

Mekong Bamboo

Sector Feasibility Study



Executive Summary

Version 2.0 - Internal

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1 Executive Summary

1.1 Introduction

This feasibility study is the first phase of a multi-phase project to facilitate the pro-poor development of the bamboo sector in Vietnam, Laos and Cambodia. This phase aims to assess the potential social and economic impact of the industry and identify immediate priorities for the development of subsequent phases.

Phase 2 will involve initial sector facilitation, pilots and further detailed research and planning. Phase 3 and beyond will implement increasingly active market facilitation strategies before a managed exit.

The study seeks to:

- evaluate the potential of the bamboo sector in Laos, Vietnam and Cambodia;
- identify the scale and scope of the sector and the likely benefits accruing to sections of the value chain, including the various targeted poor groups in each country;
- develop and evaluate sector development scenarios;
- develop plans for subsequent stages of intervention, including priority interventions and their nature and scale, and a proposed scoping and staging of subsequent phases of the bamboo sector development.

The study provides an evaluation of the potential of the sector via analysis of resources, technology processes, product markets, input markets, and institutional contexts. It combines the collection and analysis of primary data from fieldwork in the three countries with international research on technologies and markets for bamboo.

1.2 Key conclusions

The opportunity

- The world market for bamboo products is USD 7bn+ p.a.¹
- Bamboo can be a lead industry for rural industrialisation and large scale poverty reduction in bamboo producing areas.
- Governments at local and national level must provide sustained and consistent leadership if the sector is to develop.
- The outlook for world bamboo markets looks strong, driven by world economic growth and growing demand for sustainable wood-replacement products.

¹ Including: handicrafts, bamboo shoots, chopsticks, blinds, flooring, furniture, panels, builders' joinery & carpentry, charcoal and activated carbon. Excluding paper/pulp and unprocessed bamboo used in construction and household uses.

- The industry can be divided into three distinct sub-sectors:
 - Handicrafts,
 - Bamboo shoots,
 - Industrial processing (such as chopsticks, blinds, flooring, paper).
- The bamboo industry is currently dominated by traditional products such as handicrafts, bamboo shoots, chopsticks and bamboo & rattan furniture accounting for more than 90% of world demand.
- The commercialisation of recent innovations in bamboo processing have created significant new market opportunities in areas such as flooring, laminated furniture, panels and activated carbon.
- Processing innovations are proven in the market place and specialist bamboo processing machine tool industries exist supplying 'off-the-shelf' processing lines to larger businesses and affordable equipment to household processors.
- New, higher added-value processing greatly increases the potential for pro-poor financial impact compared to traditional lower value processing industries. For example, every tonne of bamboo used for producing bamboo flooring has 5 times the pro-poor financial impact than if used for paper.
- There are significant opportunities to exploit linkages between industries in the three countries as well as with producer and end user markets in China.
- Markets in US, EU and Japan present significant opportunities for many of the higher value products.
- The competitiveness of future bamboo industries will be largely driven by the 'value added utilisation' rate, with different parts of the bamboo plant being used in the most profitable way.

Potential in the Mekong Countries

- In the region, the sector has the potential to be worth approx. USD 1.2bn annually within ten years, providing approx. 1.2m jobs (full time equivalent) and up to USD 900m p.a. pro-poor financial impact², mostly in rural areas.
- Vietnam has:
 - an increasingly diversified industry worth approx. USD 250m p.a.,
 - sizeable bamboo resources of approximately 1.4m ha.,
 - growing recognition of the sector from government and others,
 - active interest from buyers and investors,
 - improving business environment for rural SMEs,
 - significant market distortions from state enterprises,
 - potential to develop a USD 1bn+ industry benefiting poor rural communities and the wider economy.

² 'Pro-poor financial impact' is defined as the proportion of total output value captured by poor communities, primarily in the form of waged labour and income to farmers and local enterprises (see main report for further details).

- Laos has:
 - potential to develop a vibrant bamboo industry,
 - a large bamboo resource of 1.4m+ ha. mostly un-exploited,
 - a small bamboo sector worth approximately USD 4m p.a.,
 - growing linkages with neighbouring industries in Vietnam,
 - potential to leverage its proximity to the expanding bamboo sectors and markets in China, Vietnam and Thailand,
 - challenging business environment,
 - limited recognition of the sector in official policy.
- Cambodia has:
 - a small bamboo sector worth around USD 7m p.a., dominated by household production of baskets (70%) which is heavily reliant on Thai export markets,
 - declining bamboo resources,
 - stagnant or declining fishgear and bamboo shoots industries,
 - potential to improve the productivity and impact of its existing industries,
 - a need to diversify its markets,
 - challenging operating conditions for enterprises and farmers,
 - limited current opportunities for developing a diversified bamboo processing industry.

Actions Required

Priorities in all three countries include:

- sharing the findings of the study,
- building the network of government agencies, donors, INGOs and private sector participants to drive the development of the industry,
- defining detailed action plans for Phase 2.

Additional priorities include:

In Vietnam, immediate action is required to:

- work with MARD and provincial authorities to inform the development of national and provincial strategies and action plans,
- support the continued development of supply chains in Thanh Hoa, to avert set-backs with prolonged negative effects,
- deepening our understanding of critical issues that have emerged during the Phase 1 study (e.g. paper industry, SFE's).

In Laos:

- fostering linkages with the industry in Vietnam.
- working with provincial authorities to inform the development of local strategies and action plans,

In Cambodia:

- deepening our understanding of critical issues that have emerged during the Phase 1 study e.g. Thai market for basketware.

1.3 Potential impact of the sector

The study has assessed the potential impact of the sector from a number of perspectives:

- Scale of impact
- Efficiency of impact
- Gender bias of impact
- Rural bias of impact
- Environmental impact

Taken together, these measures indicate clear choices about strategic policy options at both national and provincial level.

Each of the sub-sectors, and their associated supply chains, can make an important contribution to rural development and poverty reduction. However, as shown in Table 1-1, there are important differences in the nature of their impact:

- **Handicraft:** is most important for employment creation and has the highest impact efficiencies per ha. of bamboo used although delivers relatively few benefits to farmers.
- **Bamboo shoots:** is a high impact niche that primarily delivers high levels of benefits to a relatively small group of farmer.
- **Industrial processing:** is most important for overall pro-poor financial impact and is the only sub-sector capable of delivering widespread benefits to farmers.
 - **Premium processing (e.g. flooring):** has high rates of economic impact efficiency, comparable to bamboo shoots, but on more than twice the scale. It also creates more employment than all other areas, except handicrafts. The scale of the industry should be maximised to fully exploit available premium grade bamboo.
 - **Medium value processing (e.g. chopsticks):** creates substantial employment and pro-poor financial impact. It has impact rates typical of the industrial processing sub-sector as a whole and should be expanded as part of a diversified industrial processing sector.
 - **Low value and bulk processing (e.g. paper):** has impact rates of only $\frac{1}{5}$ of premium processing industries and a correspondingly low total scale of pro-poor impact. However, the industry has an important role within a diversified industrial processing industry as a value-added user of lower grade bamboo and leftovers and processing waste from other industries.
 - **Raw culm supply:** has the lowest rate of pro-poor impact, but is an integral part of the sector due to bamboo's great versatility.

The sector in the region is estimated to have the potential to grow to be worth approx. USD 1.2bn p.a. over the next ten years, providing approx. 1.2m jobs (full time equivalent) and approx. USD 900m p.a. of pro-poor financial impact.

Given the current stage of development of the industry in each country, it is estimated that a majority of the potential will be realised in Vietnam (approx. 97%). It is estimated that in Laos there is the potential to develop a sector worth USD 20m p.a. within the next 10 years and in Cambodia a USD 10m p.a. sector.

Table 1-1: Summary of Mekong Sector Potential

(Mekong Sector Scenario 2 - "Greater share of growing world markets")

| Sub-sector | Overall impact | Impact scale | | | Impact efficiency | | | Gender bias of impact % of FTEs to women | Rural bias of impact % of FTEs to rural communities | Environmental Impact |
|-----------------------------|----------------|---------------------------|------------------|--------------|---------------------------|------------------|--------------|--|---|----------------------|
| | | Pro-poor financial impact | Financial output | Job creation | Pro-poor financial impact | Financial output | Job creation | | | |
| | | \$m | \$m | FTE (000's) | \$/ha. | \$/ha. | FTE/ha. | | | |
| Handicrafts | ***** | *** | *** | ***** | ***** | ***** | ***** | ***** | ***** | ***** |
| | | 266 | 336 | 920 | 11,300 | 14,300 | 39.2 | 60% | 95% | |
| Bamboo shoots | ** | ** | * | * | ***** | ***** | * | * | ***** | **** |
| | | 111 | 136 | 16 | 3,100 | 3,800 | 0.4 | 30% | 100% | |
| Industrial Processing | ***** | ***** | ***** | **** | ** | ** | *** | *** | *** | *** |
| | | 532 | 716 | 296 | 1,113 | 1,498 | 0.6 | 45% | 62% | |
| Premium Processing | **** | *** | *** | *** | ***** | ***** | ***** | ***** | ** | *** |
| | | 263 | 340 | 129 | 2,400 | 3,100 | 1.2 | 49% | 35% | |
| Medium Value Processing | *** | ** | ** | *** | *** | ** | *** | ***** | ***** | *** |
| | | 163 | 190 | 123 | 1,037 | 1,333 | 0.9 | 46% | 72% | |
| Low value & bulk processing | * | * | * | * | * | ** | * | ** | ***** | *** |
| | | 46 | 126 | 20 | 455 | 1,050 | 0.2 | 37% | 81% | |
| Raw bamboo | * | * | * | * | * | * | * | * | ***** | **** |
| | | 60 | 60 | 24 | 360 | 360 | 0.1 | 31% | 100% | |
| Total | | 909 | 1,185 | 1,232 | 1,690 | 2,203 | 2.3 | 56% | 56% | |

Note: Data shown is for whole supply chains

Source: Study analysis

1.4 Next Steps

The long time-scales required to facilitate the development of the sector in the different countries dictate that national and local governments will need to play a central role and provide consistent and sustained leadership in the development of the sector.

One of the primary objectives of any programme will be to develop a widely supported framework to guide the actions of a range of different participants including government, private sector, farmer and producer groups, donors and the development sectors.

Furthermore, the management of regional and national sector development work requires a management structure which is able to:

- coordinate the wide interests of donors and those already engaged or interested in supporting a coordinated approach to the sector's development,
- build appropriate partnerships and management mechanisms to manage a large and complex initiative such as this,
- support/advise government engagement in national, provincial and local strategies and plans to create an enabling environment for the development of the sector,
- support farmers', domestic businesses' and multinational companies' participation in the range of initiatives required to develop the sector,
- identify, initiate and coordinate a range of projects and initiatives.

The final structure of the programme will need to evolve over time with the input from governments, key donors or other participants. However, based on the considerations outlined above, the following programme framework is recommended:

Figure 1-1: Phase 2 Programme Structure

| | Vietnam | Laos | Cambodia | Regional | Key Focus |
|--|---|---|--|--|--|
| Co-ordination & management | <ul style="list-style-type: none"> VN dev. aid coordination and promotion. VN networks Project & policy co-ordination | <ul style="list-style-type: none"> Laos dev. aid coordination & promotion. Laos networks Project & policy co-ordination | <ul style="list-style-type: none"> Local dev. aid coordination and promotion. Local networks. Project & policy coordination | <ul style="list-style-type: none"> Regional dev. aid coordination and promotion. International & regional networks | <ul style="list-style-type: none"> Pro-active leadership of: Project and policy coordination. Development aid coordination. Network facilitation |
| Policy, strategy & research | <ul style="list-style-type: none"> National strategy & development plan Provincial dev. plans BEE / farmer policy | <ul style="list-style-type: none"> Local sector development plans BEE Farmer & forestry policies | <ul style="list-style-type: none"> BEE Land use / farmer context Integration into local development plans | <ul style="list-style-type: none"> Regional & int'l trade promotion. Impact monitoring Knowledge sharing | <ul style="list-style-type: none"> National & local policies & planning to stimulate the parallel growth of: markets & industries farmers & resources |
| Markets & processing industries | <ul style="list-style-type: none"> Investment promotion Technology & mgt dissemination Value chain pilots Market access | <ul style="list-style-type: none"> Investment promotion Technology & mgt dissemination Value chain pilots Market access | <ul style="list-style-type: none"> Small enterprise focus Upgrading handicraft, shoots & fishgear sectors Market research (e.g. Thai baskets) | <ul style="list-style-type: none"> Market Research Technology adaptation Standards development FDI promotion | <ul style="list-style-type: none"> Development of 3 distinct industry groups: Handicrafts Industrial processing Bamboo shoots |
| Resources & farmers | <ul style="list-style-type: none"> Awareness promotion Farmer extension & support Production pilots and trial | <ul style="list-style-type: none"> Awareness promotion Farmer extension & support Production pilots and trial | <ul style="list-style-type: none"> Link to community forestry plans Farmer extension & support | <ul style="list-style-type: none"> Knowledge sharing Resource planning coordination | <ul style="list-style-type: none"> Intensification and expansion of bamboo production to meet expected future demand for commercial species. |
| Steering Group | Government, MPDF, Oxfam, Key donors | Government, MPDF, Oxfam, Key donors | Government, MPDF, Oxfam, Key donors | MPDF, Oxfam, Key donors | |

The speed of implementation of this framework in each country should reflect the local conditions and priorities.

We believe that there are sufficient immediate opportunities for the establishment of preliminary programmes in Vietnam and at the Regional level in order to establish the full second Phase of the OHK-MPDF Mekong bamboo sector initiative.

In Laos and Cambodia, we recommend that the initial implementation be completed on a more pragmatic, project-by-project basis with a strong provincial focus. Initially, this work should be co-ordinated through the regional programme and local partners. A distinct country programme being established when the scale and momentum warrants it.

To reduce complexity and management bottlenecks, the core programme should not seek to manage the funding and delivery of all the activities needed, but act in a co-ordination and facilitation role between donors, governments and other sector participants. At both a regional and national level, some activities will be managed and funded through the core programme, while others will be implemented by other organisations who are broadly aligned to the overall framework for the development of the sector.

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This study has involved contributions from 13 organisations. The experience and insights provided by the contributors have enabled the study to cover a broad range of issues. Organisations that have contributed to the Study include:

- International Network for Bamboo and Rattan (INBAR)
- Enterprise Development Consultants, Laos (EDC)
- National University of Laos (NUOL)
- Groupe de Recherche et d'Echanges Technologiques (GRET)
- Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD)
- International Development Enterprises (IDE)
- Ms Marije Boomsma
- The Cambodia team of McNaughton, Setephal, Maredi, Sotha, Putti et al.
- Oxfam America
- SNV Laos

Comments and suggestions

This summary report is distributed internally as part of a process of wider consultation. During this process, the findings and implications of the study will be discussed with key stakeholders through a series of meetings, workshops and individual discussions. A final version of the report will be published in late 2006, including comments and feedback from the consultation process.

All recipients of this report are invited to provide comments and feedback and to contact us to discuss any issues raised or areas of particular interest for the future.

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