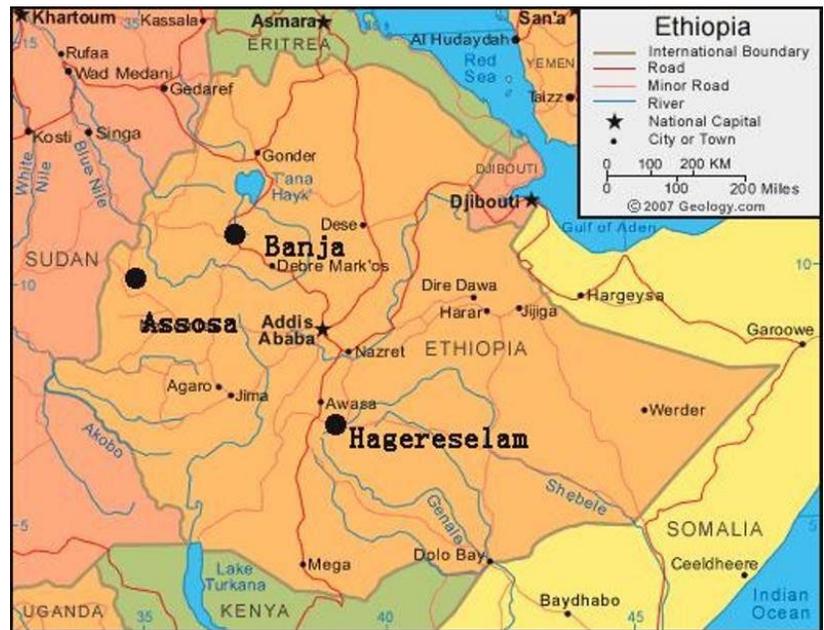


Project title:  
Rural Enterprise Development for  
Livelihood Enhancement:  
Development of Community Micro  
and Small Enterprises In Ethiopia



## INTRODUCTION

The overall goal of INBAR's Action Research Site programme in Bule village, Awassa, South Nations Nationalities and Peoples Regional State, Ethiopia is to develop rural community micro and small enterprises that utilise local bamboo resources for livelihood development. As the programme is still in the development phase, the main objectives have been to a) raise stakeholder awareness of the economic and livelihood potential of local bamboo resources, b) build general capacity of rural communities to manage, harvest, process and produce bamboo products, c) Improve local community market and value chain knowledge, d) establish a national institution dedicated to bamboo sector development, and e) promote bamboo as a tool for socio-economic development among Government and policy-making stakeholders.



The primary goal of the Ethiopia ARS programme is to demonstrate bamboo's livelihood generating potential in the country. The programme has worked with a small group of 50 women and focused on building small and micro enterprises for products such as bamboo charcoal, school furniture, and house furniture. All of these products have local markets, which can be readily accessed by local bamboo artisans and producers. At the local level, INBAR is now linking the project to EMBO, an INBAR-supported national NGO, which will be dedicated to State-wide promotion of the bamboo sector.

### The Context

This programme's strong focus on capacity building, micro, and small enterprise establishment, and institution and policy development reflects the current heavily undeveloped nature of the local bamboo sector. Traditionally, rural communities have not used bamboo as a source of livelihood and economic generation, while local and national government have failed to promote bamboo as a sustainable natural resource. Therefore, bamboo resources in Ethiopia are undervalued and poorly utilised. However, in Bule village, and many other rural communities, bamboo resources are readily available and can be processed and sold locally. In Bule village, which is around 130km from Awassa, the nearest urban centre, this represents an ideal means of overcoming large geographical barriers to urban markets.

## MAIN RESEARCH PROGRAM COMPONENTS

Components:

- INBAR has successfully transferred Bamboo charcoal technology from Tamenglong District, Manipur, India to Ethiopia, which enables local communities to use low-cost, modified drum kilns to make bamboo charcoal. The technology has been field-validated, with women in Bule village now engaged in household-based commercial production.
- Technology for laminating bamboo has also been transferred from INBAR's Philippine ARS programme. This technology has been successfully trail-tested in Ethiopia to make school desks and other pieces of furniture.
- INBAR has trained targeted women about value chain management, process flow, and marketing. These women have now developed local markets for bamboo charcoal, while bamboo producers have also started selling bamboo culms to local households for use as firewood.
- Following successes of the ARS programme, a national NGO, the Ethiopian Millennium Bamboo Organisation (EMBO), is being established in collaboration with INBAR. EMBO, which is made up of a team of professionals with principal leadership from the Forest Research Centre, will be operational by the end of 2008.

## CONDITIONS FOR REPLICABILITY

The programme is implemented in Bule village, which is located in a remote highland area. Approximately 98% of local workers are engaged in agriculture, with maize, false banana, and barley root being the main crops. At present, economic returns from agriculture are often unstable and insufficient to meet basic living needs. In addition, due to cultural reasons, many local women are restricted to household roles and have no means of engaging in paid employment.

In addition to poor returns from farming and lack of employment opportunities for women, poverty in Bule village is also compounded by poor infrastructure, which limits access to main urban markets, such as Awassa and Dilla. At present, only one road is available, which is located 35km away from the main highway. As this road is paved with soil and small stones, it is often unusable during the rainy season (June – October). However, the District does have sizeable bamboo resources. According to Previous inventory studies, there is about 1190 ha of local bamboo cover. INBAR's ARS programme activities draws upon these resources to reduce the need for transport. The ARS aims to develop local micro and small enterprises, which, in time, can link with state, national, and even export markets.

**Scaling-up:** There is great potential to up-scale ARS activities in Bule village. In particular, there is a strong case for promoting up-scaled bamboo charcoal production, as local communities have already conveyed a preference for bamboo alternatives to firewood and wood charcoal. At present, 95% of local users of firewood and charcoal say they prefer bamboo charcoal, which burns more cleanly, i.e. smoke and odour free, than wood charcoal equivalents. Given that most local households use some form of wood firewood or charcoal for heating and cooking, considerable numbers of additional women could engage in household-based production with further funding and training support. Furniture-based ARS activities, particularly school furniture, also have considerable scope for upscaling in the local area, as these products also cater to large markets. For example, in Wereda, there are 27 schools, which cater to around 15,000 students.

**Scaling Out:** As charcoal and school furniture are both products with huge market demand across Africa, there is considerable potential for replicating ARS production models in both Ethiopia and other countries. For example, 90% of households in Ethiopia use firewood or charcoal to meet heating and cooking needs, with 3.2 million tonnes of charcoal produced nationally each year. Furthermore, across Sub-Saharan Africa, 470 million tonnes of wood is consumed annually as biomass fuel, more than any other region in the world. At present,

charcoal production is a major source of deforestation across the continent. In Ethiopia alone, 141,000 ha of forest are lost each year. As the Ethiopia ARS promotes low-tech, low-cost, home-based, sustainable charcoal production<sup>1</sup>, this represents a viable means of meeting energy needs, while conserving natural resources and generating rural livelihoods. The model of production is easily replicable and has already been successfully transferred to other African countries, such as Ghana and Mozambique.

The demand for school furniture is also set to grow rapidly in Africa and other developing regions, where efforts to meet the UN millennium development goal of universal primary education by the year 2015 will lead to extensive school construction programmes. According to UNESCO statistics, 35.5 million children of primary school age do not attend school in Sub-Saharan Africa. Laminated bamboo school desk production has already successfully started in Ghana, where the Government has made orders. Finally, with the establishment of EMBO in Ethiopia, institutional systems are now also in place to promote replication of bamboo school furniture and charcoal production across the country.

■ **EXISTING LINKAGES WITH OTHER IFAD INITIATIVES**

- Rural small and micro enterprise development in Ethiopia is one of several INBAR ARS Programmes developed by the INBAR Livelihood and Economic Development Programme (LEDP) under IFAD grant TAG 774.

■ **BEFORE – PROCESS – AFTER**



## THE PROGRAMME IMPLEMENTATION

### TARGET GROUPS AND OUTPUTS

#### *Project target group:*

- The ARS target group were unemployed women living below the poverty line

#### *Institution involved during the ARS process:*

- Regional Agricultural and Environmental Protection Bureau of Ethiopia,
- the Ethiopian Federal Micro & Small Enterprise Development Agency (FeMSEDA)
- The East Africa Bamboo project



#### *Outputs:*

- Increased awareness of bamboo as a natural resource of economic value among local stakeholders, such as farmers, craftsmen, private companies, and regional Government
- Small and micro-enterprises established for bamboo-based charcoal production, as well as furniture making.
- 95% of local users of biomass fuel have now accepted bamboo charcoal as a better alternative to firewood and wood charcoal.
- 40 women are now engaged in bamboo-based livelihood activities. Previously, all of these women were unemployed.

### IMPACTS

#### *Tangible impacts*

##### Impacts on the human capital:

- Capacity building provided to bamboo smallholders and farmers for post-harvest treatment techniques.
- Women trained in a number of processing and production techniques for bamboo products, such as charcoal and furniture
- Women trained to manage value chains and market products locally.

##### Impacts on the social capital:

- National Bamboo Workshop conducted in Addis Ababa, which has led to the development of a National Bamboo Steering Committee. The Committee will prepare draft policy recommendations, which will be submitted to the National Parliament



Impacts on the natural capital:

- The bamboo-based furniture has the potential to improve the environment, as it can replace wood products, thereby relieving pressure on forests.
- Bamboo charcoal production currently utilizes bamboo waste. At a larger scale, production can ease pressure on wood used for making charcoal.

### *Intangible Impacts*

Due to successful demonstration of bamboo charcoal technology through the IFAD project, INBAR has been awarded an EC project worth more than 1.6 million Euros. The project will establish five pilot production sites in Ghana and Ethiopia, helping to establish 1,000 micro-enterprises.

## **CONSTRAINTS FACED DURING THE IMPLEMENTATION**

Main difficulties faced during the process were:

### *Internal constraints*

- Local bamboo resources underutilized and mismanaged.
- Target women unaware of modern processing and production techniques.
- Participants have poor educational backgrounds.
- Women also have a number of additional responsibilities, such as cooking, childcare, and farm work, which limits their capacity to engage in ARS activities.

### *External constraints*

- Poor transportation links to the rest of Ethiopia.
- Shrinking land availability.
- Falling agricultural activity.
- Limited access to credit financing mechanism for community producers.

## **Sustainability, Acceptability and Accessibility**

### **Accessibility**

As the Ethiopian ARS is linked to EMBO, as well as INBAR, technical and research outputs from the programme are available for replication at both the national and international level. In Ethiopia, EMBO, a national NGO, is being established to disseminate ARS information and promote replication on a nationwide scale. EMBO has links to Government through the Forest Research Centre. At the national level, the ARS also enjoys ongoing linkages with National Government Agencies, such as FeMSEDA. Internationally, action research from the Ethiopian ARS can also be adaptively replicated across INBAR's network of 34 countries. In addition, 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**

At the local level, the programme has established micro enterprises for charcoal, which are now generating income. Women stakeholders have been actively engaged in the training process, with local women choosing to produce and use bamboo products. However, at present, local institutional systems are relatively weak.

In order to ensure long-term sustainability, securing funding for a full-time project facilitator is a key issue. Under the TAG 774 grant, the project facilitator was a part-time position. Due to civil servant laws in Ethiopia, this meant that the facilitator was only able to spend 20% of working hours on the project. As the facilitator had other working commitments, this hindered implementation of the project.



### **Gender dimension**

The ARS programme has adopted a micro/small enterprise model, which enables women to engage in off-farm activities, thus providing new sources of income. Furthermore, the ARS production models ensure that women can control all stages of the value chain, thus promoting independence and financial autonomy. Firstly, as bamboo is grown on homesteads, women can harvest and process bamboo themselves. Secondly, INBAR has transferred low-cost, simple to use technology, enabling

women to produce products, such as furniture and charcoal, from their own households. Finally, the ARS selected products (charcoal and furniture) have strong local markets, reducing transportation needs, thereby allowing women to conduct their own marketing.

INBAR has also trained target women in value chain management, process flow, and marketing. This ensures that programme's targeted women properly cost raw materials and their own labour, thus increasing their incoming earning potential. In addition, the training has helped local women to improve access to local markets by creating marketing linkages to three exhibitions in Awassa, Dilla and Wereda.

### **DISSEMINATION PATHWAYS**

- *Communication strategies at the village level:*
  - Training workshops and activities in the field;
  - Face-to-face meetings;
  - Farmer-to-farmer communication.
- *Communication strategies at the national and international level:*
  - A National workshop;
  - Policy recommendation drafts

## **FURTHER RESEARCH NEEDS**

- Develop selling centres for ARS products in Awassa and Dilla to improve access to urban markets
- increase volume of production
- Introduction of new marketable technology.

## **ANNEX ONE: DATA BOX**

### The Research Programme

The research programme helps rural communities to 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 with support from the Micro and Small Enterprise Product Quality and Productivity Improvement Centre, a governmental institution, which is located Awassa city. The objective of the centre is to give technical support to micro and small-organized association. Apart from financial support, working premises and marketing, it provides training, information, and some tool and machinery facilities. The centre develops and adopts new technologies, with support from government and NGO's.

In 2007-2008, the Centre also constructed a 30m\*15m workshop for bamboo production. The shop has offices, latrines, a bathroom, a production area, and a product store and finishing room.

Currently, the INBAR project phased out in May 2008 and the project facilitator has now moved to the Investment bureau.

**Bamboo charcoal production:** Bamboo charcoal technology was initially tested by INBAR, in India through a grant from IFAD. The technology works using bamboo culms, which are converted into chips. The chips are burnt in modified oil drum kilns under controlled conditions (pyrolysis) to produce charcoal. In Ethiopia, no briquettes have been made in the centre, however the Ethiopia Mine and Energy Authority has tested honeycomb briquette, with positive results.

**Laminated School Desk production:** raw bamboo will scrape , sliced into the same width, the slices put in planning machine until all the slice have got the same thickness. Putting some of the slices closely on ply wood, glue will be applied using brush then the second layer of slice put in opposite arrangement and glue will applied and will be done the same way till 5 layers. Then it will compressed by clamp for a day. The next day the clamp will removed and letting for some minutes free on open air and will be put in planning machine to get smooth and required size of thickness. At the end, the board will be used for intended purpose.

*Financial Report for Ethiopia ARS*

N.O.	Title of expenses	Detail description	unite	Qnt.	Unit price ( ETH birr)	Total price ( ETH birr)	Conversion rate	Equivalent Us dollar	Remark
1	Basic skill training on bamboo crafts for women for 2 months	Per dium for 2 trainers	No.	2	70/day	8,400	9.22	911.06	For 60 days
		Material cost (Bamboo, Glue, Varnish, Dye, plastic string, metal wire, kerosene)	Pcs.			2500	9.22	271.15	
		Entertainment	No.	40	6/head/day	9,600.00	9.22	1,041.21	For 40 days only
		Training hall rent	room		200/month	400.00	9.22	43.38	
2	Construction of drum pyrolyser for charcoal production	Oil drum	No.	1	250	250.00	9.22	27.11	
		Sheet metal 1mm thickness	No.	1	200	200.00	9.22	21.69	
		Round pipe 6m long	No.	1	100	100.00	9.22	10.85	
3	Computer and LaserJet printer 4250 for office use	Dell Computer	No.	1	9200	9,200.00	9.22	997.83	
		LaserJet printer 4250	No.	1	8000	8,000.00	9.22	867.68	
4	Sample laminated board construction	Material (glue & varnish)	No.		65	65.00	9.22	7.05	
5	Raw bamboo for sample making	For charcoal making & laminated board	No.	100	5	500.00	9.22	54.23	
6	Internate and telephone expense					2,000.00	9.22	216.92	For 12 months
7	Exposure visit for project facilitator in Philippine		person	1	27115.2	27,115.20	9.22	2,940.91	
8	Hall rent for value chain training		room	2	500	1,000.00	9.22	108.46	
9	Stationary for office use	Nopa computer paper, pen, pencil, line paper printer toner, note book	No.			2,000.00	9.22	216.92	
10	Fuel for transportation	From Addiss abeba to Awassa, from Awassa to Bule ,From Awassa to Agerselam and vise versa	liter	740	5.5	4,070.00	9.22	441.43	
	total					75,400.20		8,177.90	

## USEFUL INFORMATION

### Key words

Small & micro enterprises, bamboo, charcoal, and lamination

### Useful links

[www.inbar.int](http://www.inbar.int)

[www.inbar.int/livelihood/ldmain.htm](http://www.inbar.int/livelihood/ldmain.htm) *INBAR's Livelihood Development Programme*

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### Acronyms:

ARS	Action Research Site
EC	European Commission
EMBO	Ethiopian Millennium Bamboo Organisation
INBAR	International Network for Bamboo and Rattan
IFAD	International Fund for Agricultural Development
NGO	Non-governmental organisation
UNESCO	United Nations Educational, Scientific and Cultural Organization
FeMSEDA	the Ethiopian Federal Micro & Small Enterprise Development Agency