GW	Giga Watt
HH	House Holds
HMG/N	His Majesty Government/ Nepal
IAEE	International Association for Energy Economic
ICS	Improve Cooking Stove
ICSPs	Improve Cooking Stove Programmes
INGO	International Non-Government Organization
LPG	Liquefied Petroleum Gas
MW	Mega Watt
MoF	Ministry of Finance
NGO	Non-Government Organization
NPC	National Planning Commission
RECAST	Research Centre for Applied Science and Technology
REDP	Rural Education and Development Programme
RET	Renewable Energy Technology
RM	Rural Municipality
SFDP	Small Farmer Development Project
TCFDP	Terai Community Forest Development Project
TCS	Traditional Cooking Stove
UNDP	United Nation Development Programme
VDC	Village Development Committee

WECS      World energy Consumption  
WHO      World Health Organization