

**Report of Multi-Stakeholder Consultation**  
**“Action to Unlock Commercial Fibre Potential”**  
**Salvador, Bahia, Brazil, 15 November 2011**

The Consultation was organized by the Trade and Markets Division (EST) of FAO in conjunction with the Joint Meeting of the Intergovernmental Groups (IGGs) on Hard Fibres and on Jute, Kenaf and Allied Fibres.

The Consultation was opened by Mr Wilson Andrade, President of the Sindicato das Industrias de Fibras Vegetais do Estado da Bahia (SINDIFIBRAS) who referred to the intense activities undertaken during the Week of Natural Fibers hosted by the Government of the State of Bahia. The Consultation had been preceded by a meeting of the International Natural Fibres Organization (INFO) and would be succeeded by the Joint Meeting of the IGGs on Hard Fibres and on Jute, Kenaf and Allied Fibres on 16-18 November 2011.  
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Mr Kaison Chang, Secretary of the FAO IGGs, expressed appreciation to the Government of the State of Bahia for hosting the IGGs and the Consultation, and thanked SINDIFIBRAS for the excellent arrangements. He stressed that the Consultation offered the opportunity for open and constructive dialogue among stakeholders concerned with natural fibres. The Consultation provided a unique opportunity for fibre producers, processors, researchers and scientists and industry representatives to explore possibilities for working together towards more sustainable, environmentally friendly and commercially viable partnerships for the future. He thanked the Government of Germany for support to a project that had made possible the organizing of the Consultation. [Kaison.Chang@fao.org](mailto:Kaison.Chang@fao.org)

The keynote address was delivered by Mr Eduardo Athayde, Director, Worldwatch Institute, Brazil. He referred to rising rates of greenhouse gas emissions, and stressed the increasing importance of natural fibres in a warming world. Natural fibres could constitute a decarbonising agent in a degrowth scenario whereby changing consumption patterns would represent a pronounced break with the past. [eduathayde@gmail.com](mailto:eduathayde@gmail.com)

In considering the status of research on natural fibre composites, the Consultation was briefed by Dr. Alcides Lopes Leão, Professor at UNESP. He referred to the importance of bringing research results into the public domain and strengthening the transfer of technology to Least Developed Countries (LDCs). He noted the increased opportunities for natural fibres as a result of rising interest in substituting fossil-based with bio-base products, but referred to the challenges that needed to be overcome to realize these opportunities. Such challenges included continued competition from man made materials as well as from wood cellulose, the low technology image of natural fibres, need for life cycle analysis (LCA) and sustained funding for research and development. He described the wide range of products produced from natural fibre composites. [alcidesleao@fca.unesp.br](mailto:alcidesleao@fca.unesp.br)

Mr. Celso Duarte of Ford Motors Brazil informed the Consultation of his company's efforts to maximize the use of renewable/recycled and recyclable resources in all vehicles. Historically, Henry Ford was the pioneer in using natural fibers in car models, but the initiative failed at that time due to poor performance. The Ford Ecoproject 2012 involved “going green” not only in terms of fuel use, but also in terms of the materials used in vehicle construction. He cautioned, however, that the automotive industry remained profit motivated and therefore its production decisions were influenced by raw material availability,

performance and costs world-wide and the contribution that the use of natural fibres could make to the economic viability of the production and marketing process. He informed the Consultation that even though the use of sisal in car production had been developed in 2008, actual commercialization of ecoproject vehicles had been postponed until 2012 while awaiting patenting of the processes and the standardization of the raw material for global production. He also recalled the certification scheme implemented to attest that the sisal used in vehicle production was not the product of child or slave labour, nor of supplies obtained with processes/equipment hazardous to workers. Mr. Duarte informed the Consultation of various technical requirements for the quality of fibre used in various vehicle components. The cabin is one of the most important items in the vehicle, and the natural appearance and comfort for the internal components have great importance. He pointed out that homogeneous materials, large-scale availability and appropriate processing conditions were the fundamental requirements for increasing the application of natural fibers in the auto industry. [csilv155@Ford.com](mailto:csilv155@Ford.com)

In discussing another major area of potential market growth, Mr. Markku Vilkki, Conenor Ltd. of Finland, reported on possible construction of houses made of plastics composites reinforced with natural fibres. He mentioned in particular the possible use of short fibres of lower quality than that of fibre sold for traditional uses, and suggested that such operations would be economically viable at a sisal supply price of USD 300 per tonne. The consultation noted that a 70 square meter house with a metal frame could cost between Euros 8000 and 12 000. Such constructions would not be appropriate for cold climates. The main competitive materials constituted wood fibres which were available at competitive prices and in reliable quantities. [markku.vilkki@conenor.com](mailto:markku.vilkki@conenor.com)

Prof. Pedro Oliva Neto, Sao Paulo State University, reported on research concerning the use of sisal waste to develop new commercial products which would contribute to the income of sisal growers. In such conditions, the fiber itself could be considered a by-product since the most valuable components are in the sisal juice. He recalled that in Brazil, sisal cultivation generated more than half a million jobs. This research had helped identify products falling under three categories. Aside from those having no chance of commercialization, two other categories seemed promising either immediately or in the near future. The costs of these products were far lower than trade prices of comparable products currently on the market. Such products included antioxidants, products for the inhibition of ticks, anti-inflammatory products, anti-parasites for plants, anti-fungal shampoos and cream for mycoses. [poliva@assis.unesp.br](mailto:poliva@assis.unesp.br)

In discussing developing country perspectives, Mr Salum Shamte, Katani Ltd, Tanzania, stressed that sisal presents valuable characteristics and that a process was underway to translate these attributes into a resource not only for the producing countries but for a wider constituency. He recalled the unique aspects of the fibre which included its being natural, renewable, drought-resistant, a tough plant, strong fibre, with a myriad of uses. Major shifts were taking place in global views on the environment and markets were shifting with the BRICS and regional markets assuming greater importance. Demand for traditional sisal products would continue while new uses of the biomass (representing 98 percent of the plant) were evolving. In Tanzania, the generation of energy was a priority, and innovation had taken the form of sisal biogas/electricity/fertilizer production. A smallholder scheme initiated in 1999 had led to the involvement of 16 500 farmers in sisal outcropping and average incomes had risen tenfold over the period. Mr. Shamte stressed the need for continued

collaboration among stake-holders as an important condition for mapping the road forward.  
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Mr. Dilip Tambyrajah, Zylyon International B.V., Netherlands, informed the Consultation of the work underway in INFO to develop sustainability standards for hard fibres with support from the Common Fund for Commodities. He expected that by mid-2012 a harmonized framework would be developed that could be used by producers to respond to pressures for certification of hard fibres. There was a need to adopt a harmonized framework which would serve the industry's needs in a cost-effective manner. He considered that certification was not only a marketing tool, but also a means of improving production processes.

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Mr. Tambyrajah expressed appreciation to Mr Duarte for the help offered in developing a global specification. It was noted that the process was very complex, but the experience of Ford Brazil was considered invaluable and also reflected the need to involve consumers of sisal fibre in the process.

Participants at the Consultation engaged in an intensive discussion and posed various questions to the Speakers. Interventions were made by *inter alia* the representatives of Bangladesh, Colombia, the Philippines, Tanzania, the Common Fund for Commodities and of the International Jute Study Group.

In line with efforts to develop partnerships between fibre producers and manufacturers, the delegates of the Philippines and of Colombia expressed appreciation to Mr Duarte of Ford Brazil for his positive response to their request for testing of abaca and fique fibres for potential utilization by the automotive industry. The delegate of the Philippines indicated that if abaca fibre proved to be technically interesting, information on the economic values of various grades of fibre would be provided. Moreover, the Government of the Philippines would be engaged in assuring regular and reliable supplies.

In defining the conclusions of the Consultation, it was agreed that

- further research was needed on the production and marketing of short fibres so as to reduce costs and better meet the needs of users;
- research should be continued on promising new uses of sisal, including waste material first in the cosmetics field that presented less complexities than in that of agricultural applications;
- development and improvement efforts should embrace a wide range of diversified products so as to maintain production and marketing flexibility under changing market conditions;
- the opportunities offered by simple technologies and regional and local markets should not be overlooked;
- fibre production and marketing strategies should take account of growing trends towards bio-based products;
- assurances of sisal supplies could be enhanced not only by greater plantings, but also from improved productivity as there was scope for considerable improvement in certain areas;

With regard to the specific questions that the Consultation was called upon to consider:

- Identify value added (new technological advancement) fibre products that would increase demand which would in turn increase margins and hence income through the value chain – The Consultation considered that natural fibre technologies were well known but there was a need to integrate the fibres into the new uses, including in the context of local markets. Such an approach would facilitate the transfer of technology and south-to-south cooperation.
- Evaluate and prioritize products which should be considered by the project for implementation (based on socio-economics/returns/profitability) - The priority value added products included composites, pharmaceutical products and the generation of energy. Producers should aim at zero waste as an approach to maximizing profitability.
- Identify environmental and certification needs to promote sustainability – There is a need to harmonize standards and develop a uniform scheme for application in the various producing countries and for the various fibres. Standardization efforts should make full use of the expertise in the producing countries and be cost effective.
- How can smallholders be involved and what role can they play – Smallholders can constitute an important part of the production and marketing strategy. They should be involved in, for example, outgrowing schemes with very clear legal relationships established between growers and buyers of fibre and with provision for monitoring the progress of such arrangements and for dispute settlement.
- What enabling policies are needed to promote smallholder participation – Policies should include capacity building, training including on improved agricultural practices and use of waste materials so as to increase efficiency and enhance incomes.

The Consultation noted that a publication would be prepared to help heighten awareness of the environmental, economic and social attributes of natural fibres, in particular sisal. The publication would be given wide distribution and would also be provided to all participants who had attended the Consultation.

The Consultation was further presented with a demonstration of the new Future Fibres Website ([www.fao.org/economic/futurefibres](http://www.fao.org/economic/futurefibres)) that would be launched at the Joint Meeting of the IGGs and which could provide a vehicle for continued exchange among stake-holders and for promotion of the fibres concerned.