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Report: Hard Fibre Projects financed by the Common Fund for Commodities

The Intergovernmental Group on Hard Fibres is a designated International Commodity Body (ICB) under the rules of the Common Fund for Commodities. In this capacity, it promotes and supervises projects on Hard Fibres

A. ACTIVE REGULAR PROJECTS

PRODUCT AND MARKET DEVELOPMENT OF SISAL AND HENEQUEN PRODUCTS
The main objectives of this project are to (i) establish the feasibility of using sisal fibre in paper; (ii) develop new varieties of sisal that will be suitable for various end-uses; (iii) develop processes for commercial use of sisal wastes. The project, which is executed by UNIDO, was originally scheduled for completion in 2002, but has been extended to the end of 2004. Major activities were:

a) In Tanzania:
Agronomic trials, particularly trials on alternative production systems, including high-density planting and whole-of-plant harvesting;
Work on meristematic tissue culture, and establishment of nurseries to allow mass reproduction of selected stock;
A machine to recover flume tow has been built and tested; Research on fibre extraction has been conducted. A hammer mill was been installed in the first part of 2003 to provide fibre to be tested for pulp production. A project dissemination workshop was held in February 2003 to disseminate results to stakeholders in the industry.

b) In Kenya:
Variety trials have continued. Data on four varieties are being analysed; Meristematic tissue culture trials have continued, involving mass multiplication in the laboratory, establishment of field nurseries, and laboratory experimentation;

A publication has become available from this project: ***SISAL: Past Research Results and Present Production Practices in East Africa***, CFC Technical Paper No 8.
A workshop to disseminate results of the project will be held in Tanga, Tanzania, tentatively 16 - 20 November 2004.

ABACA: IMPROVEMENT OF FIBRE EXTRACTION AND IDENTIFICATION OF HIGHER YIELDING VARIETIES
This project has two major components: (i) development of improved fibre extraction equipment; (ii) identification of high yielding disease resistant varieties in the Philippines. It was originally intended that Ecuador would participate in the project, but, after some negotiation, Ecuador decided not to be involved. In the course of the last half of 2003, however, arrangements were made to extend the work on fibre extraction to Ecuador.

Project activities commenced in the Philippines in 1999. Activities in the past year have included ongoing work on variety trials and on the development and fabrication of fibre extraction equipment. Progress with the variety trials was inhibited by high mortality rates due to unusually dry conditions. The project has been extended for 18 months to 31 October

2004. **A workshop to disseminate results of the project will be held in the Philippines, 19 and 20 October 2004.**

COIR-BASED BUILDING AND PACKAGING MATERIAL
The objective of this project is to demonstrate the potential of the application of a specific technology for the production of high quality fibreboards, by making use of the high content of lignin in coir fibre. The project is being executed by Institute ATO DLO in the Netherlands.

The first phase of the project, laboratory-scale work in the Netherlands, was completed early in the year 2002, in which a simple process was used to produce a board successfully from coconut husk, and its mechanical properties have been tested.

The second phase of the project involves producing boards on a larger pilot scale in the Philippines. As activities move away from the laboratory, factors such as the effect of humidity and climate and of husk storage time are being investigated, together with the effect of prolonged soaking on the strength of the board. Activities in 2004 are directed towards piloting a small but commercial-type continuous production process.

B. ACTIVE/RECENT FAST TRACK PROJECTS

These are smaller, low budget projects , very limited in scope and with a duration of only a few months.

COMPOSITE APPLICATIONS USING COIR FIBRES IN SRI LANKA
This fast-track project has the objective of reviewing the technological and economic potential of coir-based composite products. It commenced late in 2002, and was completed in 2003, resulting in the production of prototype products and culminating in a workshop in Sri Lanka. A report is available - click on the link on the right of this page.

THE COMPARATIVE ADVANTAGES OF SISAL, COIR AND JUTE IN GEOTEXTILES
This Fast Track study has been undertaken; A publication, ***Comparative Advantages of Sisal Coir and Jute Geotextiles***, CFC Technical Paper No 31, became available in mid-2004.

C. PROJECTS TO COMMENCE SOON

CLEANER INTEGRAL UTILISATION OF SISAL WASTE FOR BIOGAS AND BIOFERTILISERS
This activity was originally seen as forming part of the original sisal project, but it has now been approved as a separate grant-funded project. The objective is to establish the technical and economic viability of the production of gas and fertiliser from sisal waste. Activities are to include the construction of a pilot demonstration facility to produce biogas, which will be used to produce electricity, and the formulation of a national strategy for sound and environmentally-friendly utilisation of sisal gas for energy production. Utilisation of waste from bio-gas for the production of fertiliser is to be studied. The project is due to commence in 2004.

SISAL DEVELOPMENT: SISAL FIBRE REPLACING ASBESTOS IN CEMENT COMPOSITES (Brazil) This new project on the use of sisal composite for the building materials industry, using sisal to replace asbestos has been given approval for startup in the course of 2004.

PILOT FACILITY FOR EFFICIENT COIR PROCESSING AND QUALITY CONTROL
This proposal, for activities in Sri Lanka, was approved for funding early in 2004. Activities are expected to commence late in 2004.

D. PROJECT PROPOSALS IN THE PIPELINE

A fast-track proposal: A Technical Workshop on Natural Fibre Composites. Consultations will be made with experts on composites and industrial experts to identify the factors which will lead to increased market penetration of Natural Fibre Composites based on Sisal, Abaca, Coir, Jute and Curaua Fibres. This proposal is yet to be considered by the CFC.

Proposal for developing and demonstrating Advanced Biological Spinning and Environmental Technologies for Small Coir Enterprises in India. This project was originally proposed as part of a combined India/Sri Lanka project. The Sri Lanka component has now been approved (see above), and the Indian component is being developed for submission to the CFC as a separate project.

E. PAST PROJECTS

INTERNATIONAL SYMPOSIUM ON COIR
An International Symposium was held in Colombo, Sri Lanka, in June 2003. Support from the CFC included assistance for participants from countries in the region to travel to the convention. The objectives of the Convention were to provide a comprehensive overview of the global coir industry and to review the needs for technology and market development to improve industry competitiveness, then to develop the outline of an action program for joint research and development involving industry, research institutions and government. The Convention was attended by around 150 people from 10 countries, and a set of proceedings is available.

SEMINAR ON ALTERNATIVE APPLICATIONS FOR SISAL AND HENEQUEN
This one-day seminar which was held in December 2000 as part of the previous Joint Meeting of the IGG on Hard Fibres and the IGG on Jute, Kenaf and Allied Fibres. The proceedings of the Seminar were published in 2001 as a CFC Technical Paper 14: ***Alternative Applications for Sisal and Henequen.***.

IMPROVEMENT IN DRYING, SOFTENING, BLEACHING, DYEING COIR FIBRE/YARN AND PRINTING COIR FIBRE
The objective of the project was to contribute to demand for coir fibre, coir yarn and coir door mats, mattings and carpets by improving their competitive position with synthetics in the consuming countries through the development of improved processes for (i) the development of cost-efficient technology for drying coir fibre and yarn; (ii) softening, bleaching and fast colour dying of fibre and yarn; and (iii) fast colour printing of coir products.

An international seminar was held in India in December 1997, and a set of proceedings, Wet Processing of Coir Fibres, was published by Central Coir Research Institute. Two local field days were held in Sri Lanka to demonstrate the prototype dryer. This project concluded with the publication in 2002 of the technical report: ***Coir Processing Technologies*** as CFC Technical Paper Number 6.

PRODUCT AND MARKET DEVELOPMENT OF HIGH VALUE-ADDED COIR

PRODUCTS
The objective of this project was to assist producing countries to diversify and expand production and trade of high value-added coir products, particularly rubberized coir, coir geo-textiles and coir dust.

See Also...

- Common Fund for Commodities
- CFC Technical Paper 14: Alternative Applications for Sisal and Henequen

Documents
Composite Applications using Coir Fibres in Sri Lanka

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