

Policy Issues and Constraints to In Situ Agrobiodiversity. Conservation on-farm” Experience of *In Situ* project, Nepal (1)

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INTRODUCTION

Nepal is rich in agrobiodiversity as a result of its diverse farming systems, extreme variation in micro-agroecological niches and varied socio-cultural settings. Small-scale farmers in Nepal since time immemorial have nurtured and maintained diverse crop genetic resources for their immediate food needs and survival. In the recent times, yet there have been widespread claims that the country is losing its significant portion of plant genetic resources due to its liberal economic policy, ad-hoc promotion of modern varieties and lack of policy on *in situ* conservation of agrobiodiversity. Conservation of genetic diversity is essential, as erosion of crop genetic resources will limit the future prospect for agricultural and economic development. This necessitates a supportive policy environment to agrobiodiversity conservation and agricultural development. However, policies affecting *in situ* conservation of agrobiodiversity have not received the same level of attention from national and international decision-makers as the conservation of “wild” biological diversity in Nepal. Furthermore, Nepal’s proposed entry to World Trade Organization (WTO) and enforcement of Trade Related Intellectual Property Rights (TRIPS) in WTO have brought new policy challenges and issues that need increasing concern and internal preparation (Gauchan *et al*, 2000a). Decision-makers wish to conserve agrobiodiversity lack appropriate information and knowledge on the formulation of policy instruments and legislation in accordance with the needs and goals of Nepalese agro-economy. Despite the potential role of *in situ* conservation in improving the country’s economy, we lack sound analysis and understanding of policy issues and policy research methods that lead to identification of future research priorities, strategies and action plans for the sustainable conservation and utilization of rich agrobiodiversity. This paper intends to present the findings of recent case study that was designed to document policy issues, gaps and constraints to agrobiodiversity conservation.

METHODOLOGY PROCESS

This study employed participatory research approach in identifying major gaps in policy and legislation and constraints to *in situ* conservation of agrobiodiversity. The approach elaborated here is based on a study undertaken by Gauchan *et al* (2000a) in conjunction with Nepal component of global *in situ* agrobiodiversity conservation project. This study involved number of steps sequentially at different levels (macro, micro and intermediate levels) to identify policy gaps, constraints and to analyze implications of national policies for *in situ* agrobiodiversity conservation which are described elsewhere in details (Gauchan *et al*, 2000b).

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Research methods involved in-house discussion of project multidisciplinary research team members followed by secondary review, and informal and formal interaction with limited number of purposefully selected relevant stakeholder groups (key officials /decision makers of national agricultural research and development institutions, Ministry of Agriculture). In addition, focus group discussions and key informant interviews were held with farmers' groups and local community leaders of the project eco-sites located in the three major agroecological regions of the country (e.g. Kaski in Mid-Hills, Jumla in High mountains and Bara in the lowlands) to identify micro-level policy perceptions, policy gaps and identify specific incentives at the community level. Information generated from various steps during policy research were analyzed and synthesized through interaction and problem-causal analysis by the research team.

FINDINGS

A. Policy Issues and Gaps

The government agricultural policies of Nepal as framed by Agricultural Perspective Plan (APROSC/JMA, 1995) and the Ninth Plan (NPC/HMG, 1998) do not address *in-situ* conservation of crop genetic diversity. They still tend to focus production of few uniform modern varieties of crops in favourable pockets with intensive input use and technical package approach without analyzing their consequences on on-farm genetic diversity. Present policy on biodiversity is more focused on forestry resources including wildlife than overall genetic diversity encompassing agricultural crops (Gauchan *et al.* 2000a). The country lacks co-ordinated research and development action plans and programs to formulate and implement policies relevant to *in situ* conservation. The notion that "economic benefits can be derived only from the promotion of modern varieties/ technologies" is still the guiding philosophy in the policy formulation (Gauchan, 1999b). Despite the potential roles of *in situ* conservation in local and national food security, and future improvement in agricultural productivity of Nepal, policy makers are less informed and aware of the benefits of conserving crop genetic resources. Consequently, there are no policies, action plans and programmes designed to conserve, utilize and protect rich agrobio-wealth of the country. These specific policy gaps and issues to agrobiodiversity conservation are briefly highlighted in Table 1.

Table 1: Policy Issues and Gaps for Agrobiodiversity Conservation and Utilization

<i>Policy Issues</i>	<i>Specific policy gaps for insitu agrobiodiversity conservation</i>
Agrobiodiversity policy	<ul style="list-style-type: none"> • No separate agrobiodiversity policy, action plan and legislative framework • Absence of policy guidelines for <i>in situ</i> conservation including lack of policy or Act to conserve valuable plant traits and threatened genes • Lack of policy on effective <i>sui generis</i> and farmers' rights to recognize and reward farming communities for their knowledge and innovation
Germplasm access, exchange, trade & benefit sharing	<ul style="list-style-type: none"> • Absence of one window policies for the trade and transit (export and import) of seeds and plant materials in Nepal • Policy on access, exchange, trades and benefit sharing is non-existent.
Research policy	<ul style="list-style-type: none"> • Only general policy for crop improvement. Research policy on germplasm characterization, mapping and documentation are lacking • Conventional plant breeding methods are commonly emphasized • Limited research emphasize on minor crops and landraces
Agriculture extension policy	<ul style="list-style-type: none"> • Technology dissemination focused on major crops and modern varieties • No extension advice and inputs for the promotion of landraces
Marketing policy	<ul style="list-style-type: none"> • Lack of policies on value addition and marketing support (e.g. linking market networks and market facilities) for local crops and landraces. • Market support and price policy favour major crops and MVs. True value of genetic diversity and landraces quality are not reflected in the formal market
Regulatory frameworks	<ul style="list-style-type: none"> • Present variety release and seed regulatory framework require uniformity, quality standards and distinctness • Existing Seed Act do not recognize the important role of informal seed supply systems in the livelihood of farming community • No legislation and support systems (certification and quality control) for seed multiplication and marketing of landraces and minor crops
Education policy	<ul style="list-style-type: none"> • As elsewhere in the world, formal education system in agriculture primarily geared towards imparting knowledge, skills and attitudes on the cultivation and promotion of MVs and technologies. • No policy guidelines to incorporate curricula, text books and teaching programs in agrobiodiversity aspects in the university and extension programs
Credit policy	<ul style="list-style-type: none"> • Credit policy only for commercial production and profitable crops • Lack policies to finance credits for agrobiodiversity conservation purpose
Subsidy policy	<ul style="list-style-type: none"> • Input and credit subsidies are mainly directed to modern varieties • Food subsidies in remote areas has discouraged production of local crops and landraces and crops under threat or erosion • No subsidy policy for the promotion of minor crops and landraces

Source: Adapted from Gauchan *et al*, (2000a)

B. Constraints to policy formulation

Presently, agricultural policies are formulated by the policy makers at the macro level without analysing their relations and consequences on micro level on-farm management and utilization of diverse genetic diversity. Some of the policy relevant to agriculture development formulated at the macro level is only partially being implemented at the grassroots level. Farmers and local communities perceive different policy interpretation as compared to decision makers in policy making level. Lack of integration of macro-level policy with micro-level issues, users are less aware of policy incentives at the field level, while policy makers are less informed about policy constraints and gaps in the implementation of the programme. Good policy always depends on good information, and this is particularly true for crop genetic resources (Tripp and Heide, 1996).

CONCLUSIONS AND FUTURE RESEARCH ISSUES

Presently *in situ* agrobiodiversity conservation has not been recognized as an important part of the biodiversity conservation in Nepal. Thus, the country lacks overall agrobiodiversity policy in relation to access, exchange, trade, sustainable conservation, utilization and equitable sharing of benefits. Policies that provide incentives to farmers to continue to cultivate and maintain diverse genetic resources are lacking. There are gaps in policy perceptions, interpretation and implementation at the micro-level among local people and farming community. Policy and institutional mechanisms for public and relevant stakeholders (e.g. communities, women, and diversity custodians) participation in genetic resource management is also not well developed.

Further in-depth study is needed to identify appropriate priorities and action plans for *in situ* agrobiodiversity conservation with wider consultation of diverse stakeholders. This is especially essential in the future to create dialogue, develop public awareness and to analyze and integrate micro with macro level policy issues (both horizontally and vertically) for facilitating policy changes through informed decision making on policy disincentives and gaps.

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