

Gmelina Boom, Farmers' Doom: Tree growers' risks, coping strategies and options

Paulo N. Pasicolan¹ and Damasa M. Macandog²

¹*REACH, University of the Philippines College, Laguna, Philippines;*
²*Institute of Biological Science, University of the Philippines Los Baños,
Laguna, Philippines*

ABSTRACT

A strong belief by Clavaria farmers that there is 'gold in Gmelina growing' turned out to be a huge frustration among tree out growers in southern Philippines in the late 1990s. The lack of a market study and appropriate government support system to address farmers' tree growing risks resulted in a great loss, not only financially but also in terms of local people's confidence in tree growing in the area. A large number of tree growers returned to subsistence farming while others opted to have their land rented out to multi-nationals for high value crops production (including bananas and pineapples). However, the majority shifted to fruit bearing trees. Ten farmers were interviewed using Problem in Context analysis, and they made various recommendations for government to improve the financial performance and regulatory environment for tree farming. These recommendations included the removal of the cutting permit requirements for timber grown in private woodlots, setting the wood price regulatory system to safeguard the interest of small tree growers, providing wood market information and strategic networks for tree growers to find alternative markets or use for their timber produce, and encouraging the private sector to establish small wood processing plants in every municipality in order to provide ready markets for timber produce. It was also suggested that government initiate contract tree growing between the private sector and farmers' groups, provide more planting area for interested tree growers, and assist small tree farmers to form or strengthen local cooperatives.

Keywords: market uncertainties, tree growing risks, coping strategies, policy measures, institutional safeguards

Correspondence: P. N. Pasicolan. *Address:* Valmayorville, Ecosystem Research and Development Bureau, College Laguna, 4031. *Tel. No.* (63)- 049-536-3992. *Cellphone.*+639205537803. *E-mail:* paulopasicolan@yahoo.com

DOI: 10.32945/atr3023.2008

INTRODUCTION

The trend in smallholder tree growing in Claveria, Misamis Oriental, Southern Philippines can be said to have taken a spiral downward route in recent years. In the mid 80s, farm-based tree growing was spreading out like a wild fire not only in the small town of Claveria but almost the entire northern regions of Mindanao. This phenomenon was mainly stirred by the strong information propaganda of the government that there is 'green gold in tree growing' as a subtle exit to the one time intensive commercial logging in the area during the 1980s. In many parts of the Philippines the promotion and planting of *Gmelina* and *falcata* have been very successful (Bertomeu, 2003).

Farmers' enthusiasm for tree growing, however, was not sustained overtime. After 15 years of waiting and hoping to become a millionaire with the trees they grow, sadly, they became disgusted. A drastic timber price decline resulted as farm-grown timber saturated the market (Bertomeu, 2003). The legal hassles, such as securing cutting permits even for privately grown trees added to the burden of small tree growers. Worsened by the lack of handling, transporting and processing systems for their raw timber products, tree growers were subservient to whatever price dictates of the ready buyer of their produce.

Farmers got burnt by this sad market experience. The lower profitability of smallholder tree farming systems in the Philippines was attributed to the past overemphasis on a few fast growing tree species (Bertomeu, 2003). During the following years, a drastic distaste in tree growing, especially *Gmelina arborea*, the most popular species of that time, became evident. In an attempt to increase the returns from timber-based agroforestry systems, many farmers shifted to higher-value trees such as bagras (*Eucalyptus deglupta*) and mahogany (*Swietenia macrophylla*) (Bertomeu, 2003). Very few persisted in growing timber trees for the market. Most farmers shifted to other tree crops such as fruit-bearing species with a high market value. Others intensified short-term cash cropping. About 90% of those who grew *Gmelina* in the 1980s have either stopped or switched to other tree crops (Personal Interview, 2006).

The other reason for the collapse of smallholder fast-growing timber farming in the Philippines is the promotion of tree planting without considering the many different kinds of tree users and the many purposes for which trees are planted (Scherr, 1995 as cited in Bertomeu, 2003). In the smallholder context, timber trees are also valued for many other reasons and therefore, profitability is not the only factor that determines the adoption of tree planting (Cramb, 2000). In Claveria, timber trees are planted for a number of reasons including income, as construction material, to control soil erosion, restore soil fertility, to establish farm boundaries, or for cooler air and aesthetics (Magcale-Macandog, *et al.* 1999).

In reality, there is a continuous demand for timber grown by smallholders and the Philippines has recently been importing logs from Indonesia, Malaysia and other countries. However, such timber species have 'boom and bust' cycles. Smallholders need to have coping mechanisms to deal with the inevitable price crashes. Government support is vital to support small tree growers during periods of wood price decline.

This report describes the responses and views of small tree growers in Claveria, Misamis Oriental after two decades of experience in the *Gmelina arborea* 'boom and bust' cycles. It specifically attempts to: (1) analyze farmers' perceptions of risk as well as their coping strategies and (2) examine carefully the incentives (and disincentives) for households to invest in tree growing at the farm level. Three (3) main highlights of the report: (1) ranking of tree preference of farmers in terms of degree of profitability and risk (price, market certainty, occurrence of crop infestation, fire, drought, and other vulnerability factors); (2) description of farmers' response to perceived risks in terms of coping mechanism (options taken); and (3) identification of possible government support to cushion the risks and uncertainties faced by smallholders in tree growing.

METHODOLOGY

An unobtrusive small tree growers' survey was conducted on 2-5 January 2006 in Claveria, Misamis Oriental using a checklist of guide questions. Farmers judged as representative were selected from the following groupings:

- a. Three farmers who have been planting trees in their farms in the past 20 years (1985-2005).
- b. Two farmers who have been planting trees in their farms in the past 10 years (1995-2005).
- c. Five farmers who were early gmelina growers but had now ceased growing timber trees.

Since this was a follow-up though in-depth interview-building on the database of a bigger previous research project Smallholder Agroforestry Options for Degraded Soils (SAFODS), a project funded by the European Union, the selection of respondents was simply based on a pre-determined criteria according to farmers' tree growing response over the years. The sample size of 10 was based on the availability of representative households in each farmer category, and was perceived to be an adequate size for making case stories, which was the main intention of the study.

The focus of the interview revolved around the following domains of research interest:

1. Determination of farmers' risk in growing timber species as agroforestry crops.
2. Identification of farmers' timber species preference in relation to risk management.
3. Listing of incentives or disincentives for tree growing.
4. Drawing farmers' policy recommendations to mainstream agroforestry/ farm forestry adoption.

Since inferential statistics do not apply in this kind of survey, the data analysis made use of frequency or count data.

RESULTS

Farmers' preferences for a particular tree species were determined by the degree of vulnerability to risk and the species' range of alternative uses. Mahogany stands out to be the most preferred species by most respondents

Table 1. Farmer-respondents' species tree value assessment in Claveria, Misamis Oriental

Farmer No.	Preference ranking	Vulnerability ranking	Risk recovery ranking	Alternative uses ranking	Desired future tree crop ranking	Comments
1	Mahogany (Mhy) 1	Mangium 1	Gmelina 1	Mahogany 1	Mahogany 1	Species preference is consistent with vulnerability and alternative uses rankings but not risk recovery ranking
	Gmelina (Gm) 2	Eucalyptus 2	Mahogany 2	Gmelina 2	Eucalyptus 2	
	Eucalyptus (Euc) 3	Gmelina 3	Eucalyptus 3	Eucalyptus 3	Gmelina 3	
	Mangium (Mgm) 4	Mahogan 4	Mangium 4	Mangium 4		
2	Mahogany 1	Gmelina 1	Gmelina 1	Mahogany 1	Mahogany 1	Species preference is consistent with vulnerability and alternative uses rankings but not risk recovery ranking
	Gmelina 2	Mahogany 2	Mahogany 2	Gmelina 2	Eucalyptus 2 Gmelina 3	
3	Mahogany 1	Mangium 1	Gmelina 1	Mahogany 1	Mahogany 1	Species preference is more or less consistent with vulnerability and alternative uses rankings but not risk recovery ranking
	Gmelina 2	Gmelina/Mahogany 2	Mahogany 2	Gmelina 2	Eucalyptus 2	
	Mangium		Mangium 3	Mangium 3	Gmelina 3	
4	Gmelina 1	Eucalyptus 1	Gmelina 1	Gmelina 1	Mahogany 1	Species preference is more or less consistent with vulnerability and alternative uses rankings but not risk recovery ranking
	Teak (Tk) 2	Gmelina/Teak 2	Eucalyptus 2	Teak 2	Eucalyptus 2	
	Eucalyptus 3		Teak 3	Eucalyptus 3	Narra 3	
5	Gmelina 1	Mahogany 1	Mahogany 1	Mahogany 1	Mahogany 1	Species preference is consistent with vulnerability, risk recovery and alternative uses rankings
	Mahogany 3	Gmelina 2	Gmelina 2	Gmelina 2	Eucalyptus 2	

because it is not as greatly affected by market price fluctuations as gmelina (Table 1). This is simply because of the over-supply of the latter at that time when they were marketed. The stumpage price for mahogany lumber was P10 (US\$0.2) per board foot as compared to gmelina (P4.50/bft). Furthermore, according to the respondents, mahogany timber can be stacked for a long period after harvest under proper storage and wood seasoning techniques while gmelina is liable to rot after prolonged storage. This means that the farmer can wait for the best time to sell their mahogany harvest, and is not compelled to rush the sale. Likewise, in terms of alternative uses if the market fails, mahogany has a finer texture than other common fast-growing species, and is well suited to high quality lumber and high-grade furniture. However, compared to the two other widely grown species (*Eucalyptus deglupta* and *Acacia mangium*), gmelina has a wider range of uses as well as being more marketable.

There seems to have been a decline in the effect that the ability of the species to recover after particular risk events has on farmer's species preference. For instance, when plantation fire occurs, gmelina and eucalyptus can recover better than mahogany. The first two species are fast growing while the latter is medium fast growing. However, consistently, the five respondents still preferred the latter when asked about what they want to plant in the future even if there are market uncertainties. This suggests that persistent tree growers rate wood quality and storage life higher than species rotation period and ability to recover from fire or pest.

Wood market uncertainties and price decline in the past accounted for the large number of farmers who ceased growing timber trees. Most tree growers were badly affected financially by the low timber price in mid-90s due to the sudden flooding of wood onto the local market, especially gmelina. Many lamented on how they were fooled into believing that there is really 'gold in gmelina growing', recalling the sad experience of how they could not help but to sell the timber produce (for which they had waited for 10 to 15 years to get an acceptable price) when the return was below what they could have earned if they had continued raising agricultural crops. For a truck load of 7-8 m³ of gmelina poles or sometimes sawn timber, the net revenue for the farmer was reported to be only PhP3000 (about US\$60). They often sold standing timber for not more than PhP500/tree even at age 10 to 15 years.

One farmer testified that he only earned PhP48,000 for harvesting 60 trees from an 18-year old plantation. Hence, they have a saying, after relating their sad stories, the 'Kahoy karon, bulawan ugma became kahoy karon, olawan ugma' ('trees you plant today will become gold tomorrow' but it turned out that the 'trees they planted yesterday became bubbles today).

Farmers preferred to either go back to intensive farming or lease their land for other uses after the wood market slump. The long rotation period of tree crops compared to agricultural crops already poses an inherent disadvantage to subsistence farmers. Exacerbated by market uncertainties and price instability, early tree growers have resorted to leasing their lands to multi-national corporations, such as Del Monte and Dole Corporation at PhP10,000 - PhP12,000/ha yearly rental, for pineapple or banana plantations. Thus, for those who are now under contract with these corporations, they concluded that 'the waiting is not worth the gmelina price'.

Space competition under intercropping systems on small farm areas has contributed to the growing dissatisfaction with tree crops among the farmers. The idea of intercropping trees with annuals or perennials seems not acceptable to most farmers who experienced declining farm production after the trees had grown to full canopy age. Farmers prefer to go back to mono-planting of one crop rather than mixing trees with agricultural crops as far as spacing is concerned.

The least reaction of disgusted tree growers would be to switch to other species of multiple uses or of tree crops with high value or an assured market (Table 2). Some farmers who were affected by the depressed timber market in the past but have sustained interest in tree growing simply shifted to other tree crops. For instance, if they previously planted gmelina, they grew fruit trees instead, such as rambutan, lanzones and durian, and other high-valued crops with sure market demand. Others continued to plant timber trees, but preferred mahogany and eucalypts over gmelina (Table 1).

Farmers resented government inaction and regulatory policies. Almost all respondents expressed their dissatisfaction with the government's lack of intervention in the market situation. Coupled by the stringent forestry policy of requiring a cutting permit before harvesting, tree growers often resorted to bribery of government officers to secure a tree cutting permit, which further reduced their income from timber crops.

Table 2. Farmer-respondents' behavioural responses attributing to the discontinuing of Gmelina planting

Farmer No.	Planting motivation in the past	Reasons for not planting anymore	Anticipated risk if he plants gmelina again	Government support needed	Impression or saying
1	Obtain income	Low wood price No government intervention/support Trees compete in space with agricultural crops	Market uncertainty No sure processing plant to absorb future wood produce Decrease agricultural farm production	Price regulation mechanism Enabling policy (lift the cutting permit requirement) Encourage business sector to invest in local processing plants Stop log importation	<i>Kahoy, karon, bulawan ugma</i> became <i>kahoy karon, olawan ugma</i> (The saying that 'trees you plant today will become gold tomorrow' became 'trees you plant today will be bubbles tomorrow')
2	Obtain income Lumber production for housing materials and furniture Soil erosion control	Low profitability Market uncertainty	Wood market price below production cost Market uncertainty Still no government price regulatory measures	Price regulation mechanism Institutionalize contract growing arrangement under government's protection Rationalize creation of small scale local wood processing industry	'the waiting is not worth the gmelina pricing'
3	Obtain income	Use the land for other types of investment	No good market price for wood	Price regulation mechanism	'Better use the land for other types of investment'
4	Obtain income	Low profitability Too long waiting time Labour and waiting time not worth the price	Market uncertainty Price insecurity	Government's intervention to set fair market price for farmers' wood produce	'The gmelina boom turned into farmers' doom'
5	Obtain income	Price instability Market insecurity Trees compete in space with agricultural crops	Market uncertainty No sure processing plant Decrease agricultural farm production	Rationalize local wood processing industry with fair and stable market wood price	'The government should take seriously the plight of the small tree growers'

CONCLUSION

Market uncertainties and price decline are the most devastating risks that affected farmers' sustained interest in farm forestry in Claveria, Misamis Oriental. Despite the presence of ICRAF (World Agroforestry Centre, formerly International Centre for Research in Agroforestry) and MOSCAT (Misamis Oriental State College of Agriculture and Technology), the two strong advocates of tree growing and conservation farming in the area, farmers who were hard hit by the depressed wood market in the past no longer adhere to any kind of tree growing activity. After the wood market slump in the mid-90s, farmers shifted to other high value tree crops with more reliable markets, including rambutan, lanzones, durian and other fruit trees. Others rented their land to multi-national corporations for contract growing of other high valued crops, such as pineapples and bananas. Most farmers do not regard tree intercropping with short-term crops as a suitable coping strategy amidst market failure because they perceive the two cropping patterns as competitors for a limited farm size.

Farmers find it attractive to plant mahogany because the harvested mahogany wood can be stacked for a prolonged period of time and wait for a higher market price. Gmelina wood cannot be stacked for many years because it is prone to wood decay, thus farmers simply utilize the timber for house construction, furniture making and fuelwood. Farmers perceived the Department of Environment and Natural Resources' cutting permit requirement as a disincentive to growing timber crops.

IMPLICATIONS

A number of policy implications can be gleaned from the study. The farmers who were interviewed advocated that the government should provide enabling policies and incentives rather than regulatory measures to address small farmers' risks and constraints in tree growing, such as:

- a. remove the cutting permit requirement for timber grown in private woodlots;
- b. set the wood price regulatory system to safeguard the interest of small tree growers;
- c. provide wood market information and strategic networks for tree growers to find alternative markets or use of their timber produce;

- d. encourage the private sector to put up small wood processing plants in every municipality in order to provide ready markets for timber produce;.
- e. initiate contract tree growing between the private sector and farmers' groups; and
- f. provide more planting area for interested tree growers.

There is also a potential role for ICRAF and other agricultural research institutions to devise a new tree farming approach or technology that can offer more options for farmers to shift readily to relatively low risk agroforestry systems. More bio-economic modelling studies should be carried out on tree farming and agroforestry with risk management as an important dimension. There is a need to strengthen tree growers' collective bargaining power through cooperative formation, strategic networking, political representation and advocacy.

REFERENCES

- BERTOMEU M. (2003), Smallholder maize-timber agroforestry systems in Northern Mindanao, the Philippines: Profitability and contribution to the timber industry sector. Paper presented at the International Conference on Rural Livelihoods, Forests and Biodiversity, 19-23 May 2003, Bonn, Germany.
- CRAMB, R.A. (ed.) (2000). Soil conservation technologies for smallholder farming systems in the Philippine uplands: A socioeconomic evaluation, Australian Centre for International Agricultural Research, Canberra.
- MAGCALE-MACANDOG, D.B., K. MENZ, P. M. ROCAMORA and C. D. PREDO. (1999). Smallholder timber production and marketing: The case of *Gmelina arborea* in Claveria, Northern Mindanao, the Philippines. *International Tree Crops Journal* **10**: 61-78.