

# **Growing agroforestry trees: Farmers' experiences with individual and group nurseries in Claveria, Philippines**

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## **Introduction**

The numerous reports on spontaneous tree growing at the farm level suggest that small-scale nurseries are something common among rural households. (Parkins 1997) noted the role of farmer-initiated small-scale nurseries on farmland reforestation in Kenya and (Filius 1997) reports that most of the seedlings planted by farmers in Gunung Kidul, Java, come from their neighbours, relatives or local market. In the Philippines, spontaneous household nurseries are also a common practice among upland farmers (Koffa and Roshetko 1999).

In the past years, donor agencies, local governments and extension workers in forestry and agroforestry development programs have been working with farmers to promote the establishment and management of community nurseries. Incentives to group formation and participation on nursery establishment have taken various forms: cash, seeds, seedlings, tools, food for work schemes and others. Although inappropriate and excessive subsidies have been criticised for creating a “pseudo-interest” on tree propagation and planting, nurseries established by both, individuals and groups are crucial in restoring, integrating and conserving tree resources at the farm level.

The Claveria Landcare Association was formed in 1996 in response to farmers' interest in soil conservation and agroforestry. In those days, group members interested to plant Bagras (*Eucalyptus deglupta*), a native fast-growing timber tree, established group nurseries for its propagation. Bagras is popular among farmers because of its straight bole, low production costs due to its self-pruning habit and high market price. On the other hand, seeds are very expensive and the young seedlings of this specie are very susceptible to damping-off. Results from the first experiences in growing Bagras were not encouraging as most of the seedlings succumbed to damping-off (Bertomeu and Sungkit 1999). Eventually, with ICRAF's technical support and provision of seeds farmers became skilled on Bagras propagation and seedlings were raised successfully.

Subsequently, as the Landcare movement spread, more groups became interested in the establishment of nurseries for the propagation of a variety of fruit and timber trees. The local government, encouraged by the energy of the movement, began supporting the Landcare groups financially. In 1999, the Municipal Government of Claveria allocated US\$ 1,000 per village per year for nursery related activities. With this support, the voluntary group work of farmer members and the provision of suitable germplasm and technical advise, the Landcare organisation have been able to produce thousands of fruit and timber trees in some 300 group and individual nurseries (Mercado, Garrity et al. 2000).

Building on the tree growing experiences of Landcare members in Claveria, this paper focuses on farmers' perceived benefits and constraints of group and individual nurseries

and how group and individual approaches can help farmers to attain their tree planting objectives.

## **Materials and methods**

Field observations in Claveria revealed that, many farmers after being involved in group nursery activities, shifted their efforts towards individual nurseries without any outside support. According to Pretty (2000) to invest in any form of collective approach, farmers must be convinced that the benefits derived from group action will be greater than those from individual ones. In order to understand farmers' decisions regarding tree propagation and to provide more appropriate incentives to tree growing initiatives, we decided to investigate farmers' perceptions on the benefits and constraints derived from group nurseries as opposed to individual ones. Thirty two farmers with household nurseries were visited and interviewed to discuss the benefits and constraints of growing trees individually and in groups (Table 1). Most of the farmers had participated before on group nursery activities. Farmers were selected by chain-sampling, which means simply asking previous interviewees if they knew of another farmer with a household nursery.

## Results

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**Table 1. Farmers' perceived benefits and constraints of individual and group nurseries**

	<b>Benefits</b>	<b>Constraints</b>
<b>Household nursery</b>	<ul style="list-style-type: none"><li>• Better management and maintenance</li><li>• Controlled source of seeds</li><li>• Freedom to sell seedlings</li><li>• No limitation in the number of seedlings to grow</li></ul>	<ul style="list-style-type: none"><li>• Difficult procurement of germplasm (lack of information on sources and high costs)</li><li>• Costs of tools and materials</li><li>• More accessible to stray animals</li></ul>
<b>Group nursery</b>	<ul style="list-style-type: none"><li>• Learning, exchange of ideas and dissemination</li><li>• Procurement of germplasm</li><li>• Procurement of tools and materials (e.g., polyethylene bags)</li><li>• Better nursery infrastructure (no access to stray animals)</li><li>• More fun</li></ul>	<ul style="list-style-type: none"><li>• Lack of proper co-ordination and/or participation in the management and maintenance</li></ul>

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## Discussion

Most farmers mentioned that lack of proper management and maintenance of seedlings is the main constraint to successful group nursery. Key activities, like pricking, root pruning or hardening, have to be accomplished in a timely manner for high survival and quality seedlings. While these activities can be easily carried out by individuals in a small-scale household nursery, larger group nurseries need proper organisation and co-ordination to achieve the same results.

As agroforestry practices become more popular in Claveria and tree germplasm markets for good quality planting materials develop at the local level, farmers value the opportunity provided by individual nurseries to sell seedlings and to grow and experiment with new tree species that may have high demand.

By contrast, learning and exchange of ideas and experiences is the main reason for farmers to join a group nursery. Group nurseries act as learning centres where farmers can experience and exchange ideas on tree propagation and management. In many instances, nurseries have also become a meeting point in which locals discuss other problems affecting the community.

Germplasm procurement, high costs of seeds and other nursery materials (e.g., tools, polyethylene bags) and lack of information on sources of germplasm, are easily overcome

through group nurseries support. Interestingly though, seed source control is acknowledged as one of the benefits of individual nurseries. This shows farmers' awareness on the importance of the seed source in order to obtain quality planting materials.

Group work results in a better-built and fenced nursery. A number of household nursery owners reported difficulties to protect seedlings from stray animals and recognised that the danger of seedling damage by stray animals do not exist in group nurseries. Lastly, the enjoyment of community work and social capital development must not be disregarded as one of the advantages of community nurseries.

## **Conclusions**

With minimal financial and technical support from the local government, extension agents and research organisations, Landcare farmer groups have been able to overcome constraints to tree propagation faced by individuals alone and thus establish a large number of tree nurseries managed by groups. Many farmers involved in group nursery activities, after learning about tree propagation and production of quality planting materials, establish their own household nursery without any outside support. Group and individual nurseries are currently producing large quantities of fruit and timber trees for planting and for sale. Both approaches to tree propagation greatly contribute to land rehabilitation, farm diversification and agroforestry development. But to sustain the benefits of local nurseries in the future, there is a need to show that improvements on aspects like the use of quality germplasm, nursery techniques and out-planting are worth the labour, time and resources invested. Rather than producing large number of seedlings, group nurseries should be a venue for farmers to learn and exchange ideas on the propagation of good quality planting materials. They should also provide farmers with the opportunity to explore and learn propagation techniques new to them and to facilitate the procurement of valuable germplasm difficult to access. If this minimal support is provided, we can subsequently expect the establishment and development of spontaneous household nurseries producing quality seedlings of a variety of tree species for on-farm planting and for sale and consequently, enhancing agroforestry development at a wider scale.

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