

## UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

## Project Document

**Number:** XX/PER/02/X02

**Country:** Peru

**Title:** Assistance in Upgrading of Production and Processing Technologies and Commercialization of Vicuña and Lama Fibers for Textile Sector in Peru

**Origin and date of official request:** The Minister of Industria, Turismo, Integración y Negociaciones Comerciales Internacionales (MITINCI), Sr. Lic. Raúl Diez Canseco Terry.

**Total Budget:** US\$297,000 ✓

**Estimated Starting Date:** May 2002

**Planned duration:** 8 months


**Project site:** Lima

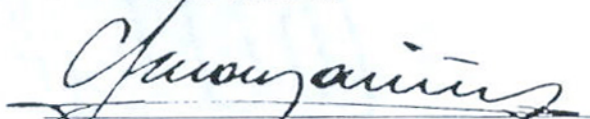
**National Counterpart:** Ministerio de Industria, Turismo, Integración y Negociaciones Comerciales Internacionales (MITINCI)

**Executing Agency:** United Nations Industrial Development Organization (UNIDO)

On behalf of the Republic of Peru:

On behalf of UNIDO:

  
 Carlos Maza Rodriguez  
 Vice-Minister of Industry  
 Republic of Peru

  
 Carlos Magariños  
 Director-General

Vienna, 19 April 2002

Vienna, 19 April 2002

**Brief description:** The project will help strengthen the technological capacity of Peru in the production, processing, storing and commercialization of the vicuña and lama fibres used in the textile sector of industry through the introduction of new technologies and innovations, market promotion and strategy development.

There will be a specific focus on SMEs, micro-enterprises and individual artisans, which will be direct beneficiaries of this project. They will be provided with existing experience and best practice in these areas and with facilitated access to new technologies and innovations, tools, methodologies and mechanisms enabling the companies to increase their productivity and performance, improve design and quality of products, apply best management and marketing practice and enhance competitive position at the local and international markets.



1. Description of sector

Today, about 75 per cent of the work force of Peru is employed in the small and micro enterprises sector. 97.65 % firms from this sector provide up to 42 % inputs to GDP. The small and micro enterprises provide direct employment to approximately 6,524,300 persons (74 per cent of all workers occupied in industry) mostly belonging to weaker and minority sections of the society. Women constitute 41.15 % of total work force. At the micro enterprises, their share reaches 44.60 %. There are 77,000 small enterprises registered in the formal sector and 100,000 micro enterprises (500,000 workers) are artisan based.

97.65 % of such enterprises have less than 10 workers and 95.38 % are micro enterprises with less than 5 workers. Their productivity (US\$4,607 per worker/per year) reaches 9 % of the productivity of the enterprises with more than 100 workers (US\$51,927 per worker/per year). 85 % of the world lama fibres are produced in Peru, from which 75 % are being supplied by small farming communities located at the altitude of more than 4,000 meters above the sea level.

There is a high potential for increasing the input of SMEs, micro enterprises and individual farmers of the country but these units have limited mechanization, low productivity, low quality of manufactured products with poor design and lack of research and development facilities for product and process development, testing, etc. In addition, the commercialization mechanisms are underdeveloped leading to low in-come for local producers of goods based on vicuña and lama fibers. Product design in vogue is a century old.

There is no documentation of the products and processes to share experience and best practice in growing, processing and storing of vicuña and lama fibers with minimal losses. Training facilities are also non-existent. The lack of information about technological advances and new market opportunities results in using obsolete technologies and traditional markets.

Therefore, the main issues before the SMEs, micro enterprises and individual farmers in this segment of industry are technology up-grading, institutional capacity building for training, product design and development, testing and other technical services and market development. There is a need to introduce professionalism in management of the units as well.

For instance, the SMEs in the textile and clothing sector are very much heterogeneous. Some enterprises demonstrate underemployment and poverty and the others show the examples of good entrepreneurial management and innovations. It is also obvious that the existence and role of small and micro enterprises in the Peruvian economy have been ignored for almost three decades until recently. It has been calculated that only 252 micro and small enterprises registered in the clothing sector have got the annual income of US\$14,6 million. At the same time, each of the ten large enterprises in the country brings US\$13,0 million annually. It is obvious that SME sector plays an important role in the economic development of Peru and it requires strong policy support.

The recent studies have confirmed that the country has different types of SMEs. The important group of micro enterprises has usually low income and poor technology, operates in informal environment, depends on the experience of one person, and has low technical capacity and lack of entrepreneurial management. The other group of micro enterprises presents good economic performance due to specific combination of factors: in one case, it is due to better human capital and in other due to larger access to credits or other source of financing. Finally,



less than 5 per cent of small enterprises stand out of the major group due to good connection with old and well-established sale offices and styles that define the professional level.

There is a need in establishing solid technical criteria that would allow rational and efficient utilization of limited resources available for the promotion of this sector. It was considered to design a new policy on the basis of two criteria: to provide support oriented on technical capacity, credits and enhancement of potential and creativity of enterprises and to provide political support to poverty alleviation and entrepreneurship development.

## 2. Strategy

With the accelerating pace of new information and communications technologies and increasing international consumerism, almost all market sectors are becoming global and open for competitive products. Against this background, supplier industries are forced by consumers to provide new products of higher quality, within shorter demand cycles and at world-class standards of excellence.

The Government of Peru has acknowledged new technologies and innovations as main engine of economic growth able to enhance well-being of a nation and sustain a relatively high standard of living – not only because they produce new value-added products and create employment, but also because they create new services and require the organizational change in other sectors of economy. They provide a springboard for increasing performance and productivity of production sector, improving quality and design of new products and enhancing competitive position of local enterprises, particularly of small and micro enterprises, at global markets. The Government of Peru has also clear understanding that in a rapidly changing global economy, small and medium scale enterprises (SMEs), micro enterprises and individual livestock farmers have also challenge to grow and are essentially a force for national economic growth. These enterprises assume a critical role in a country's industrialization programmes.

In the pioneering experiences started in 1990s, MITINCI was instrumental in technological development and creation of the first wave of CITEs and played an important role in the development of innovation policy and strategy. The recent SWOP analysis has laid the basis for designing the national strategy for the development and promotion of innovations and productivity in Peru. In accordance with this plan, a new vision for the future of the country has been formulated and approved. It says that "In 2021, when Peru will celebrate 200 years from its independence, the enterprises and innovation agencies will generate and incorporate in a systemic and sustainable form the knowledge for permanent increase of competitiveness".

To implement this strategy, MITINCI and Prompex (Commission for Export Promotion), in cooperation with the Ministry of Agriculture and the Ministry of Education and Universities started in 1998 a national programme on the development of the National Network of Technology and Innovation Centres (CITES – Centros de Innovacion Tecnologico). The national Forum "Industry: Challenge and Opportunities" in 1999 confirmed that promotion of innovations and technology policy should become the basic points of the industrial policy of the country.

On 25 May 2000, the Congress of the Republic of Peru approved the Law 27267 that defined the role and place of CITES within the institutional set up dealing with new technologies and innovations and providing technical support services to local industry. The Law has also put in practice some concrete measures to support the establishment and operation of CITES. In accordance with the Law, sectoral Technology Innovation Centres (CITES) and their networks have to play the fundamental role being oriented on needs of SMEs and micro enterprises. They



should be formed on the principles of active participation of government and non-government organizations, consulting and technical cooperation agencies, academic community and industrial associations.

CITES should make possible to transfer the knowledge on technological development and production, which would help the enterprises to innovate products and processes, improve their management, decrease the production costs and enhance the productivity and quality. In addition, the CITES should continuously monitor the technological advances and markets and provide the SMEs with value-added information. Diffusion of information should also be facilitated by the network of CITES.

Among the above-mentioned instruments and mechanisms to implement the national strategy for permanent and sustainable competitiveness, there was a clear-cut clarification what to do more in the area of innovations and technology, particularly:

- Transfer, adapt and diffuse new technologies and innovations.
- Form qualified human resources.
- Diffuse information on technologies and markets.
- Push forward the strategy of innovative enterprises.
- Promote forms of joint work and cooperation between the enterprises in the productive chain.
- Develop new markets, increase the export share of local products, streamline and strengthen the export capacity of SMEs, micro enterprises and individual livestock farmers.

Based on the results of the ongoing programmes and in addition to them, MITINCI, in cooperation with the National Council of Science and Technology (CONCYTEC) and the Ministry of Economy and Finances (MEF) have recently developed a programme to support two major areas. This programme includes: (i) support to innovations and technological developments in the production sector and (ii) measures to strengthen the capacity to respond to the needs in innovations and technological change and to offer the systems of information and diffusion in the area of science and technology.

It is acknowledged that the share knowledge and experience as well as transfer of technologies and innovations are more efficient if they are supported by cooperation between the enterprises and individual livestock farmers, facilitate to identify common problems, acknowledge the demand on quality of the markets, inter-exchange the experience between them and articulate joint demand for research and development for which specialized institutions would be able to propose the solution for the existing problems.

Therefore, the national strategy defines strong synergy and networking between the industry, academic community and government organizations as a driving force for complementary programmes, projects and institutional activities. This includes establishment and networking of CITES and their integration with regional and international institutions and agencies so that to acquire and diffuse best international practice in promotion and management of innovations.

### **3. Institutional framework for the sector**

It is clear that only selected countries have mature networks of academic institutions, research and technology organizations being linked with industries, especially with its SME sector, and able to provide technology support services required. Questioning the university-based research organizations, it became obvious that their main funding streams have been



provided by governments in the form of facility grant funding, direct ministry-led research projects or as support to national initiatives. It has also become clear that governments are encouraging their institutes to become more independent and secure commercial funding as additional income, to bolster the planned diminishing support by government. This was also true for many of the developed country institutes as well.

Further questioning revealed that whilst many of the institutes had the will and in some cases, the management facilities to provide a marketing and sales interface to industry, they lacked the culture and drive to secure significant amounts of commercial income. That was despite over many years of trying various approaches and methods of centralized and decentralized resources.

With this in view, it is clear that not so many institutions have come together in the promotion of new technologies and innovations in Peru as well. Links to industry, particularly to its SME sector, have been in many cases poorly developed and either because of culture or expectation, based on non-commercial lines. Without exception, all of the institutes possessed under-utilized equipment, which many small- and medium-sized enterprises, especially micro enterprises, would have benefited from having access to.

In general, there are system failures concerning the promotion of new technologies and innovations and commercialization of lama fibres in Peru. First of all, there have been fragmented efforts being undertaken by the Government towards further development and strengthening of innovation processes in the country. There was no leading institution able to serve as a strategic agent and a national focal point for the promotion and creation of innovative firms within the frame of national strategy and innovation policy. Domestic and international links for marketing and commercialization were also lacking proper coordination.

All this requires urgent measures to consolidate the Government and producers' efforts in increasing the productivity, improving performance and quality of fibres and streamlining the fragmented marketing and export sales.

During the meetings with the authorities of the MITINCI and other major players in the innovation processes, it has been acknowledged that, at present, the country has plans and strategy on the establishment of a network of CITES as an institutional set up to execute national strategy and plans in innovations. The establishment of a "CITE Textile-Camelidos" could accumulate and diffuse the knowledge, experience and best international practice in promotion of new technologies and innovations and lead the process of creation of technology-led enterprises in the country in the textile sector. This could also bring new impetus to the institutional framework already in place.

## **PART II. PROJECT JUSTIFICATION**

### **1. Problems to be addressed**

Today, the ability of SMEs, especially of micro scale enterprises and individual livestock farmers, to create, access and commercialize new knowledge at global markets is fundamental to their sustained competitiveness. An important feature of globalization is the increasingly fast pace of change in product and service markets. While the most obvious example is provided by rapidly declining product life cycles in the information technology field, there are growing competitive pressures for enterprises of all sizes, particularly in SME sector, to respond quickly to the very latest technological developments affecting their sectors. The capacity for diffusion



of new technologies and innovations is thus a critical factor for individual firms' success as well as for improved national performance in today's global economy. The supply chain is also being changed drastically to the establishment of direct contacts between producers and users.

Innovation is a broad term that encompasses virtually any new development in firms. It can involve creating or re-engineering products or services to meet new market demand, introducing new processes to improve productivity, developing or applying new marketing techniques to expand sales opportunities, and incorporating new forms of management systems and techniques to improve operational efficiency. Recent experience has shown that some governments have been able to engender a climate where SME innovation can flourish, creating a more dynamic economy and greater employment opportunities. In fact, the national climate for private sector innovation has an impact on businesses of all sizes, but public policies and attitudes that constrain creativity, competition, risk-taking and appropriate financial returns on successful ventures can particularly affect small and medium-sized enterprises.

Today, the pattern of innovation in SME sector is mostly non-R&D investment based that is more important and can be of two types: (1) capital equipment or input-embodied innovation, and (2) design innovation. In capital equipment based innovation firms acquire new process technologies or intermediate products, which allow them to benefit from innovations developed elsewhere. Design innovation, on the other hand, refers to incremental improvements in products that do not radically change their function or technological base, but allow firms to better meet customer requirements. The role of design innovation for SMEs must also be stressed. Design is only a small part of the complete R&D cycle and does not necessarily require access to scientific knowledge or advanced engineering technology. However, design is an enormously rich inventive and creative activity, which opens large opportunities to improve products. But it requires a deep understanding of product function in relation to customer requirements; a strong command of all technical interdependencies within product components; and a clear appreciation of constraints posed by the manufacturing system.

The major problems for SMEs, especially for micro enterprises and individual livestock farmers, are to know where to find new technologies, knowledge and experience recognizing the commercial potential for their company, and to be able to adopt them to their particular situation. The decisions they must make in evaluating new technologies are multi-faceted and complex from a business perspective. SMEs must assess costs and benefits, the complementarities with existing technologies the company uses, the fit of new technologies in their product portfolio and of new products in the supply chain.

Because of their very different needs, the public R&D institutions are not well positioned to provide these services. First, these bodies often operate at a national or regional level and innovation services are most effective when decentralized and local. Second, these institutions are bureaucratic and technical, and their competence lies in the technical evaluation of proposals. The SMEs need innovation advisors, not administrators. Third, because the SME innovation problems are complex and multi-dimensional, services should be offered by organizations that combine business and technical skills.

The accelerated transformation derived from a globalized world economy demands also for accelerated technological and organizational change. This change calls for a society, that first and for most, is able to build the national capabilities to learn and innovate. This is central in today's economic transformation process but the gap between the industrialized and developing countries' ability to innovate is continuously widening due to lack of access to knowledge on international best management practice and tools.



Policy makers, managers of R&D institutes and entrepreneurs in the developing economies lack the knowledge on mechanisms and tools to transform technological advances and innovations into value-added products and processes. They have limited access to international best practice and knowledge in managing technology incubation and innovation processes. The lack of this knowledge entails also the loss of opportunities in research/industry partnerships and business development at a global scale as well. In addition, a dynamic entrepreneurial culture and the ability to create new companies committed to constantly improve and excel the innovation process is becoming central to the challenge of building capabilities to learn and innovate.

Today, the establishment of such a culture could come in many ways. One of them is to promote pilot experiences that would create successful models and hence, a demonstration effect. This objective could be achieved through the creation of a national well-integrated system for knowledge sharing and incubation of innovative firms. In parallel, the countries must find new mechanisms to enable the acceleration and retention of inward investments, the development of new products and markets and upgrade the capability and skills base of their existing research and manufacturing infrastructure. The limited resources available in many developing countries are sometimes further constrains and barriers of institutional, educational, financial, technological and managerial characters.

## **2. Expected end-of-project situation**

Success in the implementation of all project activities will lead to the establishment of a CITE Textile-Camelidos as a national mechanism for accumulation of the whole experience and best practice existing in Peru and other countries in the area of production, processing, storing and commercialization of lama fibres and sharing this knowledge among the SMEs, micro enterprises and individual livestock farmers.

The CITE will support the innovation processes, transfer of knowledge and commercialization of lama fibres at the marketplace. It will encourage new investments into local industry, development of new forms of financing, marketing and commercialization that help enhance the ability of enterprises, particularly the SMEs, micro enterprises and individual livestock farmers, to trade.

A nation-wide network of institutions and agencies will assist the enterprises in the respective sectors with technical expertise and technological support services. It will also help manage the technological change and upgrade the SMEs with tools and instruments to be more competitive at the national and international markets. It will help integrate them into the national, regional and global research, production and commercialization networks. A scheme for information data collecting and processing system and networking architecture will be drawn up, including the computer hardware, software, databases and global networking arrangements.

A study on potential application on new technologies in this area will be prepared and, based on its outcomes, the recommendations on further technological developments will be worked out for policy makers and managers of R&D to support this sector.

A testing laboratory will be designed and the required equipment purchased and installed. This will also include the training of the personnel of the laboratory. The laboratory will play the key role in improving the quality of the fibres through using modern equipment for evaluation and testing of these fibres.



The capacity of CITE Textile-Camelidos will be strengthened through training and application of best international practice in management, marketing and commercialization in this segment of industry. It will also be integrated into global technology and investment promotion networks through UNIDO International Technology Centres (ITCs) and Investment and Technology Promotion Offices (ITPOs). This will facilitate the development and establishment of technical and market linkages between the local producers and partners in industrialized and other developing countries.

Advisory services will be provided to policy makers, entrepreneurs in industry and managers of R&D institutes in the country. Relevant training programmes for them will also be outlined. The activities will aim at building up/strengthening the institutional, technological and marketing capacity, and international framework for promoting and commercializing technological advances and encouraging investments in the covered sector.

### **3. Target beneficiaries**

There will be a specific focus on enterprises, particularly of small and micro scale, and individual artisans, which will be direct beneficiaries of this project. They will be provided with access to new technologies and innovations, tools, methodologies and mechanisms for their application enabling the companies to increase their productivity and performance, improve design and quality of products, apply best management and marketing practice and enhance competitive position at the local and international markets.

The policy makers, managers of R&D institutes, entrepreneurs and investors will be the secondary beneficiaries of the project. They will get improved mechanism, which would provide technology and market support services in the sector, and be trained in the above-mentioned areas of competence.

### **4. Strategy for implementation**

The overall strategy of the project is to help the managers of SMEs and micro enterprises, as well as individual livestock farmers, to acquire the whole experience and best practice existing in Peru and other countries in the area of production, processing, storing and commercialization of lama fibres and to share this knowledge among themselves as well.

The inventory of the existing in Peru knowledge and practice in the above-mentioned areas will be undertaken in order to make in-depth analysis, distribute this knowledge among entrepreneurs and individual farmers and work out the recommendations for managers and policy makers. The results of this analytical work will be published in different forms (audio, visual, electronic, etc.) for wider distribution between all parties involved.

A national workshop for policy makers, entrepreneurs and managers of research community working in this sector will be organized in order to discuss the result of the studies, share the best practice and experience and work out the recommendations for further development and support the sector. The producers of lama fibres will also be informed about possible mechanisms, institutional set up and enabling environment for technological upgrading of local industry through technology transfer and innovations and their adaptation to local requirements, as well as for enhancing the capacity of enterprises to absorb technological advances, innovations and new industrial investments.



Study tours will be organized for policy makers and entrepreneurs to get acquainted with best international practice in managing technological change and marketing and commercialization of new products at the international marketplace.

A separate study on potential application on new technologies, including genetic engineering, in this area will be prepared and, based on its outcomes, the recommendations on further technological developments will be worked out for policy makers and managers of R&D to support this sector.

A testing laboratory will be designed and the required equipment purchased and installed. This will also include the training of the personnel of the laboratory. This will be done on the basis of best practice gained in Peru and other countries as well. The laboratory will play the key role in improving the quality of the fibres through using modern equipment for evaluation and testing of these fibres.

This strategy will enable the sector to better utilize available scientific and technological resources, new marketing approaches and tools and to cope with the challenges of rapid technological pace and changing global economic and competitive environment.

The creation of a network will strengthen the technology and innovation framework, as a key part of the National Innovation System, to better assist this sector of industry in developing a sustainable infrastructure of technology transfer and commercialization as well as technical support services based on international best practice in management.

To implement the programme, UNIDO will share its knowledge and experience in managing technological change through new technologies and innovations. It will also use international experts with in-depth knowledge and rich experience in capacity building, management of technological change and innovations, technology transfer and commercialization. The selected international experts, as well as UNIDO staff, will assist the beneficiaries in acquiring the knowledge shared through providing on-job training when visiting the country.

The new mechanism (CITE Textile-Camelidos) and its network will be closely linked to UNIDO International Technology Centers, Investment and Technology Promotion Offices (ITPOs) and UNIDO Exchange. Strong operational linkages with these centres will particularly strengthen the capacity of this sector in Peru, thereby offering access to a network of expertise, technology, innovations and potential funding and market opportunities.

## **5. Reasons for assistance from UNIDO**

UNIDO plays a catalytic role in building up/strengthening an adequate and absorptive capacity for new technologies and innovations as well as in strengthening technological and market capability for technology commercialization at the industrial scale. It also helps the countries formulate national innovation policy and provide networking arrangements for research/industry partnership.

Within the last few years, UNIDO has increasingly been focused on bridging the gap between the emerging market demands in new products, industry needs in technology and innovations and the existing technology base through different mechanisms (e.g. sectoral and national technology transfer and diffusion centers) for commercialization of research results and application of technological advances and innovations at the industrial marketplace. It has also accumulated rich experience in building up awareness on latest achievements in technological



innovation processes providing the countries with access to knowledge and international best management and marketing practice in these areas.

While implementing the projects/programmes, UNIDO will also make available its tools and methodologies and provide operational links to its International Technology Centers (ITCs) and Investment and Technology promotion Offices (ITPOs) and their networks. This will allow the targeted beneficiaries becoming a member of the UNIDO technology and investment promotion networks, which are new mechanisms for investment and technology promotion and transfer as well as catalysts for building up partnerships with other institutions and enterprises in both public and private sectors worldwide.

#### **6. Special considerations**

The proposed project will also aim at promoting international technological and economic cooperation in the related sector and technology transfer. These issues are vital for many countries, particularly for the developing countries, for a wide range of industrial sectors and have a major influence on economic growth and competitiveness of local industry. Special attention will also be given to building up the local capacity in management of technological change, marketing and commercialization of new products at the international marketplace and to strengthening the national technology policy to promote innovations on a sustainable basis and encourage new investments in local industry.

#### **7. Coordination arrangements**

In order to achieve the objectives of the project, it should be very well coordinated. This will be secured through close interaction and cooperation between UNIDO and MITINCI of Peru, as the Government counterpart of UNIDO in this project, local counterpart authorities and other organizations and agencies involved.

Once the project starts, it will be the subject of close coordination arrangements and optimization of all resources available in the country in technology and innovation activities in order to secure the complementarities of these activities to each other. Special attention will be given to integration of the project's activities into ongoing programmes/projects in the area of investment and technology promotion and transfer, building up technological capacity, private sector and SMEs development. These areas will be of prime concern of coordination between UNIDO, MITINCI and other agencies involved.

#### **8. Counterpart support**

MITINCI will provide the project with facilities for the national workshop and designate the counterpart of UNIDO for this project at the institution level. It is foreseen that the national counterparts will also contribute in-kind to meet the costs of the office space, secretarial support, communication facility and logistic support (transportation, copying publishing, translation, etc.) for the activities to be implemented within the frame of the project.

### **Part III. Development Objectives**

The main objective is to strengthen the technological capacity in the production, processing, storing and commercialization of the vicuña and lama fibres used in the textile sector of Peru through the introduction of new technologies and innovations, market and strategy development.



**Part IV.****Immediate Objectives, Outputs and Activities****Immediate Objective 1**

To strengthen the capacity of policy makers, entrepreneurs and managers of research community in promotion of new technologies and innovations, management of technological change and marketing in the area of production, processing, storing and commercialization of lama fibres through establishing CITE Textile-Camelidos (Technology Innovation Centre) and sharing the whole experience and best practice existing in Peru and other countries in this area.

**Output 2.1**

The existing knowledge and practice in managing new technologies, commercialization and marketing at the international marketplace collected and widely distributed in the country.

| No.   | Activities for Output 1.1   | Party Responsible   | Start/End Month |
|-------|---|---|-----------------|
| 1.1.1 | Definition of problems the lama fibres production sector faces in the processing, storing and commercialization cycles, including supply/distribution chains, technologies used, and funding sources working in this sector.  | Nat.experts<br>Intern.expert<br>UNIDO                     | 1-3             |
| 1.1.2 | Inventory of the existing in Peru knowledge and practice in the above-mentioned areas.  | UNIDO<br>Nat.experts<br>Intern.expert                     | 1-3             |
| 1.1.3 | Design and establishment of a CITE Textile-Camelidos (Technology Innovation Centre) as a national mechanism and focal point in this sector of industry.   | UNIDO<br>Nat.counterpart<br>Nat. experts<br>Intern.expert | 1-3             |
| 1.1.4 | Design of a testing laboratory and the identification of the required equipment, its purchase and installation. This will also include the training of the personnel of the laboratory.   | UNIDO<br>Intern.expert<br>Nat. experts                    | 1-3             |
| 1.1.5 | Development and implementation of a training programme for the personnel of the testing laboratory.   | UNIDO<br>Intern.expert<br>Nat. experts                    | 3-5             |
| 1.1.6 | In-depth analysis of all information collected and working out the recommendations for managers and policy makers aiming at strengthening the support to local producers of lama fibres and enhancing their competitiveness.  | UNIDO<br>Nat.counterpart<br>Nat. experts<br>Intern.expert | 2-4             |
| 1.1.7 | A study on potential application on new technologies, including genetic engineering, in this area will be prepared and, based on its outcomes, the recommendations on further technological developments will be worked out for policy makers and managers of R&D to support this sector                  | UNIDO<br>Intern.expert                                    |                 |
| 1.1.8 | Organization of a national workshop for policy makers, entrepreneurs and managers of research community working in this sector to discuss the result of the studies, share the best practice and experience and work out the recommendations and strategy for further development and support the sector. | Nat.counterpart<br>UNIDO<br>Nat.experts<br>Intern.experts | 4-5             |
| 1.1.9 | Publication of the studies and results of the workshop in   | Nat.counterpart   | 5-6             |



|        |  |   |     |
|--------|--|---|-----|
|        | different forms (audio, visual, electronic, etc.) for wider distribution between all parties involved.   | UNIDO<br>Nat.experts<br>Intern.experts                    |     |
| 1.1.10 | Selection of a national focal point to further lead the programme and formulation of outlines of such programme.   | Nat.counterpart<br>UNIDO<br>Nat.experts<br>Intern.experts | 5-6 |
| 1.1.11 | Establishment of electronic links with UNIDO International Technology Centres (ITCs) and Investment and Technology Promotion Offices (ITPOs) in order to have a wider access to technology sources in textile sector, investment and business opportunities. | UNIDO<br>Nat.counterpart                                  | 5-6 |

## Output 1.2

The policy makers and entrepreneurs acquainted with best international practice in managing technological change and marketing and commercialization of new products at the international marketplace.

| No.   | Activities for Output 1.2   | Party Responsible                         | Start/End Month |
|-------|---|---|-----------------|
| 1.2.1 | Study tours will be organized for policy makers and entrepreneurs to get acquainted with best international practice in managing technological change and marketing and commercialization of new products at the international marketplace. | UNIDO<br>Nat.counterpart                  | 2-6             |
| 1.2.2 | Identification of potential new markets for the Peruvian products and their promotion and introduction on a pilot/testing basis at the international marketplace.   | UNIDO<br>Nat.counterpart<br>Intern.expert | 3-8             |
| 1.2.3 | Development of a market strategy and new marketing tools, instruments and identification of potential partners.   | UNIDO<br>Intern.expert                    | 3-8             |
| 1.2.4 | Preparation of guidelines on commercialization and marketing for entrepreneurs from SMEs, micro enterprises and individual livestock farmers in order to disseminate the best practice in management and marketing.                         | ICMB<br>UNIDO                             | 6-8             |

## 5. RISKS

The following potential risks to the success of the project have been identified:

1. Insufficient enterprises participate in the project.
2. Insufficient national professionals participate in the national workshop/training.
3. There is a small turnout to the seminars that close the demonstration projects, so limiting the demonstrative power of the demonstration project.
4. Appropriate ministries are not sufficiently committed to the success of the project.

The project design seeks to minimize these risks by incorporating early and continuing awareness raising activities, and by encouraging participation through several mechanisms. It is recognized, however, that the target industrial sectors may be relatively small so that the possibility of including enterprises from other sectors is not excluded.



## 6. INPUTS

### **6.1. Host Country Inputs**

- Infrastructure for the CITE Textile-Camelidos and the cost of its personnel.
- Time of national participants involved in all phases of the demonstration project.
- Office space and logistical support (communications, etc.) for international consultants.
- Local travel undertaken by nationals related to project implementation.
- Rooms and hospitality for the training session and workshops.
- Rooms and hospitality for the workshop.

### **UNIDO Inputs**

| <b>Budget Line</b> | <b>Items</b>             | <b>Amount (USD)</b> | <b>w/m</b>  |
|--------------------|--------------------------|---------------------|-------------|
| 11-51              | International experts    | 30,000              | 3.0         |
| 15-00              | Local Travel             | 5,000               |             |
| 16-00              | UNIDO missions           | 12,000              |             |
| 17-50              | National experts         | 20,000              | 10.0        |
| 21-00              | Subcontract for workshop | 10,000              |             |
| 32-00              | Study tours              | 15,000              |             |
| 45-00              | Equipment and software   | 200,000             |             |
| 51-00              | Miscellaneous            | 5,000               |             |
| 99-99              | <b>TOTAL UNIDO</b>       | <b>297,000</b>      | <b>13.0</b> |

## 7. PROJECT REVIEW, REPORTING AND EVALUATION

The programme will be the subject to the review by representatives of UNIDO, MITINCI and other organizations involved. For such review, Programme Performance Evaluation Reports will be prepared by the Programme Coordinator in the country and the UNIDO backstopping officer, a month in advance and submitted to UNIDO.