

29. DESIGNING LIVELIHOOD SYSTEMS INCORPORATING TREES FOR SMALLHOLDERS ON LEYTE

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This paper outlines proposed project activities associated with the design of tree farm based livelihood systems for smallholders on Leyte Island in the Philippines. In activity 3.1, four research questions will be addressed related to identifying livelihood strategies currently implemented by smallholder tree farmers and how these systems relate to food and income security; investigating whether livelihood systems can be developed which better meet the needs of a wider range of smallholders and whether there is potential for incorporating non-timber forest products into livelihood systems. This activity draws upon information collected from tree farms included as part of research in Activities 2.2 and 2.5.

INTRODUCTION

Out of convenience, smallholders are often viewed as being a homogenous group; however this is far from the case. There is much variation within smallholders in key socio-economic characteristics such as education, wealth, social status and access to information. As such, a particular agroforestry system will not suit every smallholder. It is also impossible to develop or identify agroforestry systems for each individual. Being able to group smallholders into categories or 'types' with similar socio-economic characteristics or attitudes offers a potential strategy for dealing with smallholder diversity. In Emtage (2004) identified five distinct groups of smallholders, each with different socio-economic characteristics and attitudes to forestry.

Agroforestry systems are agricultural production systems that include trees as an integral part of the farming system. In the Philippines, agroforestry systems manifest in many different forms. For instance, some systems involve growing of mixtures of tree species such as *Acacia mangium* and *Eucalyptus deglupta* under planted with small crops such as banana and pineapple. In other situations, *Gmelina arborea* is planted as fence line plantings, in part to provide timber and to also delineate property boundaries. In other cases, species such as *G. arborea* and Mahogany (*Swietenia microphylla*) is planted in pure or mixed stands called 'tree farms'. In other situations, trees - usually *A. mangium* or indigenous species such as *Erythrina fusca* (anii) - are used as a cover crop to grow abaca (*Musa textilis*).

This paper outlines project activities related to the development of agroforestry systems for smallholders in Leyte. Particular emphasis is placed upon tree farm based systems, but other systems are also considered, particularly those that are based on abaca and other non-timber forest products. The following sections of the paper set out the research questions that will be addressed in Activity 3.1, the research strategy and methods that will be applied and how this activity links with other project activities.

RESEARCH QUESTIONS

Activity 3.1 will address the following research questions:

- What are the common livelihood systems implemented by existing smallholder tree farmers?
- How do these systems relate to food and income security risks and how can they be improved?
- Can livelihood systems incorporating tree farms be developed that can better meet the needs of a wider range of smallholders?
- What is the potential for incorporating non-timber forest products into tree-farms?

GENERAL RESEARCH APPROACH

The activity will use data collected from other project activities to identify a range of livelihood systems that include tree farms as a component. These systems will be assessed using financial models and other criteria such as suitability to meet the requirements of different landholder types. New systems will then be proposed and assessed using similar financial and non-financial criteria. Based on this analysis, recommendations on the most promising systems will be developed and communicated to DENR.

RESEARCH METHOD AND SAMPLING STRATEGY

Information from interviews from collected from tree farmers as part of Activity 2.2 will be used to identify existing livelihood strategies and linked to the financial models. Significant data relating to livelihood strategies have also been previously collected in the household survey undertaken in ASEM/2000/088. That information has been used to develop a typology of livelihood strategies. A predictive model will be developed using discriminant analysis and used to classify each of the tree farms surveyed in one of the types identified in the typology work – which will allow us to link the data collected with from the existing tree farmers with that collected in the household survey. This will be used to explore the tree farming systems most suited to different types of smallholders. In particular it will allow us to extrapolate (or link) the information collected from the tree farms which comprise only a small proportion of households to the wider community (as represented by the ASEM/2000/088 household survey).

EXPECTED RESULTS AND OUTCOMES

Activity 3.1 will produce recommendations on smallholder tree farming systems matched to livelihood strategies. These recommendations will be passed to DENR and it is expected that they will then form the basis on which DENR staff will recommend appropriate systems to smallholders. An important part of this project activity will be investigating whether livelihood systems can be developed that better meet the needs of a wider range of smallholders.

LINKS WITH OTHER PROJECT ACTIVITIES

Activity 3.1 is closely linked to Activity 2.2. Information collected from smallholder tree farmers are part of that activity will be used to identify existing livelihood strategies. In Activity 2.5 it is intended to collect information about farm structure as part of the

assessment of the role that tree farms contribute to biodiversity. As such, that activity will provide further information about the livelihood strategies currently being adopted by smallholders.

DISCUSSION

Observations made during field visits prior to the workshop suggest that many of the current smallholder tree farmers are the more wealthy smallholders, often with significant off-farm income. They appear to be also highly educated relative to other smallholders, often with professional jobs such as university teachers. The livelihood systems appropriate to this 'type' of landholder will be radically different to those of smallholders with less access to financial resources and with a lower level of education. For instance, the current landholders have the capac

It will thus be a challenge to identify livelihood systems that are suited to smallholders with less access to financial and other physical resources. Little information exists what different types of landholders require in order to become interested and able to incorporate tree farms into their farming systems. It is because of this uncertainty and lack of existing information that Activity 3.1 is arguably the least developed of all project activities. It is envisaged that information collected as part of Activities 2.2 and 2.5 should provide significant insights into the livelihood strategies, and requirements, of different types of smallholders.

REFERENCES

Emtage, N.F. (2004) An investigation of the social and economic factors affecting the development of small-scale forestry by rural households in Leyte Province, the Philippines. PhD Thesis, School of Natural and Rural Systems Management, The University of Queensland, Brisbane.