

Good Practices of *In Situ* Conservation of Tropical Fruit Tree Species Diversity: Linking Conservation and Livelihood*

Bhuwon Sthapit¹, Percy Sajise², V. Ramanatha Rao³, Paul Quek², Jr. Felipe S. dela Cruz⁴, Froukje Kruisjesen² and Mauricio Bellon⁵

1. Bioversity International (previously International Plant Genetic Resources Institute (IPGRI)), 3/10 Dharmashila Buddha Marg, Nadiapur, Pokhara, NEPAL, Tel: 977-61-0521108; Fax: +977-61-525293, e-mail: b.sthapit@cgiar.org; 2. Bioversity International, Asia, Pacific and Oceania Region, PO Box 236, UPM Post Office, Serdang, MALAYSIA; 3. Bioversity International, Asia, Pacific and Oceania Region, PO Box 236, UPM Post Office, Serdang, Malaysia; Currently at Ashoka Trust for Research in Ecology and the Environment (ATREE), 659, 5th Ath main, Hebbal Bangalore 560024 INDIA; 4. University of the Philippines, Los Banos College, Institute of Plant Breeding, Philippines; 5. Bioversity International, HQ Via dei Tre Denari 472/a, 00057 Maccarese (Rome), ITALY

ABSTRACT

Tropical fruit trees are valuable resources for the livelihoods of rural and urban poor throughout tropical Asia. The region is a centre of diversity for many of these species, and farmers are key actors in maintaining and using this diversity. Over the years they have developed a range of production and management practices along with formal research and private institutions to conserve and use tropical fruit diversity sustainably. Scaling up these "good" practices recently has become an important strategy for linking research into development. This paper describes a methodology for identifying "good" practices from the ensemble of practices used by farmers around the world and presents examples of case studies to illustrate the method in the context of tropical fruit tree species in Asia.

Keywords: good practice, *in situ*/on-farm conservation, tropical fruits species, wild species and their wild relatives, sustainable livelihoods

INTRODUCTION

Tropical Asian countries are the centre of origin and diversity of many globally important tropical fruit tree species and their wild relatives. Traditionally these tropical fruits are managed in a variety of production systems such as in natural forest, protected areas, buffer zones, home gardens, semi-commercial and commercial orchards. Tropical fruit tree species-whether cultivated or wild-has generally been selected to suit the environment in which it is cultivated or selected naturally to satisfy the particular needs of its growers and users; such as colour, flavour and taste. Wild and cultivated tropical fruit tree diversity, which is the product of evolutionary processes of *in situ* as well as on-farm conservation-in Asia, is being threatened by rapid genetic erosion due to the destruction of natural habitats, climate change and other socio-economic and cultural pressures. Under such pressures, farmers and communities are continuously managing a range of tropical fruit tree diversity in different production systems and these unique management practices in particular situations could be potentially valuable knowledge base for the management of tropical fruit tree genetic resources. This poster illustrates the impact pathways of implementing good practices of conservation and sustainable utilization of tropical fruit tree genetic resources.

CONCEPT AND DEFINITION

A good practice describes a system, organization or process, that maintains, enhances and creates crop genetic diversity and ensures its availability for improved livelihoods (IPGRI, 2003).

A practice can be a process, a method, a technique, an institutional arrangement or a combination of any of these.

Under the framework of sustainable livelihoods, good practice works when a set of practices are assembled under certain conditions. These farmer practices are considered good practice which are practical, cost-efficient, sustainable, and have the potential for scaling up to wider geographical, institutional and socio-cultural contexts.

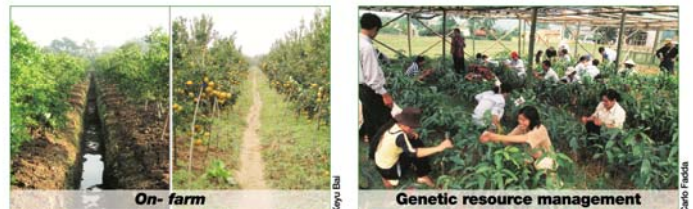


CASE STUDIES

Case 1. Consolidating community role in conservation and sustainable use of agrobiodiversity

Set of good practices	Lessons learned	Policy issues/needs
Enhancing human capital <ul style="list-style-type: none"> Village workshop Need based training Biodiversity fair/Farmers' field school Cross sites visits Community biodiversity management 	<ul style="list-style-type: none"> Farmer to farmer training and exchange visits effective Increase public awareness and ownership 	<ul style="list-style-type: none"> Provide support to such community initiatives
Enhancing social capital <ul style="list-style-type: none"> Strengthening women group Social seed/nursery networks/nodal farmers CBO strengthening 	<ul style="list-style-type: none"> Working together in CBM model serves as social learning and actions to generate other types of livelihood assets and self-confidence 	<ul style="list-style-type: none"> Community empowerment is most cost effective strategy of conservation and development strategy
Enhancing natural capital <ul style="list-style-type: none"> Four-cell analysis Fruit fair Diversity kits Community fruit nursery 	<ul style="list-style-type: none"> Farmers capacity to identify high value traits selection, propagation and deployment methods improved 	<ul style="list-style-type: none"> Provision of incentives for community based nurseries for propagating local cultivars Recognition of nodal farmers and Gene Management Zones (GMZ)
Enhancing financial capital <ul style="list-style-type: none"> Micro-credits Market links 	<ul style="list-style-type: none"> Saving and credits improve community participation ownership and accountability Provide institutional sustainability 	<ul style="list-style-type: none"> Tax incentives CBM fund establishment Provision of certification of PGRFA
Enhancing physical capital <ul style="list-style-type: none"> Community nursery infrastructure Community seed bank Post harvest storage method 	<ul style="list-style-type: none"> Collective actions of local institutions can develop infrastructure development Generate in kind contribution from community 	<ul style="list-style-type: none"> Policy subsidies should be linked for such local initiative

Case 2. Production and management of tropical fruit tree genetic resources (TFTGR)

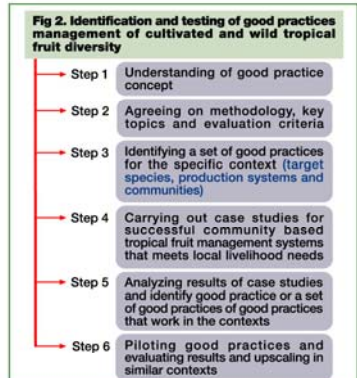
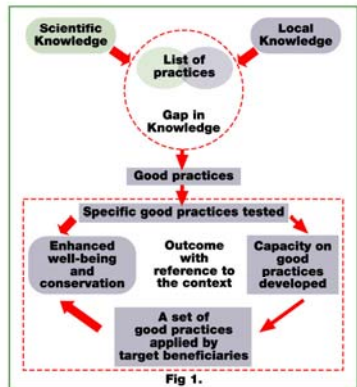


Case 3. Linking farmers with market (commercialization that support diversity maintenance and livelihood of poor)



METHODOLOGY

- Literature review
- Good practices workshop
- List of good practices
- Typology of good practices
- Key areas of good practices selection
- Case studies
- Analysis of good practices and associated context
- Piloting, evaluation and upscaling



CONTEXT

Tropical fruit tree genetic resources are found to be traditionally managed in two broad situations:

- Communities interacting with natural forest or protected areas; accessible to basic services and support system including markets, and
- On-farm/homegarden, communities engaged in intensive horticultural practices in flat agricultural landscapes; highly connected to markets very good physical infrastructure such as power, road, communication and others.

CONCLUSION

There is a clear need to identify and implement interventions that contribute to increasing and enhancing the benefits that poor farmers and their communities received from the maintenance and use of tropical fruit heritage in terms of reducing rural poverty. An important approach to accomplish this is to build the capacity of communities to identify and apply the relevant good practices in their local contexts.

REFERENCE

IPGRI, 2003. GEF-UNEP Conservation and Sustainable Use of Cultivated and Wild Tropical Fruit Diversity: Promoting Sustainable Livelihood, Food Security and Ecosystem Services. Sthapit, B R et al. 2007. Selection of Good Practices of *in situ* Conservation of Tropical Fruit Tree Species Diversity: Methodology and Key Practices, IJAS (Submitted).