

Terms of reference

Sub-contract title:	Foresight exercise for the camelids-based textile industry in Argentina, Bolivia and Peru
Sub-contractor title:	International expert institution on technology foresight
Date required:	15 August 2009 – 31 July 2010
Duty station:	Home base, with missions to Argentina, Bolivia and Peru
Counterpart:	Governments of Argentina, Bolivia and Peru

I. General Background Information

The Andean highland regions have an unexplored potential for income generation through the development of region-specific products, such as among others textiles from camelids fibers. However, more future oriented visions on how the most value-added products and sectors could be developed and what technologies should be acquired and generated to access markets are still to be elaborated and adopted by the main stakeholders. Further, to raise production levels, productivity and competitiveness of textiles products in the Andean region, the related industrial sectors and sub-sectors should be reorganized as productive chains, incorporating the necessary institutional framework for modern industry, financial services, wholesale markets, commodities exchanges and future markets, price information, quality standards, traceability, controls and certification, export marketing agencies and transportation facilities and infrastructure. The applications of future studies and participatory policy building to capture this complex reorganization process are on demand to cover structural and functional change scenarios, as well as technology development, which will affect gains and losses for the present industrial basis in the region. The present project proposes a multi-country Technology Foresight study, focused to raise awareness and build consensus and agreements among the key stakeholders to conduct this reorganization in a sustainable manner. The communities on the Andean region of Argentina, Bolivia and Peru are the expected beneficiaries. The project goal is to assist the participating communities in making decisions on future directions of the production of local textile products and their connection to global value chains that might contribute to increase economic and social wealth in the region. The project purpose is to identify strategic technology areas for textile products and its industrial sector to raise its competitive advantage and to enable the national textiles products to better access the regional and the global markets. Components: (a) a common vision of the possible future development of the region through the improvement of the participation of local camelids fibers based textile products in its economy, and (b) a technology road-mapping indicating how to strengthen the related productive chain. The main output will be a foresight study for textile products and the related productive chain. The project will take advantage of linking with the UNIDO project on upgrading production and processing technologies and commercialization of vicuna and llama fibers for textile sector.

II. Aim of the Regional Technology Foresight Exercise

The immediate objective of the project is to assist decision makers in identifying strategic technology areas for competitive industrial production and commercialization of textiles derived from camelid fibers and to enable these products to better access the regional and the global markets and in this way to increase the economic and social wealth in the region.

Additional objectives are:

- Build capacity at institution and company levels to identify risks and opportunities on how to improve value-chain competitiveness through the application and use of technology foresight analysis and methodologies;
- Establish a knowledge-based network related to national TF initiatives, programmes, activities and methodologies to make available a regional reference source of information, expertise and comparative studies;
- Strengthen interaction, communication and cooperation between all relevant stakeholders of the innovation systems at the regional level.

III. The Scope of Contracting Services

The Subcontractor will be requested to provide expertise on all relevant aspects related to the design and implementation of the foresight study for the subject productive chain. Under the direct supervision and guidance of the UNIDO Project Manager (PM), the Technology Foresight Expert Institution will perform the following duties:

Main Duties	Period	Expected results	Related activities
1. Preparation of the methodology and the design for the development and implementation process of the study (for reference Annex 1).	July 2009	Definition of methodology	Project manager approves the methodology of the project
2. Proposals for the preparation of the terms of reference (including profile and activities) for the regional expert on textiles and the national coordinators collaborating in the project.	August 2009	Draft terms of reference for national coordinators national expert.	Identification of national teams and experts
3. Cooperate with the regional expert for preparing an analysis of the basic productive chain for the selected industry.	August 2009	Framework for the selected production chain	Definition of the chain and main components. Definition of products and processes.
4. Participation in the first conference and presentation of the methodology and division of work.	September 2009	Power point presentation on the methodology Conduction and moderation of methodology workshop	Finalization and agreements on the methodology and identification of national partners and experts.
5. Analysis and supervision of the three national country reports (state of the art and SWOT analysis) of the selected products.	September-October 2009	Analysis and supervision	Revision and validation Organization of the conference
6. Conducting and moderating of the workshop dedicated to the future visions	November-December 2009	Conduction and moderation of workshop and	Revision and validation of results of the workshop and

VI. Reporting

The implementation and results of the exercise should be presented through a final Report at the final conference and a ready to print version both in Spanish and English languages by the end of project duration.

The following progress reports should be produced:

1. Inception report with detailed methodology to be applied in the exercise – Month 01 (after start the contract) (section III, Main Duties, Item1)
2. Progress Report with: (a) Scope of the foresight exercise; (b) Key technologies studies; (c) Future visions; (d) Road maps – Month 10 (section III, Main Duties, Items 2 and 3)
3. Draft final report and Presentation computer-aided for the final conference – Month 11(section III, Main Duties, Items 4 and 5)
4. Final report – Month 12 (section III, Main Duties, Item 6)

VII. Personnel

The Subcontractor should provide at least the following personnel:

- 1 Project Manager
- 1 Project Assistant
- 1 Future visions expert
- 1 Road maps expert
- 1 textile industrial technology expert

VIII. Language Requirements

Working languages for the Contractor's personnel is Spanish and English. Any kind of translation/interpretation from other languages should be done at own expenses of the Contractor.

Annex I: Project Methodology

In order to mobilize the representative number and types of stakeholders, the implementation of the project materializes in the following activities:

- Analysis of the world and regional dynamics for the animal hair industry
- Regional conference for starting the project. (First regional conference)
- National, regional and international value chain analysis and competitiveness studies.
- Definition of products, processes and key technologies (desk studies).
- Foresight exercise at regional level with the support of working panels (regional panel) and consultations
 - Future Visions workshop
 - Roadmapping workshop
- Final Conference on the presentation of results
- Dissemination of results and recommendations for follow up actions (post-foresight)

To develop, coordinate and implement these actions, and prepare the related reports, multiple stakeholders from different positions and disciplines representing the three involved countries (Argentina, Bolivia and Peru) will participate to get visions, values and expectations of the future Andean textile industry. The project facilitates the public debate and collects points of view from research, industry, government and social groups. This approach will establish a knowledge community on trends, visions, social demands and alternatives in manufacturing, product, service and distribution.

The first stage of this project is dedicated to analyse the world and regional dynamics for the animal hair industry and the situation of the camelids based textile industry in Argentina, Bolivia and Peru in relation with the competitiveness of the sector in the national, regional and international context. To this end, a competitiveness study will be carried in the three countries. This study will be focused in the following aspects:

1. Identification of production chain and the high value-added and highly demanded products
2. Capacity of investment
3. Capacity of technology innovation
4. Human Resources
5. Business Structure
6. Market accessibility
7. Product quality

The foresight approach will combine two specific tools:

- *Future visions*
- *Road mapping*

Prior to the foresight exercise, desk stud will be conducted to define the most promising products, processes and *key technologies* for the textiles industry to be competitive at regional and international levels. These studies will cover developments in all relevant aspects of the total chain of Andean textile industry, like:

- Technologies and good practices in relation with the livestock management: genetic selection, feeding, diseases control etc.

Annex I: Project Methodology

In order to mobilize the representative number and types of stakeholders, the implementation of the project materializes in the following activities:

- Analysis of the world and regional dynamics for the animal hair industry
- Regional conference for starting the project. (First regional conference)
- National, regional and international value chain analysis and competitiveness studies.
- Definition of products, processes and key technologies (desk studies).
- Foresight exercise at regional level with the support of working panels (regional panel) and consultations
 - Future Visions workshop
 - Roadmapping workshop
- Final Conference on the presentation of results
- Dissemination of results and recommendations for follow up actions (post-foresight)

To develop, coordinate and implement these actions, and prepare the related reports, multiple stakeholders from different positions and disciplines representing the three involved countries (Argentina, Bolivia and Peru) will participate to get visions, values and expectations of the future Andean textile industry. The project facilitates the public debate and collects points of view from research, industry, government and social groups. This approach will establish a knowledge community on trends, visions, social demands and alternatives in manufacturing, product, service and distribution.

The first stage of this project is dedicated to analyse the world and regional dynamics for the animal hair industry and the situation of the camelids based textile industry in Argentina, Bolivia and Peru in relation with the competitiveness of the sector in the national, regional and international context. To this end, a competitiveness study will be carried in the three countries. This study will be focused in the following aspects:

1. Identification of production chain and the high value-added and highly demanded products
2. Capacity of investment
3. Capacity of technology innovation
4. Human Resources
5. Business Structure
6. Market accessibility
7. Product quality

The foresight approach will combine two specific tools:

- *Future visions*
- *Road mapping*

Prior to the foresight exercise, desk stud will be conducted to define the most promising products, processes and *key technologies* for the textiles industry to be competitive at regional and international levels. These studies will cover developments in all relevant aspects of the total chain of Andean textile industry, like:

- Technologies and good practices in relation with the livestock management: genetic selection, feeding, diseases control etc.

- Technologies and good practices in relation with the raw material collection and storage.
- Technologies for the raw material preparation.
- Textile manufacturing technologies.
- Quality control.
- Environmental control technologies.
- Traceability.

These studies will address the following issues for each technology:

- Strategic importance for the future of the sector.
- Accessibility in connection to current capacities to implement these technologies.
- Time horizon to implement these technologies
- Barriers

Further ***Future Visions*** for the total production chain will be developed based on the studies on the key technologies and the information gathered in the analysis of the world and regional dynamics for the animal hair industry and the competitiveness studies of the countries.

Finally, ***a Regional Road map*** will be developed. The ***Road map*** will be focused in the critical subjects for the textile chain development:

1. The process from the livestock to the manufacturing technologies.
2. The product: Types of product for different markets (national and international markets; high and medium quality, raw material and tailoring etc.), the importance of the design and marketing.
3. The market: Different products for different channels, access to the international channels, requirements, Brand, certification etc.

The Road Map will be elaborated by specific ***Regional Experts Panel***. Each Experts Panel will hold two Workshops in order to identify:

First Workshop: Future Visions, specific objectives of each Vision and barriers.

Second Workshop: Drivers to reach each vision, actions, players, and technologies

An international ***research institute experienced in foresight*** and policy counselling will conceptualise and monitor the key technologies studies, the future visions and road mapping. National partners from the three involved countries will support the identification of experts from different backgrounds to participate in the Future visions and Road Maps workshops.

The ***result and recommendations*** will be consolidated in a report and will help the local industries to use the results for individual strategic planning. The report is intended to be absorbed by governments' and multilateral institutions' work programmes and long-term planning. The UNIDO project on upgrading production and processing technologies and commercialization of *vicuña* and llama fibers for textile sector will be instrumental for the dissemination of results and recommendations for follow up actions.

Regarding internal coordination within UNIDO, linkages with investment promotion, trade capacity building and private sector development will be required for the implementation of the recommendations of the present study.