

# 18. ENSURING SEEDLING QUALITY THROUGH NURSERY ACCREDITATION

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The fruit tree nursery accreditation scheme implemented by the Philippine Department of Agriculture (DA) has been promoted to enhance the supply of high quality fruit tree planting materials and reduce the number of dubious seedling market players. This paper examines the advantages of the fruit tree nursery accreditation scheme and draws implications for possible formulation of a scheme to accredit forest tree nurseries in the Philippines. Data were collected from interviews with accredited fruit tree nursery operators and the nursery accreditation officer-in-charge in Northern Mindanao. There has been an increase in the number of applicants for nursery accreditation each year since 2004, as a result of the advantages nursery operators observed from those who had already been accredited. A major advantage is that only accredited fruit tree nursery operators can join in the government procurement of seedlings through a bidding process which is always for substantial volumes. As a form of advertisement, accredited nurseries are posted on the government website thus creating a wide range of market opportunities which results in increased sales. Other advantages such as receiving free training in improving seedling production and occasionally receiving high quality propagation materials (scions and seedlings), subsidies for pesticides and fertilizers and free soil tests were enjoyed by accredited fruit tree nurseries. These opportunities encouraged other nursery operators to apply for accreditation. Accreditation by the DA places emphasis on maintaining high genetic quality of planting materials as well as the physical quality of the seedlings. Accrediting forestry nurseries is seen as a potential policy option that can expand the supply of high quality tree seedlings in the Philippines, as is the case with fruit tree seedlings.

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## INTRODUCTION

With the extensive reforestation efforts by the public and private sectors to cope with increasing timber demands and address shortages of timber supply in Northern Mindanao (Philippines Region 10), there is a strong increased in demand for seedlings of timber tree species. Region 10 alone currently aims to plant 2.4 M seedlings on an area of 531 ha (Mercado and Piñon 2008). This is only a part of the 20 M trees planned to be planted all over the country as part of the Green Philippines Program. This means that there is a strong market for tree seedlings and also that forestry nurseries present a lucrative livelihood opportunity.

The forestry nursery sector in the Philippines, particularly in the Visayas and Mindanao, has been characterized by low quality planting stock, availability of only a narrow range of species, poor matching of species to planting sites and often high mortality rates in nurseries (Gregorio et al. 2005; Mercado and Pinon 2008). These problems are aggravated by a high mortality rate of seedlings during field planting, reaching as high as 50–60% (Herbohn 2006). These problems can be traced back to the nurseries having poor management practices thereby producing low quality planting materials. Also, the criteria adopted for buying tree seedlings and the procurement through government bidding where the lowest price for seedlings is preferred, compromise the quality of planting materials and lead to aggravated quality problems.

Accreditation of timber tree nurseries could be one of the policy options to address these problems and could lead to an increase in the quality of the timber seedling available and also minimize the high field mortality at out-planting. At present, there is no accreditation of timber tree nurseries. However, an accreditation system for fruit tree nurseries does exist in northern Mindanao and is operated by the Department of Agriculture. An examination of the existing fruit nursery accreditation system of the DA and the experiences of accredited nursery operators will provide valuable guidance towards drafting the mechanisms for accrediting forestry seedling nurseries.

## RESEARCH METHOD

A list of accredited fruit tree nurseries was obtained through the Department of Agriculture's Crop Production Division at Regional Field Unit 10 based at Cagayan de Oro City. Ten fruit tree nursery operators from the 15 accredited tree nurseries in Region 10 (Northern Mindanao) were interviewed in their respective nurseries, using a semi-structured questionnaire. The regional seed coordinator, who evaluates the applicants for accreditation, was also interviewed.

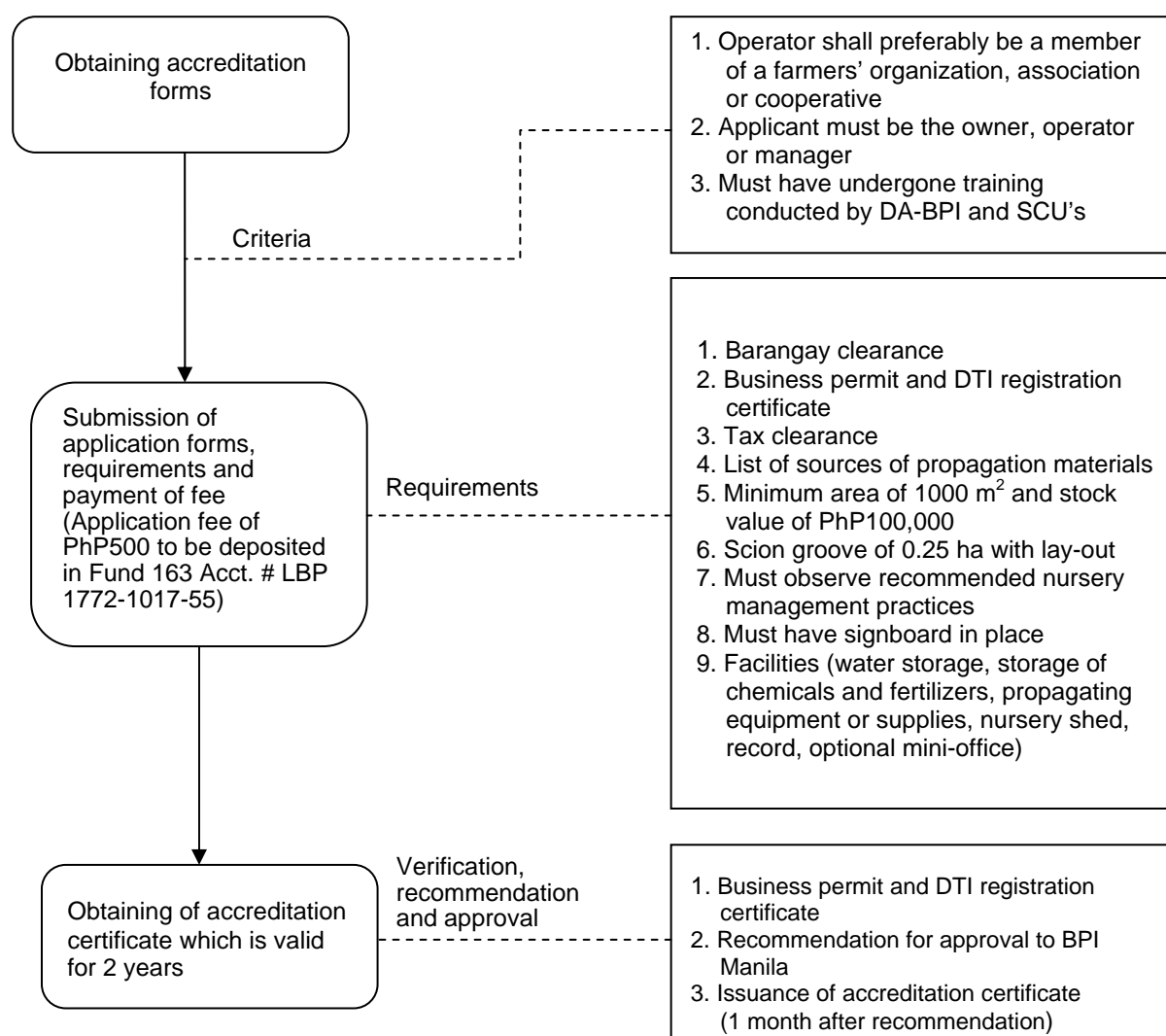
## RESULTS AND DISCUSSION

### DA-BPI Accreditation of Fruit Tree Nurseries and its Operators

The attempt to accredit nurseries in the Philippines started in 1994 through the issuance of Memorandum No. 6, series of 1994, and was later amended through Memorandum Circular No. 3 in 2006, which is in line with the implementation of *Republic Act No. 7308* in support of the Government's Medium Term Agricultural Development Program for commercial crops (DA MC No.3 2006).

Through this memorandum, the Department of Agriculture assigned the responsibility to accredit nurseries to the Crop Production Division in its Bureau of Plant Industry (DA-BPI). Accreditation, however, is limited only to horticultural trees including fruit and rubber tree nurseries because the accreditation is implemented by the DA which considers these crops as commercial agricultural crops along with rice, corn, and vegetables. The DA places greatest emphasis on high-value fruit trees including mango, durian, lanzones, mangosteen, rambutan and citrus trees such as pomelo and calamansi.

In order to be accredited fruit tree nurseries must satisfy a number of criteria, submit the necessary documents and undergo a process of evaluation before the issuance of nursery certification that is valid for two years (Figure 1).



**Figure 1.** Diagram of the DA-BPI fruit tree nursery accreditation process

By August 2007, there were a total of 15 accredited fruit tree nurseries in Northern Mindanao. The number has been increasing each year since 2004 (Table 1) and this is attributed to the advantages nurseries gained from accreditation.

**Table 1.** Number of accredited fruit tree nurseries in Region 10, Northern Mindanao, the Philippines

| Year of accreditation | Number of accredited nurseries |
|-----------------------|--------------------------------|
| 2004                  | 3                              |
| 2005                  | 6                              |
| 2006                  | 7                              |
| 2007                  | 15                             |

### Accredited Fruit Tree Nurseries: Problems and Advantages

Table 2 shows the negative and positive experiences as expressed by accredited nurseries regarding nursery accreditation. Prior to accreditation, fruit tree nursery operators experienced difficulties in acquiring seeds or scions for asexual propagation of seedlings. They did not know where to acquire planting materials of high quality so they sourced planting materials from anywhere convenient, which meant that they could not be sure that

they were producing high quality planting stock. After accreditation, seedling sellers have become confident that they are selling the desired variety and quality due to the DA's assistance in acquiring high quality planting materials and certification of mother plants and scion grooves as part of the accreditation process. As a result, seedling buyers now prefer to acquire seedlings from these accredited nurseries because they can be sure of obtaining their preferred variety and quality of fruit tree seedlings.

**Table 2.** Problems prior to accreditation and the advantages after accreditation

| Problems prior to accreditation                  | Advantages met after accreditation                     | Disadvantages of accreditation |
|--|--|--------------------------------|
| Difficulty in acquiring seeds or scions          | DA assistance in acquiring quality planting materials  | Pressure to maintain quality   |
| No technical support                             | Receive technical support                              |                                |
| Could not participate in government procurements | Participate in government procurement through biddings |                                |
|  | Promotion of nurseries to seedling buyers              |                                |

Nursery operators, on the other hand, indicated that before accreditation they never received technical support from the government and had to rely heavily on their own experiences in nursery operation which often proved costly due to the need for trial and error. After accreditation, nurseries are constantly prioritized as part of the capacity-building program of the DA at the regional level. They receive invitations to training events which are always conducted free of charge. These training events are conducted by DA-BPI and other aligned organizations to improve their capacity to produce high quality planting stock and to ensure that the best varieties of fruit tree species are grown and sold. Technical support is focused mainly on basic nursery activities, especially on asexual propagation such as marcotting, grafting, budding and choosing and obtaining planting materials of high-yielding varieties of fruit trees which enables nursery operators to produce high quality planting stock.

A major disadvantage of not being accredited is the fact that those nursery operators are barred from bidding for government procurement contracts. Operators stated that accreditation has resulted in increased sales because they have been able to participate in government contracts that procure seedlings in mass quantities. A major advantage in the accreditation process is the prioritization of accredited nurseries in the seedling procurement of the region.

Nursery operators stated that the only disadvantage of being accredited is the pressure on maintaining quality standards. Buyers expect seedlings from accredited nurseries to be of superior health and the most suitable varieties. On the part of buyers this is advantageous because they are able to put pressure on the nursery operators to only produce and sell high quality planting materials. The advantages experienced by nursery operators and the pressures by private buyers on them as well as the governments' policy to procure seedlings only from accredited nurseries are all factors that persuade the fruit tree nurseries to adhere to the nursery accreditation system.

### **Opportunities for Accredited Fruit Tree Nurseries**

Numerous opportunities were mentioned by nursery operators who had been accredited. One is the fact that their nurseries are posted and advertised by DA on the governments' website which increases their reach to customers (government and private) who may want to buy seedlings from their nurseries. Posting on the website also increases linkages to other nurseries promoting knowledge and information sharing about management techniques as

well as market demands. The information on the website includes seedlings stock, contact persons, addresses and phone numbers.

Individuals and corporations who come to the DA for assistance on planting fruit trees are constantly referred to accredited fruit tree nurseries when seeking seedlings to buy, which also enhances the opportunities for accredited nurseries. Other opportunities such as scions and seedlings given for free or sold at minimal cost to nursery operators by DA-BPI, were also given exclusively to accredited nursery operators. Nursery operators also occasionally receive free fertilizer and pesticide samples from the DA. On one occasion, one nursery received free soil testing conducted by the DA.

### **Views of Nursery Operators on Enhancing the Fruit Tree Accreditation Scheme**

Accredited nursery operators expressed their views on enhancing the accreditation scheme through improving the market for their seedlings. One way to achieve this is through educating seedling buyers about the advantages of buying seedlings from accredited nurseries only because of quality assurance. It was also suggested that the establishment of a model nursery by the DA-BPI would promote learning and entice other nursery operators to join the accreditation scheme. Increased support such as handing out planting materials, fertilizers and pesticides for free were also suggested as ways to persuade nurseries to subject themselves for accreditation.

## **CONCLUSION**

The fruit tree nursery operators' desire to be accredited was driven by the advantages observed in the scheme. Operators regarded accreditation as closely linked with increased sales through participation in government procurement biddings. Government procurement usually requires mass quantities of planting materials and is a highly attractive market to nursery operators. This has been the major driving force for the fruit tree nurseries to apply for accreditation.

Nursery accreditation also exposes accredited nurseries to a wide range of buyers from all over the country because they are included on the DA list of accredited nurseries. Exposure on the website as a form of advertising not only links sellers to buyers but also to fellow sellers, which promotes the sharing of knowledge, skills and markets. The opportunities such as free training to improve seedling quantity and quality, access to free or concessionally-priced high quality propagation materials (scions and seedlings) and the occasional handing out of free fertilizer and pesticide samples and soil testing all serve to entice seedling producers to apply for nursery accreditation.

The fruit tree nursery accreditation conducted by the DA puts pressure on nursery operators to produce high quality fruit tree seedlings with correct labelling and identification of its specific variety which is a way of assuring that the market is supplied with only high quality planting materials. As a result, seedling buyers prefer to buy seedlings from accredited fruit tree nurseries because they are assured that they will be getting the preferred variety of planting materials they wish to acquire. Accreditation by the DA increases the emphasis on maintaining the genetic quality of planting materials as well as the physical quality of the seedlings.

## **POLICY IMPLICATIONS**

Given the benefits of fruit tree nursery certification identified above, an accreditation scheme specifically designed for the forestry nursery sector is seen as a potential policy option that can enhance the supply of high quality tree seedlings for the region and of the country as a whole. This would guarantee a supply of high quality seedling stock through the assurance

of high quality mother trees. The accreditation process could focus on ensuring the genetic as well as physical quality of planting materials. Genetic quality can be assured through certifying that the seeds and seedlings have been obtained from phenotypically superior mother trees (straight bowl, balanced crown form and good health among others) while physically superior quality can be achieved through ensuring that the nurseries employ appropriate management practices and techniques. While the DA is responsible for fruit trees, the Department of Environment and Natural Resource (DENR) would be the appropriate agency to accredit forestry tree nurseries.

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