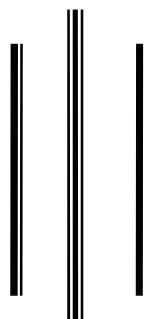


**Community Seed Banking in Agro-biodiversity
Conservation and
Mycoflora Analysis in Stored Seeds of Paddy**



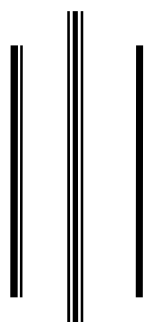
A Dissertation Submitted to the Central Department of Botany,
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By

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ABSTRACT

Agro-biodiversity conservation is necessary to ensure that our rich crop diversity continues to support ecological and economic security. Local crop diversity is the key elements of agricultural biodiversity. Community seed banking is emerging as a reliable option for the conservation of local crop diversity in areas where the loss of landraces is very rapid. The main objective of present study was to analyze the role of Community Seed Banking in agro-biodiversity conservation and identification of associated mycoflora in stored seeds of paddy in seed banks. And to document the major cultivars of locally important crops, identify tools, techniques for seed storage.

The present study was conducted at the Community Seed Banks (CSBs) of three VDCs: Belwa of Bardiya, Masuriya of Kailali and Beldandi of Kanchanpur district. This study was based on the descriptive and explanatory research method; key informants, household survey, literature review and direct observation method. Seed purity test, germination test and identification of mycoflora associated with paddy seeds were also done.

Laboratory work as physical purity test and germination test were done at Central Seed Testing Laboratory Hariharbhawan, Lalitpur while Mycoflora analysis was conducted at Central Department of Botany, Tribhuvan University. Laboratory analysis showed that seed samples had many impurities such as weeds, soil particles, plant parts and other crop seeds. Germination tests showed that germination percentage of the samples varied from 0 to 96%. Mycoflora analysis showed that storage paddy seeds infected by 9 fungi. The seed samples of two paddy cultivars, including Tilak and Anjana, exhibited highest infection of *Aspergillus* and *Mucor*.

During field survey it was found that majority of the participating households had benefited from the CSBs in many ways, such as easier availability of seeds, on farm conservation of local varieties, conservation of local and traditional knowledge and conservation of genetic diversity. Finally in this regard Community Seed Banking was observed to play a very important role in agro-biodiversity conservation.

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Abbreviations

ABS	Access and Benefit Sharing rule
ATK	Associated Traditional Knowledge
CBD	Convention on biodiversity development
CBM	Community based Management
CSB	Community Seed Banking
FAO	Food and Agriculture Organization
GBO	Global Biodiversity Outlook
GDP	Gross Domestic Product
GoN	Government of Nepal
GR	Genetic Resources
HHs	House holds
LI-BIRD	Local Initiatives for Biodiversity Research and Development
LR	Landraces
ISTA	International Seed Testing Association
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
MoFSC	Ministry of Forest and Soil Conservation
NGO	Non-Governmental Organization
UNDP	United Nation Development Program
UNEP	United Nation Environment Program
VDC	Village Development Committee
WTLC	Western Terai Landscape Complex
WTLCP	Western Terai Landscape Complex Project