

TECHNICAL ADVISORY NOTE (TAN)

Accessing High-Value Markets for Livelihood Enhancement: Production of Bamboo Pole Furniture

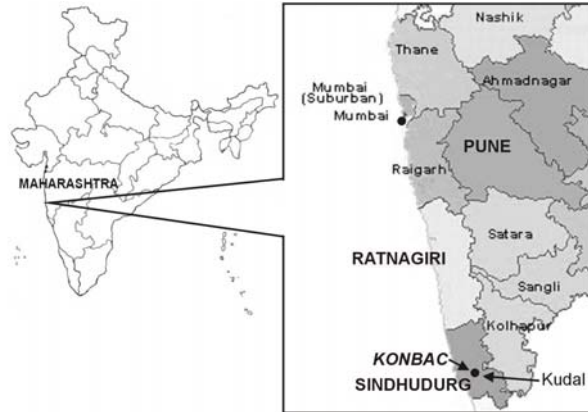


INBAR

INTERNATIONAL NETWORK FOR BAMBOO AND RATTAN

INTRODUCTION

In Konkan, Maharashtra State, India, an ARS programme established by INBAR in 2002, has successfully set up a community-based furniture production unit, which makes high-quality, aesthetically pleasing round-pole bamboo furniture. The furniture is currently sold to high-end hotels and resorts operating in the Goa tourist region, generating monthly incomes of US\$100 for local artisans.



At the local level, the production unit is organized by KONBAC, an INBAR-established community-based NGO. KONBAC oversees training, production, and marketing through its Common Facility Centre (CFC) and Community Furniture Production Centre. Other implementing and commercial partners include the National Mission on Bamboo Applications (NMBA), the Maharashtra Industrial Technical Consultancy Organization (MITCON), the Maharashtra Tourism Development Corporation (MTDC), and the Development Commissioner (Handicrafts), Ministry of Textiles, Government of India.

The Context

In Konkan, it was decided to use bamboo resources to target the nearby tourism sector due to the large size of the potential market. Goa, one of India's most popular tourist destinations, attracting over 1.2 million tourists a year, is about 240 km of Kudal, the base of KONBAC.

In Konkan, promotion of the bamboo sector helps alleviate rural poverty by creating local off-farm markets. In the past, rural communities have had few opportunities to generate off-farm incomes due to limited market access and low technical capacities. The unpredictability of rain-fed agriculture, the main economic activity in the region, and the resultant large fluctuations in income, make Konkan's rural poor vulnerable. According to the latest census, over 38% of people in Sindhudurg district, KONBAC's base, live in poverty.

In addition to causing widespread poverty, lack of off-farm livelihoods has also led to large-scale migration of local men to urban areas. In Konkan, women make up two-thirds of the workforce. The development of bamboo furniture enterprise is an ideal means of retaining young males, as it generates highly remunerative and sustainable local employment.

By targeting high-end furniture markets, the action research programme has also altered local perceptions towards bamboo, which were previously negative. Traditionally, local bamboo artisans have produced a range of utilitarian products, such as baskets and mats, for sale in nearby markets. However, with the emergence of plastics, these markets have come under pressure. As traditional markets are low in value, the emergence of plastics has caused many artisans to leave the bamboo sector. In many areas, bamboo products are associated with poor-quality and poverty. Through targeting new high-value markets, KONBAC has managed to link traditional bamboo artisan techniques to highly remunerative activities in value chains. This has altered perceptions, leading to increased demand for training and project up-scaling.

Importantly, the local and federal government also support the development of furniture production. For example, the Development Commissioner (Handicrafts) provided funding to establish a CFC in Kudal, Sindhudurg. The CFC is equipped with over US\$250,000 worth of processing equipment (including a chemical pressure treatment plant). Community access to a CFC is vital for ensuring that rural producers are able to access high-quality bamboo raw materials. Locally, production has been linked to markets through MTDC.

The Process: Round Pole Furniture Production



Harvesting bamboo



Transportation of bamboo culms



Drilling holes for treatment



Chemical treatment of culms



Cutting culms into kit form



External node removal



Removal of culms' skin



Stacking culms in kit form



Making joints



Fixing joinery



Canning for aesthetic value



Sanding



Finishing: spray painting



Transportation of finished product to wholesalers/buyers



Finished product

Main Research Programme Components

- Development of bamboo furniture designs, which are aesthetically pleasing and meet high-end market demand.
- Training of 17 artisans and 8 master trainers; training of local master trainers promotes sustainability and future up-scaling.
- Creation of community partnerships between bamboo farmers and KONBAC.
- Establishment of a CFC and Furniture Community Production Centre.
- Links made to local tourism markets through MTDC.

Scope for Replication

Scaling-up: Given Konkan's proximity to the lucrative Goan beach resort market, there is great potential to up-scale round-pole bamboo furniture production. At present, KONBAC has established active market links with beach resorts through local government organizations, such as the Maharashtra Tourism Development Corporation (MTDC) and the State Department of Forest, Ooty (near Bangalore). These markets are growing rapidly, with KONBAC receiving larger orders for furniture year on year. In the future, a number of opportunities will evolve for product range diversification, thus spreading risk and increasing access to new markets. At present, bamboo furniture production is being linked to bamboo construction projects, which KONBAC also runs. Therefore, with further capital investment to build local infrastructure, e.g. showrooms, transportation vehicles and seed-capital for start-ups, it will be possible to significantly expand the project. In the short-to-medium term, it is hoped to double the number of employees at the furniture production unit.



KONBAC pieces in an MTDC commissioned resort

Scaling out: The potential for adaptive out-scaling to other regions in Africa, Asia and Latin America is large, as the world markets for bamboo furniture is increasing due to the steep decline in the availability of timber resources. In India alone, the domestic market for bamboo furniture is projected to be worth US\$224 million by 2010. Given this growing market, there is huge potential for establishing community-based enterprises, which provide poor rural communities with increased livelihood and economic opportunities. A number of pieces of bamboo furniture, which attract considerable demand from local and national markets, can be produced from round culm bamboo species. Round-pole bamboo furniture offers a number of comparative advantages for rural development, as it can be produced locally with lower technology and skill requirements than wood or wrought iron furniture. Many round culm bamboo species have a natural aesthetically pleasing appearance, produce ergonomic furniture, and are cheaper than wood or iron. Main constraints to out-scaling will include lack of access to appropriate round-culm species and unavailability of funds to purchase processing and treatment facilities.

SECTION ONE: THE INSTITUTIONAL CONTEXT

- The project is one of several INBAR ARS programmes developed by the INBAR Livelihood and Economic Development Programme, under IFAD grants TAG 518 and TAG 774.

SECTION TWO : THE PROGRAMME IMPLEMENTATION

Target Groups and Outputs

Target Groups: the project primarily targets unemployed local youth, carpenters and bamboo artisans.

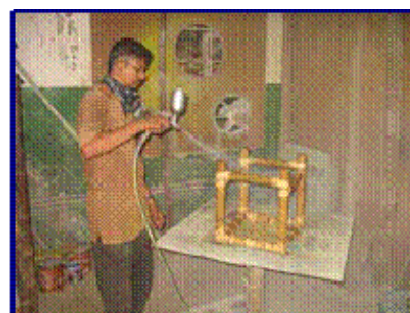
The main project outputs include:

- Development of pro-poor trading systems with local bamboo farmers; KONBAC buys bamboo culms directly from farmers for INR 45 (US\$1.125). In comparison, local traders buy culms for just INR 20-25, and then sell to end markets at INR 40-45.
- Development of new production processes for round-pole furniture
- Establishment of community training and enterprise development programmes

Tangible Impacts

Impacts on the human capital:

- A bamboo furniture production unit has been set up.
- 25 young men, including three master trainers, were trained in bamboo furniture production by KONBAC (see picture right).



Impacts on the social capital:

- Formation of community partnerships between KONBAC and MITCON (for training in furniture production) and between KONBAC and MTDC (for furniture marketing).
- Equipping of the CFC with a high-pressure chemical treatment plant
- Establishment of a Furniture Community Centre for quality control and final finishing and packaging.

Impacts on the natural capital:

- Increased demand for bamboo, reducing pressure on local timber resources.

Intangible Impacts

- Marketing links established with the local tourism industry under the brand name 'Mangda Exotiques'; over a two-year period (2006-08) KONBAC has record furniture sales worth INR 924,219 (US\$ 23,105)

Accessibility

Owing to KONBAC's linkages with CIBART and INBAR, technical and research outputs from the programme are available for replication at both the national and international level. In India, institutional linkages are established through CIBART, which manages four Indian ARS programmes (Tripura, Tamenglong, Himachal, and Konkan). Internationally, action research from Konkan can be adaptively replicated across INBAR's network of 34 countries. Research outputs are available at low, or no cost to individuals and community groups operating in INBAR member countries.

Institutional Sustainability and Degree of Farmers' Involvement in the Research Programme

The programme is run by KONBAC, a community-based NGO, which was established by INBAR in 2002. Local community stakeholders (master trainers and development professionals) play an active role in decision-making, with external partners (NMBA) providing technical and logistical support. This ensures that the organization remains directly rooted to the local area, thus promoting long-term sustainability.

The Kudal CFC, which is owned and run by KONBAC, provides micro-enterprises with access to pre-fabricated bamboo kits, while the Furniture Community Production Centre provides finishing and packaging facilities. Rural community members are able to participate directly in community trainings through both of these facilities. Training and establishment of the production unit has been carried out on a voluntary basis, with local participants receiving a stipend during training courses. The project focuses on building the capacity of local master trainers, who are then able to set up their own rural micro-enterprises.



Local youth working at the KONBAC furniture Unit

Constraints Faced During the Programme Implementation

Internal:

- Owing to a lack of technical and financial capacity, rural communities are unable to produce high-quality bamboo furniture. Therefore, they are unable to compete in high-end markets.
- As rural producers have no experience supplying high-end markets, they often lack knowledge regarding customer preferences and product trends.
- Rural communities unable to access market information or conduct market research.
- No community infrastructure in place to support development of the bamboo sector.
- The furniture unit has no transport vehicle, increasing transportation costs.

External:

- Small producers have difficulty gaining access to credit financing, thus constraining attempts to scale-up the production.
- Lack of adequate policies and inconsistent legal regimes to access the available bamboo resource.
- Physical barriers to markets; Goa is still 240 km from the Kudal CFC, limiting rural producers access to potential consumers.
- Many buyers request showroom viewings, the absence of which currently restricts market access.

The Gender Dimension

Although the Round-pole Bamboo Furniture Programme has specifically targeted young males, artisans and carpenters, it has also had indirect benefits for local women. Through generating local livelihoods, the programme has contributed to a reduction in male migration to urban centers. This has alleviated pressure on rural women, by increasing net household incomes. In addition, a number of women work in the CFC supplying primary processed bamboo to the furniture production unit.

Dissemination Pathways

Communication strategies at the village level:

- CFC-based training courses led by master trainers
- Face-to-face meetings
- Artisan-to-artisan communication

Communication strategies at the National and International levels

- Trade fairs and product workshops
- Technical reports and publications

Further Research Needs

- Encourage Private-CSO Partnerships to enable rural communities to access working credit funds, such as bank loans. This will allow community enterprises to meet growing working capital needs, based on their positive cash flow and annual growth.
- Expand training programmes to more local youths through programmes run by development organizations, such as NABARD, DRDA and MITCON.
- Develop new designs and furniture pieces to target additional niches in the tourism market, e.g. restaurants, shops, shelters, etc.
- Increase partnerships with hoteliers and developers from the private sector.
- Develop a showroom to increase access to markets.
- Purchase a transportation vehicle to reduce costs and increase profits to local producers; owning a vehicle would reduce transportation costs from Rs 4-9 per km.
- Expand local markets in Konkan, e.g. through MTDC projects, thus reducing reliance on other markets (Goa and Mumbai).

ANNEX 1: DATA BOX

The Research Programme

The research programme helps rural communities develop technologies and processing techniques for local bamboo resources, thereby generating enhanced livelihood and income-earning opportunities. At the local level, the programme is implemented by KONBAC, a majority community-owned NGO. KONBAC focuses on developing bamboo products and business models for community enterprise. A CFC operates as the programme's base for community training, production, and marketing. KONBAC also has separate facilities for community training and production. Participatory approaches are consolidated through a village extension system, with members of the community acting as local trainers and policy implementers. KONBAC also employs women officers to coordinate with women SHGs.

The value chain for round pole furniture consists of six main links. Firstly, bamboo culms are cultivated and harvested by farmers, who sell directly to KONBAC. Secondly, bamboo is treated at the CFC, using pressurized treatment plants. Culms, into which holes have been drilled, are loaded into a pressure chamber and given a preservative treatment using non-toxic chemicals, such as copper-chrome-boron (CCB) or boric acid-borax powder. This protects against termites and borers. Thirdly, the bamboo is processed further by drying for 8-10 days in the shade, removing the outer skin, cross-cutting the culm into sections, and removing the external nodes. All processing is done at the CFC using machines, which are operated by both men and women. Fourthly, the bamboo sections made into kit form are distributed to household-based micro-enterprises. These enterprises assemble the furniture by joining the bamboo sections

using hand-operated tools. During the fifth stage in the value chain, furniture is sent to the Community Furniture Production Centre, where it is finished (sanded, polished and sprayed with lacquer, and joints bound by rattan strips). Finally, the furniture is packaged and transported to markets.

Costs: Development of the CFC and Furniture Community Centre required project funding of Rs 4,600,000 (US\$115,000). This money was raised predominantly through grants from the Indian Government. Start-up costs for household-based, micro-enterprises total Rs 15,000 (US\$375); a drilling machine Rs 7,000 (US\$175), 30-piece tool kit Rs 500 (US\$162.5), and hammers Rs 1,500 (US\$37.5). These costs can be covered through loan scheme agreements, with enterprises repaying via revenue generated from sales. The action research programme developed round-pole furniture production units due to the local abundance of suitable bamboo species, such as *Oxytenanthera stocksii*. *O. stocksii* produces solid round culms of 10-15 ft length. These culms are cheap, but ideal for producing high-end furniture as they have high aesthetic value.

SECTION THREE: USEFUL INFORMATION

Keywords:

Konkan, KONBAC, bamboo, round, pole, furniture

Useful links:

www.inbar.int

www.inbar.int/livelihood/ldmain.htm (INBAR's Livelihood Development Programme)

<http://www.cibart.org/tribac.asp>

References:

Livelihood Impact Assessment of Rural Enterprises at Kudal, Maharashtra

Year of Publication: 2007

Contacts:

INBAR:

Dr. I.V. Ramanuja Rao
Programme Director
Beijing, China
E-mail: rrao@inbar.int

IFAD:

Mrs. S. Mwanundu
Senior Technical Adviser Environment\NRM
Rome, Italy
E-mail: s.mwanundu@ifad.org

Acronyms:

ARS : Action Research Site
CFC : Common Facility Centre
CIBART : Centre for Indian Bamboo Resource and Technology
CSO : Civil society organization
DRDA : District Rural Development Agency
IFAD : International Fund for Agricultural Development
INBAR : International Network for Bamboo and Rattan
KONBAC : Konkan Bamboo and Cane Development Centre
MITCON : Maharashtra Industrial Technical Consultancy Organization
MTDC : Maharashtra Tourism Development Corporation
NGO : Non-governmental organization
NMBA : National Mission on Bamboo Applications
SHG : Self-help group