

# Rubberwood: more than a by-product

**An ITTO project has brought stakeholders together to strengthen Thailand's furniture industry**

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**Latex and timber:** Young rubber plantation in Thailand. Photo: C.Cudby

Thailand's wood-based industries, and the furniture sector in particular, are important both economically and socially. The wood-based sector's 260 000 employees, for example, represent over 11% of the workforce in all manufacturing industries combined (ITTO 2006). In addition to its growing domestic market, the sector is a significant exporter in all key product groups.

After logging was banned in 1989 to protect Thailand's remaining natural forests, the wood-based industries were forced to move to other raw-material sources, such as rubberwood, bamboo, rattan and imported wood. The government instigated programs to establish planted forests, but those did not solve the short-term wood deficit.

The size of Thailand's rubber-tree plantation estate reflects its position as one of the world's top latex exporters. Latex yields from rubber trees decline significantly after 25–30 years, after which the trees are generally cut down and replanted. For the wood-based industry seeking new raw-material sources, this estate, therefore, represented a huge opportunity. But because of the branching nature of the tree, rubberwood logs are short (1–1.3 meters) and the timber quality is affected by both the latex and the tapping process. The milling of rubberwood is also more challenging than it is for many other woods and the timber must be sawn quickly to avoid insect and fungal damage.

These characteristics mean that rubberwood is unsuitable for some uses, such as construction timber and plywood. Nevertheless, Thailand's rubberwood resource has, since the logging ban, provided the wood-based sector with a plentiful and domestically available raw material for reconstituted panels and sawnwood for furniture—to the extent that Thailand is now one of the world's leaders in rubberwood

furniture exports (valued at over US\$560 million in 2004—ITTO 2006).

The evolution of rubberwood from waste material to furniture stalwart has not been without problems. The unique characteristics of rubberwood combined with a lack of skills, knowledge and information in Thailand about rubberwood availability, harvesting, processing and marketing have led to inefficiency, waste and the production of low-quality products. Thai rubberwood processing has tended to focus on speed and the maximization of throughput rather than on optimizing the log yield and/or improving conversion rates. There was (and still is) uncertainty and different views about the role of rubberwood in Thailand's broader development process. The resulting inconsistency in high-level leadership towards the sector has produced a conflicting policy environment. Moreover, rubberwood furniture exports have been under competitive pressure from other low-cost producers (such as China), some of whom import a significant part of their raw material from Thailand.

## **The ITTO project**

ITTO pre-project work in the late 1990s identified a need in Thailand's furniture sector for technical assistance to the extent that a large-scale national program for rubberwood development was required. But before such a program could be attempted, three deficiencies in the sector needed to be rectified:

- The core base of stakeholders in the rubberwood sector lacked a basic understanding of the issues and a willingness to work constructively together.
- Inadequate information was available on rubberwood and the sector. For example, there was no information

on resource availability or on rubberwood markets and economics, no information or support for the adoption of new and improved processing techniques, and no extension information to help farmers to optimize their production of both latex and rubberwood.

- There was no critical mass of human resources, especially in some areas, such as industry training in processing and marketing, and in rubberwood resource assessments.

Thailand therefore sought ITTO help through project PD 51/00 Rev.2 (I,M): *Improvement of rubberwood utilization and marketing in Thailand*. The aim of the project was to address these shortcomings in a way that would prepare the ground for a national rubberwood development strategy which, ultimately, would improve the productivity and competitiveness of the Thai rubberwood furniture industry.

***Underlying the lack of high-level leadership is a perception that the development of the rubberwood industry will come at the expense of growth in other high-priority sectors***

In the period 2002–06 the project team completed a range of training courses and seminars covering saw-doctoring, surface-finishing of furniture, the industrial management of processing factories, export marketing, wood preservation, and design trends in key export markets. The project also facilitated a rubberwood resource assessment pilot study, a study tour to Malaysia, and a national forum to discuss future strategies for the sector. Key target beneficiary groups for the project included the sawmilling and furniture sectors, government departments, and academic and training organizations.

Ex-post evaluation of the project was undertaken in 2008. Overall the project was carried out efficiently, within the total budget of US\$538 000. The remainder of this article examines the project's successes and deficiencies, and looks at how to sustain project impacts into the future.

### **Successes**

One of the most successful aspects of the project was the collaborative and adaptive approach taken in its governance. Many stakeholders were involved in implementation, from project design to completion. Each phase and element of the project had its own problems and stakeholder interests, and managing the various interests was the project's biggest challenge. This challenge was met successfully because representatives of each key group were able to work collaboratively in tackling different components of the project depending on their skills. This improved relations between stakeholders, created ownership of project successes, and allowed the project to evolve to changing sector needs.

As a result of the project, stakeholders have built good networks and now actively collaborate on issues of common

interest, where previously there was little or no contact. For example, the industry and academia are cooperating to develop new courses in rubberwood processing techniques and furniture design. There is still room for government departments to improve their role in sector networking and collaboration, especially by working with other parts of government whose support may be needed for follow-up initiatives (such as the Education Ministry to help fund further courses).

Attitudes towards change in the wood-based sector also improved as a result of the project. But it didn't happen overnight. At first the sector was focused internally and on short-term issues. Companies were destructively competitive and unwilling to learn new skills or to cooperate with one another. As stakeholders began to work together they gained an appreciation of the views of and issues faced by other groups.

Once the courses began and the practical benefits to business became apparent, sentiments started to change. This has led to a wide range of day-to-day improvements by industry, government and relevant educational institutes that have all contributed to improving the productivity and competitiveness of the industry. Factories have increased the use of designers, for example, and improved log recovery rates and the quality of sawing, and there is better promotion of the sector at furniture fairs.

The project successfully used training courses to reach a range of people involved in the sector. For example, capacity was built by:

- training over 560 people in new technologies in six key subject areas
- training local trainers by involving international experts
- building capacity in government to support future courses and to fulfil its role as a provider of such courses
- developing and disseminating training materials (including visual aids and compact disks)
- improving knowledge on issues relevant to the rubberwood furniture industry among stakeholder groups by involving them in course planning and implementation.

A good information base on rubberwood has now been developed where before it was almost non-existent. Beneficiary groups have an improved awareness of sector issues and priorities and are better prepared to engage in efforts to develop a national rubberwood development strategy. There is also strong demand in the sector for future courses. But the evaluation showed that there remains a need for a one-stop shop for the gathering and dissemination of information relevant to the rubberwood industry. The available information could also be better packaged for end-users; for example, course materials could be simplified for practical use in on-the-job factory environments.



## Deficiencies

The project experienced problems in its design and preparation that are common to many ITTO projects. A series of regional workshops held by ITTO during 2007 reviewed the experiences of over 60 ITTO projects. It found that “many, if not most, of the problems faced in project execution are a direct consequence of the low quality of project preparation. Flawed project design elements such as: incoherence between objectives and means...; and deficient use of project design tools such as logical frameworks, are the most frequent causes of problems and failures” (Dourojeanni 2008).

The evaluation of this project found that the project strategy was not well-captured by the logical framework, although, as described in the project proposal, it was still a valid strategy. The specific objectives were actually long-term aims and the associated indicators were national-level statistics that were unlikely to be affected by the ITTO project over its four-year life, despite the excellent successes achieved. The production and productivity statistics of three indicators were not readily available, and the furniture-export statistics for another indicator were confounded by many factors including exchange rates, the relative gross domestic product of Thailand and trading partners, and the grouping of rubberwood with all other wooden furniture. In any case, no attempt was made to monitor or report on the indicators selected.

A better logical framework would have provided a more effective project design and performance management tool and would have helped facilitate the project ex-post evaluation. A stronger logical analysis of objectives and outputs would have better identified risks to the project and helped to adjust the project to address those risks. The lack of high-level and widespread government support for the development of the rubberwood industry, for example, was a very real risk to the project from the outset; the design of the project should have taken it into account.

Staff turnover is always a significant risk to the success of projects and could have been better managed in this project to ensure continuity. In a multi-year project it is almost inevitable that some key people will move on. Managing this risk by documenting project lessons and building project awareness and knowledge among other staff in stakeholder organizations is also a way to disseminate project benefits and therefore should be a priority in any project.

## Long-term sustainability of impacts

On the whole the project successfully took a first step toward a more coherent vision for rubberwood development in Thailand. Knowledge and skills across all target beneficiary groups improved, and cooperation and mutual learning was promoted among stakeholders who are now driving positive change in the rubberwood industry.



**Stacking up:** Innovative rubberwood furniture designs by Thailand's King Mongkut Institute of Technology students.  
*Photo: C.Cudby*

Nevertheless there is still a long way to go to lift the overall level of skills in the industry. The positive impacts of the project were muted by a lack of political leadership to promote development in the industry to the extent seen in other sectors. This has led to distorted policies, such as the proliferation of new processing facilities in areas of the country where there is no spare rubberwood availability. The lack of high-level leadership (and funding) has also stymied post-project efforts to implement follow-up courses to meet the strong demand for training.

The Department of Industrial Promotion (DIP), which is responsible for industry training, did not engage actively in the ex-post evaluation, despite the best efforts of the evaluator, ITTO and the Royal Forest Department (the executing agency). A review of the role and capability of DIP is therefore recommended as a priority.

An ITTO diagnostic mission conducted in 2006 (ITTO 2006) commented that, “without a concerted effort driven by the government, Thailand's thriving furniture industry is likely to become stagnant due to the heavy competitive pressure. The government's role is to address key bottlenecks ... The Malaysian experience shows how this can be [done] successfully”.

On the upside, however, a major positive impact of the project was that key stakeholder groups now realize that the lack of a common vision for the place of rubberwood in Thailand's development makes it extremely difficult for stakeholders to engage with government over inconsistent high-level leadership and the problems that brings. The Thai

Furniture Industries Association took the lead in addressing this by enthusiastically developing, with key stakeholder groups, a 'road map' for the industry. The road map has been completed and is being used to engage with government with the aim of securing agreement on the future development of the rubberwood furniture industry, including funding for a range of follow-up initiatives. There are also plans to use the road map to engage with landowners and other stakeholders.

Underlying the lack of high-level leadership is a perception that the development of the rubberwood industry will come at the expense of growth in other high-priority sectors, such as latex and oil palm. Latex production is a far bigger industry than rubberwood; for example, it provides rubber-estate landowners with more than 96% of their income. For it to be effective, therefore, any rubberwood development strategy must acknowledge and take into account the economic importance of latex. Latex and rubberwood development are not mutually exclusive. The focus should not be on how to shift from latex to wood production (as has been suggested in the past), but how to optimize the production of all products from rubber estates for net national benefit. This is likely to mean that patterns of development and production will differ depending on local circumstances; genuine stakeholder consultation and cooperation will be required.

A key role of government, therefore, is to help ensure that stakeholders have access to accurate information that will support good decisions about land-use and investment in industry. Currently, a lack of information to support economic decisions on the optimal mix of latex, rubberwood, inter-crops and other land-uses means that the focus of landowners and government remains firmly on latex production.

## Follow-up

The time is right for action to follow up on the progress made under this project. Economic conditions—especially high prices for both rubberwood and latex—mean that there is an increased desire for better information to inform land-use decisions, especially for clone selection for replanting and for timing the rubberwood harvest. Any follow-up actions should take advantage of this momentum.

The project ex-post evaluation summed up a number of lessons learned and set out some recommendations. The three major recommendations were for:

- the government to provide stronger and more consistent political leadership for rubberwood development and to address conflicting policies
- key stakeholder groups to work towards an agreement on a national rubberwood development strategy that will guide and support all future actions
- the dissemination of information on rubberwood to be improved and extension activities to be further enhanced and expanded.

## References

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- Dourojeanni, M. 2008. Exchanging experiences on sustainable forest management. *Tropical Forest Update* 18:1, pp 12–15.

*The complete report of the ex-post evaluation is available at [www.itto.int](http://www.itto.int), or on request from the ITTO Secretariat ([fi@itto.int](mailto:fi@itto.int)).*

