INTERNATIONAL NETWORK FOR BAMBOO AND RATTAN
(INBAR)

TRANSFER OF TECHNOLOGY MODEL
(TOTEM)

COMMUNITY BASED WOVEN RATTAN PRODUCTS MANUFACTURING

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TRANSFER OF TECHNOLOGY MODELS (TOTEMS)

Transfer of Technology Models (TOTEMs) are focussed educational tools providing relevant information and distance training on one specific area of bamboo/rattan management, processing or utilization. They are a means of technology transfer between similar regions throughout the world, with the emphasis on South-South transfer for livelihood development. They enable those involved in the management and use of bamboo and rattan resources to more efficiently and effectively develop and use skills relating to these resources.

TOTEMs are primarily intended as practical information resources and teaching aids for those at the local extension level in their communities, who can utilize them to assist local community development. Each TOTEM consists of a detailed written report of the technology, a PowerPoint presentation, a film, and, where relevant, a set of technical photographs. They also include information on target users, financial analyses of sample set-ups from the partner country preparing the report, and information on where to source particular technologies (such as equipment). The TOTEM thus provides all the information required for establishing similar technologies within interested countries and regions.

- The **report** contains all the technical details of the particular processes involved, as well as other relevant information for establishing the technology such as costs of business establishment, running costs and cash flows.

- The **PowerPoint** presentation contains details of the relevant technologies and their applications, and is intended to provide an overview of the potential of the technology for development.

- The **film** provides a visual guide to the processes involved and helps to bring them alive in the minds of the learners.

The different parts of the TOTEM are targeted at slightly different audiences, via the local extension workers. The report and film are intended to be the main means of extension to the individuals and communities who will implement the technology and who will directly benefit from it. The PowerPoint presentation is primarily intended as a tool for the extension worker to sell the technology and its role in development to those who provide the infrastructural, policy and financial support for its implementation, such as government departments, donors and NGOs. There is considerable flexibility, however. Local extension workers will be able to incorporate the TOTEMs in their own work as they wish and adapt and develop them to suit their particular requirements and conditions.

This TOTEM on **community based woven rattan products manufacturing** has been produced at the Forest Products Research and Development Institute, Laguna, the Philippines. The report part of this TOTEM describes the technology for producing and establishing a community based woven products manufacturing units for rural development in regions where rattan is available as a raw material. It is intended to be used in conjunction with the illustrative film included in this TOTEM package

The first part of the report provides background information, discusses the history of manufacturing woven rattan products as community enterprises in the Philippines, their development attributes, benefits and applicability. The second part of the report provides detailed information on the experiences of the Community Crafts Association of the Philippines, Inc. (CCAP).

The format of this TOTEM differs from most of the other TOTEMs in this set. The information in this TOTEM is presented as examples of succesful community rattan manufacturers in the Philippines. Details of organisation and manufacturing system, variability of inputs, institutional support and markets are included and financial analyses of the costs of producing particular products are provided. It is hoped by sharing these experiences in this way that the true value of these community-based rattan weaving organisations in social and community development will become apparent.

This TOTEM is one of the first to be produced by INBAR/ FPRDI and your feedback is most welcome - kindly contact INBAR or FPRDI with your comments or suggestions.

Note 1: This TOTEM has been edited at INBAR and differs slightly from the form in which it was received from the author.

Note 2: All calculations are in Philippine Pesos. At the time of writing P40 = USD $1

PART ONE

INTRODUCTION

DEVELOPMENT ATTRIBUTES, TARGET GROUPS and BENEFITS of

COMMUNITY BASED WOVEN RATTAN PRODUCTS MANUFACTURING

1. Introduction

This TOTEM describes the experiences of the Community Crafts Association of the Philippines, Inc. (CCAP). The CCAP was established in 1973 and federates and serves as a marketing arm of cottage or small-scale enterprises engaged in the production of rattan and other NTFP-based handicrafts in various parts of the Philippines. By illustrating the experiences of the communities involved in this way it is hoped that it will provide useful information for others wishing to adopt such a system of manufacturing woven products.

2. Background

The CCAP is a non-stock and non-profit organization. It was established on May 7, 1973 with a mission to significantly contribute to the social and economic development of the country's urban and rural poor with a particular focus on community craftworkers nationwide. Its main goal is to promote fair trade for craft producers through its various local and international marketing linkages. This strategy is complemented by providing various capability building programs aimed at developing socially and self-reliant craft-producer groups or associations.

The handicraft producers organizations in different parts of the country associated with CCAP include ethnic groups, slum communities in urban centres and resettlement projects, and craftworkers in the rural areas. The member producer groups throughout the Philippines directly employ around 2,000 workers.

Aside from rattan, the CCAP-organized producer groups manufacture various types of GTH (gifts, toys and housewares) and decorative items from other NTFPs. These include bamboo, abaca (*Musa textiles*), pandan (*Pandanus* spp.), nito (*Lygodium* spp.) woody vines or lianas, palms, sedges, twigs and bark. These are fashioned from single or mixed raw materials based on the product specifications and designs from the CCAP.

The Forest Products Research and Development Institute (FPRDI) has been one of the agencies assisting the operation of the CCAP and its member producer groups since 1996. The Institute has been providing technical assistance and advisory/consultancy services on raw material sourcing, processing techniques and design and installation of equipment.

3. Suitable agro-ecological regions

This manufacturing system is applicable as an alternative livelihood for upland, coastal and lowland or urban dwellers depending on the access to or availability of rattan and other raw materials suitable for handicraft production.

4. CCAP Target groups

The CCAP-organized handicraft producer groups (documented in this TOTEM) in the province of Pangasinan including the following:

a. Riverside Basket Producers Association. This was organized and registered with the Securities and Exchange Commission (SEC) in 1996. It comprises 29 member families who rely on handicrafts as their main means of livelihood. They manufacture primarily rattan-based articles such as baskets, magazine organizers, planters, trays, vine racks and other related products.

b. Dilan Handicraft Producers Association. This started as a family-based producer group way back in the 1950's. It expanded to include 27 families and was transformed into an association registered with the SEC in 1996. This group is noted for their indigenous skills in rattan basketry such as hampers and trays. At present, they are diversifying into bamboo crafts.

c. Bonapal Handicraft Producers Association. This group is composed of 32 highly-skilled weavers dominated by women. They produce mainly rattan-based woven products ornamented with other indigenous materials. These include picnic baskets, magazine racks, trays planters, hampers, toy chests, etc. The Dilan and Riverside producers association often seek the assistance of the Bonapal for their weaving requirements.

5. Benefits

The major benefits derived by the above producer organizations from their affiliation with CCAP are:

Generation of employment. All members of each producer group are actively or totally employed in the manufacturing operation during the off-farm season.

Secured market. Product fabrication by contract or on a made-to-order basis assures a ready and secured market outlet.

Sustainable income. The secured market outlet of the producers associations provides sustainable income for the members. Each producer group generates about P30,000 (US $750) average net income per month or around P1,000 (US $25) per member per month.

Sales rebates. Ten percent of total sales to CCAP are given anually to each member association, of which is 75% is for capital built-up (Production Fund or Livelihood Fund) and 25% for other purposes (cash bonus, social fund/educational assistance of the members, etc.).

Empowerment through capability building. This program includes provision of managerial/technical trainings to improve their productivity and product quality; exposure of producers in trade fairs/exhibits to broaden their market base; design/development of new products; and participatory planning sessions to provide systematic and long-term direction of activities and wean them from being purchase-order-oriented.

6. Requirement for success

In general, the federation of the cottage or small-scale woven rattan products manufacturers into groups or associations promotes rational distribution of benefits and community development. As a group, they have the capacity to accept large orders of products and through complementary fabrication they improve their competitiveness with large-scale producers. Moreover, institutional support from the government or NGOs such as financial, technical, marketing and other assistances are usually given to producers associations or cooperatives to optimize the distribution of economic benefits in communities.

7. Potential improvements and research needs

The community-based manufacturing system for rattan and other NTFP-based handicrafts needs to be dovetailed with other technologies for its sustainable operation. Aside from linkages with research and development institutions to broaden their raw material base and upgrade their technical skills/equipment, they should also venture into propagation or development of community-based plantations of the required raw materials, instead of relying mainly on suppliers from outside the organization.

The feasibility of establishing trading centers (for raw materials and finished products) and common service processing facilities for each association also needs to be investigated.

Concluding remarks

The establishment of the CCAP has benefitted a great deal of people in the rural Philippines and continues to do so. The importance of such an organisation to the small-scale producer cannot be overemphasised. With the assistance of the CCAP employment and incomes increase, the producers have access to secured markets and enhanced capacity building. The members of the organisation are thus more able to manage their own organisations and take initiatives to develop their production.

PART TWO

COMMUNITY BASED WOVEN RATTAN PRODUCTS MANUFACTURING

IN
THE PHILIPPINES

1 INTRODUCTION

Poverty is characterised by a lack of options to improve living conditions. A contributing factor to this is the inability of the people to participate meaningfully in the decision-making processes that affect their lives. But, popular participation which capitalizes on human resources that the country has in abundance, calls for power. A key factor in people empowerment is organization. Individuals have to band together to have a collective force by which to voice needs and concerns, seek redress for grievances and other actions that can be ineffective or futile if done alone.

Organizing creates conditions for bringing out untapped potentials of human resources in local communities, developing awareness of their situation, assessing needs and resources, finding means to solve their problems and developing and strengthening outside linkages. It is on these premises and a genuine desire to help handicraft producers scattered in the 7,100 islands of the country to free themselves from an exploitative marketing structure, that the Community Crafts Association of the Philippines, Inc. (CCAP) came into being.

Organizing the producers has led to a community-based production and marketing system for the woven rattan products. Orders for specific products are put in for a group to meet and members work towards completing these on time. The community-based manufacturing approach permits collective activities that rebound to the common good.

Three small producer groups organized by the CCAP in the Province of Pangasinan in the northern part of the Philippines are the subjects of this TOTEM.

2. The CCAP experience

2.1 Background

The community-based approach to manufacturing adopted by the producers is a product of the CCAP's efforts to mobilize farmers with skills in handicraft production make the most of their skills and time to earn more and become active participants in the move towards upliftment of socio-economic conditions by uniting with other craftworkers. This is hinged on the belief in people's capacity for growth and inherent desire to find expression for personal worth.

The Community Crafts Association of the Philippines, Inc. is a non-stock, non-profit , non-government organization established on May 7, 1973. Its mission is to contribute significantly to the social and economic progress of the country's urban and rural poor focusing on the community craftworkers. This is carried out by promoting fair trade for craft producers and developing socially and economically self-reliant groups through linkage with viable international marketing organizations and viable development programs.

Through the years, the CCAP has provided employment and livelihood opportunities to groups of men and women as well as the handicapped in depressed rural and urban communities. These groups include ethnic groups, slum communities in urban centers and resettlement projects and craftworkers in the rural areas and total about 2,000 workers.

The CCAP has its own team of experienced community organizers involved in building small, coherent, self-reliant community-based enterprises. Individual craftworker united with fellow craftworkers have pooled capabilities to perform better and can enjoy collective benefits that redound to the good of all. The CCAP federates the different handicraft associations.

The producers organized in selected areas in the province of Pangasinan fall into the following groups:

Bonapal Handicraft Producers Association. This has 32 members, 30 of whom are women. Expectedly, it is headed by a woman. The highly skilled weavers turn out rattan-based woven products that include picnic baskets, magazine racks/organizers, trays, planters, clothes hampers and others. The other groups often seek the assistance of members of this association for their weaving requirements.

Dilan Handicraft Producers Association. This started as a family-based production unit that has expanded and transformed into an association. It has 27 members. The group is noted for its indigenous skills in rattan basketry that include clothes hampers and trays. It is now diversifying into bamboo crafts.

Riverside Handicraft Producers Association. This has 29 members, 17 of whom are women. It is headed by a woman. The products turned out include baskets, clothes hampers, two-tiered fruit bowls, chests, wine holders, trays, magazine organizes and other similar goods.

The benefits derived by the producers as organized groups are as follows:

- Employment especially during non-farm and off-farm periods transforms otherwise idle time to gainful endeavor. This not only translates into monetary benefits but also to a feeling of self-worth as active family and community members.

- Sustained income. The production of woven products fills the gap during periods when the farmers are not engaged in farm work which is seasonal. Each member of the producer association averages a net income of P1,000.00 monthly.

- Secured market. Product fabrication by contract or made-to-order basis assures ready and secured market outlet.

- Sales rebate. Each member association of the CCAP receives a 10% rebate of the total sales. Of this, 75% goes to the production or livelihood fund for capital build-up and 25%, for other purposes such as educational assistance to members.

- Collective benefits in some production activities. The group can take advantage of bulk purchase of raw materials allowing them to enjoy discounts not normally given to individual purchasers. Bulk delivery of products allows savings in delivery costs. As a group, the members can do bulk treatment to bleach the products allowing savings in effort, chemical used and space utilized.

- Capability-building. This is meant to enhance the skills of members to manage their organization and improve processing techniques and product quality. They undergo trainings and exposure in trade fairs and exhibits to improve market opportunities; are provided guidance in product development and design; involved in participatory planning sessions and workshops for systematic and long-term direction in their activities and to wean them from being purchase-order oriented.

2.2 Manufacturing system

The CCAP has local and international market linkages which dictate the type and design of products to be made. It has field offices in different areas of the Philippines which link up with the small producers for production schedules, product specifications, needed inputs and related matters. The producers do the purchasing of materials needed. After fabrication of the orders, the products are delivered to the CCAP station in Metro Manila where these are finished, undergo quality control and packaging before shipment to foreign buyers.

The CCAP also provides support to producers through capability building in managing small producers associations, processing raw materials and other organizational and entrepreneural aspects.

2.3 Cost and profitability analysis

All calculations in the financial analysis are given in Philippine peso (P). The exchange rate at the time of writing is P40 = US$ 1.

2.3.1 Investment costs

The CCAP works with small producers including those in remote areas hardly reached by technical and social services. As expected the majority of the producers have limited capital or none at all to operate a business. CCAP helps the producers meet this problem and sustain production by providing a percentage of the estimated total value of production for the purchase of raw materials. This is done everytime orders are made.

The advanced payment (working capital) is deducted from the final payment upon delivery of the products to the CCAP warehouse in Metro Manila.

Labor is provided by 88 members belonging to three producers associations. The labor force essentially consist of male dominated framers and female- dominated weavers.

Some tools and equipment are utilised in the manufacture of woven products. With the exception of the bending jigs which the producers fabricate themselves, most of the rest of the equipment is available from local hardware outlets and is relatively inexpensive. The exceptions are the electric drill, compressor and acetylene gas, which account for a large percentage of the total cost of production.

The investment costs required to start a rattan woven handicrafts project is estimated at P52,380.00 (Table 1). These include fixed investment of P47,380.00 (Table 2) for the purchase of necessary tools and equipment and a pre-operating capital of P5,000.00 to defray expenses for licensing and permits and other necessary transactions that may occur prior to operation of the project.

Sources of investment are loans and equity. It is assumed that 60% of the investment cost is borrowed and the remaining 40% from equity.

Table 1. Investment costs of Woven rattan Products Manufacturing (In Pesos)

	Investment	Cost
1.	Fixed Investment	
	Equipment	47,380.00
2.	Pre-operating Capital	5,000.00
Total Investment Cost		52,380.00

2.3.2 Production costs

Production costs were calculated on a product basis (Tables 3 to 6). Production costs covered expenses for raw materials at P1,471,085 per year, direct labor at P502,750, and factory overheads at P6,000 (which covers payment of electricity and water bills, interest expenses and selling expenses). The average production costs per year for the four products totals P1.3 million (Table 7).

Table 2. Fixed Investment Cost

Equipment	No. of Units	Source	Unit Cost	Total Cost
1. Framings jigs	4	Fabricated	1,000	4,000
2. Tacker	1	Hardware	4,000	4,000
3. LPG tank with blow torch	1	Hardware	7,000	7,000
4. Hammer	4	Hardware	120	480
5. Table with metal	4	Hardware	1,000	4,000
6. Metal scraper	2	Hardware	25	1,000
7. Long nose plier	4	Hardware	100	400
8. Hacksaw	2	Hardware	150	300
9. Electric drill	2	Hardware	5,000	10,000
10. Air compressor with accessories	1	Hardware	10,000	10,000
11. Blow torch	4	Hardware	1,500	6,000
12. Knives	4	Hardware	50	200
Total fixed investment				**47,380**

Table 3 . Raw Material Requirements for Round Tray (250 pieces)

Process	Raw Material	Quantity Required	Unit Cost	Total Cost
Framing	**Rattan** round core 1/2" dia.	500	7.5	3,750
	Bamboo spoke	200 pcs	65/100	130
Weaving	**Rattan**/ buri splits, scraped	6000 pcs	17.5/100	1,050
				4,930
Cost				9,860
10% allowance for raw materials				986
Total cost of raw materials				10,846
Cost per set				**43**
Labor cost				
	Framer/assembly:	P15/pc @ 250		3,750
	Weavers	6/pc		1,500
				5,250
	cost per set			**21**

Table 4. Raw Material Requirements for Fruit bowl (150 pieces)

Process	Raw Material	Quantity Required	Unit Cost	Total Cost
Framing	**Rattan** round core 1/2" dia.	300	8.5	2,550
	Bamboo spoke	10,000 pcs	4.50/100	450
Handle	**Rattan** round core 1/2" dia.	50 poles	7.5	375
Weaving	**Rattan**/ buri split	5000 pcs	175/100	875
	scraped			4,930
Assembly	wood glue	4.5 kgs	60	270
Cost				4,520
10% allowance for raw materials				452
Total cost of raw materials				4,972
Cost per piece				**33**
Labor cost				
	Framer	P35/pc@150/pc		5,250
	Weavers	10/pc@ 10/pc		1,500
	Labor cost			6,750
	cost per set			**45**

Table 5. Raw Material Requirements for Organizer (275 pieces)

Process	Raw Material	Quantity Required	Unit Cost	Total Cost
Framing	**Rattan** round core 1/2" dia.	350	7.5	2,625
	Bamboo Spoke	5000 pcs	65/100	325
Weaving	**Rattan**/ buri split scraped	5500 pcs	175/1000	962.50
				4,930
Assembly	Glue			260
Cost				4,172.50
10% allowance for raw materials				391.25
Total cost of raw materials				8,736.25
Cost per set				**33.77**
Labor cost				
	Framer P315/pc			4,125
	Weavers P6/pc			1,650
	Total cost			5,775
	cost per set			**21**

Table 6. Raw Material Requirements for Half-Moon Hamper (500 pieces)

Process	Raw Material	Volume Required	Unit Cost	Total Cost
Framing	**Rattan** round core 5/8" dia.	2500	8.5	21,250.00
	Bamboo spoke Length			
	42"	15000	12/100 pcs	1,800.00
	32"	15000	8.50/100 pcs	1,275.00
	Nails			
	3/4"	3 kilos	65/kilo	195.00
	1-1/4"	4 kilos	40/kilo	160.00
Weaving	**Rattan**/ buri split, scraped	200,000	175/1000 pcs	17,500.00
Sanding	sand paper 12" x 12"	5 pcs.	5/pc	25.00
Cost				42,205.00
Allowance for rejects (10%)				4,220.00
Total cost of raw materials				46,425.00
Cost per piece				**92.85**
Labor cost				
	Framer P40/set @ 500 sets			20,000.00
	Weaver P25/set @ 500 sets			12,500.00
	Labor cost			32,500.00
	cost per piece			**65.00**

Table 7. Annual Production Cost Estimate

Year Production Program	1 100%	2 100%	3 100%	4-10 100%
1. Raw materials	709,790	709,790	709,790	709,790
2. Direct Labor	502,750	502,750	502,750	502,750
3. Factory Overhead	6,000	6,000	6,000	6,000
4. Depreciation Cost	4,738	4,738	4,738	4,738
5. Selling Expense	75,000	75,000	75,000	75,000
6. Financial cost	5,686	3,790	1,895	
Total Cost of Production	1,303,964	1,302,068	1,300,173	1,2988,278

2.3.3 Profitability

Indicators used were Return on Investment (ROI), Net Present Value (NPV), Internal Rate of Return (IRR,) and Benefit-Cost Ratio (BCR). Results showed that venturing in this kind of project is highly profitable (Tables 8 and 9). The ROI is estimated at 1.68 and cash payback period is 0.59 (or 7 months). The IRR also showed a very high rate of 581%. The NPV showed a positive value of P1,259,557 and the BCR is 1.22.

Appendix I shows the assumptions used in the profitability analysis.

Table 8. Project Income Statement

Year **Production Program**	**1** **100%**	**2** **100%**	**3** **100%**	**4-10** **100%**
Sales Revenue	1,613,750	1,613,750	1,613,750	1,613,750
Hamper - 500@ P190				
Organizer - 275@ P75				
Fruit bowl - 150@ P180				
Round tray - 250@ P75				
Less: Cost of Sales				
Raw materials	709,790	709,790	709,790	709,790
Direct labor	502,750	502,750	502,750	502,750
Factory overhead	6,000	6,000	6,000	6,000
Depreciation cost	4,738	4,738	4,738	4,738
Gross Profit	390,000	390,000	390,000	390,000
Less: Operating Expense				
Selling Expense	75,000	75,000	75,000	75,000
Interest Expense	5,686	3,790	1,895	
Net Profit Before Tax	**309,786**	**311,682**	**313,577**	**315,472**

ROI = 1.68

Table 9. Projected Cash Flow Statement

Year Production Program	0	1 100%	2 100%	3 100%	4-10 100%
Cash Inflow		1,613,750	1,613,750	1,613,750	1,613,750
Sales Revenue		1,613,750	1,613,750	1,613,750	1,613,750
Cash Outflow	52,380	1,309,702	1,309,702	1,309,702	1,309,702
Fixed investment	47,380				
Pre-Operating exp.	5,000				
Operating cost		1,218,540	1,218,540	1,218,540	1,218,540
Selling expense		75,000	75,000	75,000	75,000
Interest expense		5,685	3,790	1,895	
Repayment of debt		10,476	10,476	10,476	
Net Cash flow	(52,380)	304,048	305,944	307,839	320,210
Net Present Value (NPV)		1259557			
Internal Rate of Return (IRR)		581%			
Benefit-Cost Ratio (BCR)		1.22			

2.4 Variability of raw materials and other inputs

The present demand for handicrafts requires a combination of materials. The producers therefore, use rattan together with bamboo and sometimes, buri strips. Buri strips are prepared from the midribs of leaves of the buri palm (*Corypha elata*). Other materials used in woven products manufacturing are sandpaper, glue and nails.

All materials are available in the required forms within the province of Pangasinan. The prices fluctuates depending on the origin and time of the year. To improve their competitiveness and broaden their market base, combinations of raw materials are currently being used in the manufacture of their products.

This year, the Dilan Handicraft Producers Association has initiated the establishment of bamboo plantations in connection with their plan to diversify into bamboocrafts.

2.5 Institutional support

CCAP has established linkages with various institutions/organizations that extend support to its programs and activities. These include a foreign group that provide assistance through volunteer service in product development and design and formulation of marketing strategies; local research centers and institutes that organize or provide trainings, seminars or symposia on various aspects of production or technical assistance to enhance the capability of producers improve productivity and quality of products. One of these is the Forest Products Research and Development Institute (FPRDI) which has conducted training on the preservation and finishing of bamboo for member bamboocraft producers. FPRDI has also installed a seagrass (*Rhynchospora corymbosa*) dryer in one of CCAP's production sites which allows drying of the material even during the rainy season. Seagrass is also a raw material for handicrafts.

3.0 Market for manufactured products

Production of the made-to-order woven rattan products is based on type and design specifications of the CCAP which in turn, are dictated by the foreign market. CCAP serves as the direct local market for the products. This umbrella organization then ships these to identified buyers mainly in the European countries.

Assurance of a market for the products has significantly contributed to the sustained operation of the producers organizations. Elimination of the middlemen in the marketing system which is a major objective of CCAP has been a big incentive as what would have gone to these agents become earnings of the producers.

4.0 Environmental concern in production

The manufactured woven products are bleached to improve their appearance. The assembled or completed products are piled in an open space usually in a portion of the backyard which also serves as the work area, leaving a space in the middle of the pile for a metal container where the bleaching chemical is placed, ignited and allowed to burn slowly. The whole stack including the container with the chemical is covered with a thick canvass sheet. Bleaching is effected through the smoke that circulates all over the pile.

Fumes from the burning chemical can escape into the atmosphere. This pollutant can have an effect on the health of people around especially the small children

who go about playing around the area. The effects may not be seen or felt until later.

5.0 Social aspects of production

The manufacture of woven products does not discriminate against any one gender. There are male and female framers as well as weavers. However, the traditional male and female roles can also be distinguished. For instance, bending of rattan which involves handling of a blowtorch and exertion of some force, or scraping of poles when there is a need to resize available round cores, are done by males. On the other hand weaving, which requires an adept light touch or sanding of the assembled products which is a relatively easy job, is dominated by women.

Production of the woven products is done in homes or backyards. It is not therefore uncommon to find other family members pitching in. Even children volunteer to participate especially in the sanding aspect. Production activities provide a gainful way of spending the family members' free time. It is also an occasion for socialising as the women especially engage in pleasant banter while working.

Production of woven products is mainly an off-farm activity for the women. They engage in it after they have finished farm work for the day. When the order is large, family members work late into the night to meet deadlines.

6.0 Relevant national policies

In the Philippines and other tropical countries a new paradigm of forest management has evolved in recent years. This is the shift from large corporate system to community-based forest management (CBFM). The CBFM has been implemented in the country effective July 19, 1995 through Executive Order No. 263. Under this management scheme a community is organized into associations or cooperatives and given rights/tenures over forest resources inside a defined area to sustainably manage and protect the forest resources.

Amonst other benefits the policy provides opportunities for the community to develop small to medium-scale enterprises from wood and non-timber forest products within the CBFM area in order to generate employment and alternative livelihood options.

7.0 Transferability of the technology

The community-based approach to production and marketing of handicraft items is concerned with organized efforts by people united for a common goal, to do something about their situation. The farmers need to augment their income and find productive ways of spending non-farm and off-farm periods not only to survive and have the basic necessities of life but also to send children to school

and enjoy some amenities modern livings offers. The small producers groups through the CCAP, have demonstrated that with the proper set of values and given the right support, people can improve their options for a better quality of life.

The manufacturing system provided with the same guidance and support from the CCAP, can be an alternative livelihood in upland, coastal and lowland or urban areas as long as dwellers have access to rattan and other raw materials for handicraft production.

APPENDIX

Appendix I. Assumptions used in the financial Analysis

1. Woven rattan products manufactured and volume of production are as follows:

Products to	Size/Dimension	Volume Complete	Days
1. Rattan/buri hamper (set of 2)	40 x 40 cm 30 x 30 cm	500	1 month
2. Fruit bowl, 2 tiered Medium/Small	30 cm dia x 63 cm 25 cm dia x 63 cm	150	15 days
3. Magazine Rack/Organizer	35 cm L x 25cm W		15 days
4. Round tray with handle (set of 2)	30.5 cm dia x 25 cm H	250	15 days

2. Workers are paid on a piece-meal basis (Schedule of Materials shown in Table 3-6). Assumed membership is 30 per organization.

3. Transportation costs for procurement of materials is P300 per month.

4. There are selling expense of P2,500 per trip for delivering products to Manila twice a month.

5. Working capital is not a requirement since the producers are paid a percentage of the total cost of ordered productsin advance to cover the purchase of raw materials.

6. Raw material requirements for each type of product produced is given a 10% allowance to cover rejects. This will be reflected in the cost of raw materials consumed.

7. Land and buildings are not costed because products are produced in the workers' homes or backyards.

8. Prices of fabricated products are as follows (prevailing price set by the producers):

Product	Selling Price
Hamper	P 300.00
Fruit Bowl, 2 Tiered	180.00
Round Tray with Handle	75.00
Magazine Rack/Organizer	75.00

9. Products are shipped to Metro Manila in semi-finished form. Final processing or finishing operations are done at the warehouse of the CCAP.