

Tara – A Product Study.

Trade Opportunities for Peruvian Producers.
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Imprint.

About SIPPO.

SIPPO, the Swiss Import Promotion Programme, is a mandate of the State Secretariat for Economic Affairs, SECO, within the framework of its economic development cooperation. It is carried out by Osec, the official Swiss foreign trade promotion agency.

The programme helps SMEs in developing and transition countries to gain access to the Swiss and European markets by providing information, training courses and other matchmaking services. SIPPO also assists importers from Switzerland and the European Union with finding suitable partners and high-quality products from selected developing and transition countries. The programme has five main goals:

- To inform the Swiss and European import economy about new market sources
- To strengthen trade institutions and business sector associations in the trade promotion process
- To increase the competitiveness of SMEs in selected partner countries
- To develop the manufacturing and exporting skills of SMEs in selected partner countries
- To establish qualified trade contacts between SMEs from emerging markets and markets in transition and the Swiss and European import economy

Report Content.

Within the scope of the project PeruBiodiverso the State Secretariat for Economic Affairs (SECO) and the programme «Sustainable rural development» (PDRS) from the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) support in cooperation with the Peruvian export organisation PromPerú the product and market development for natural ingredients. SIPPO is mandated to support Peruvian companies in accessing the European market. The implementation of the activities is based on the following product studies: Maca (*Lepidium meyenii*), Sacha Inchi (*Plukenetia volubilis*), Tara (*Caesalpinia spinosa*), Aguaymanto (*Physalis peruviana*), Algarrobo (*Prosopis pallida*), Camu Camu (*Myrciaria dubia*) and Native cacao (*Theobroma cacao*). For further information contact food@osec.ch or pbd@osec.ch.

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Acronyms

APOs	Asociaciones de Productores Organizados
EOI	Expression of Interest
EFTA	European Free Trade Agreement
FLO	Fairtrade Labeling Organization
GACP	Good agricultural and Collection Practice
GIZ	Gesellschaft für Internationale Zusammenarbeit, Eschborn, Deutschland
GMP	Good Manufacturing Practice
HACCP	Hazard Analysis and Critical Control Points, See Codex Alimentarius and ISO 22000
HR	Human Resources
INRENA	Instituto Nacional de Recursos Naturales del Perú
R&D	Research and Development
MSDS	Material Safety Data Sheet
PBD	Perúbiodiverso (Phase I, Phase II)
REACH	Chemical regulations in European Union (Registration, Evaluation, Authorization and Restriction of Chemicals); European Community Regulation: Regulation (EC) No 1907/2006
SECO	Staatssekretariat für Wirtschaft SECO in Bern, Switzerland
SIPPO	Swiss Import Promotion Programme (Osec)
SMEs	Small and Medium-size Enterprises
SNV	SNV Netherlands Development Organization
SWOT	Analysis of Strengths, Weaknesses, Opportunities and Threats
TDS	Technical Data Sheet
UN	United Nations

1. Product relevance.

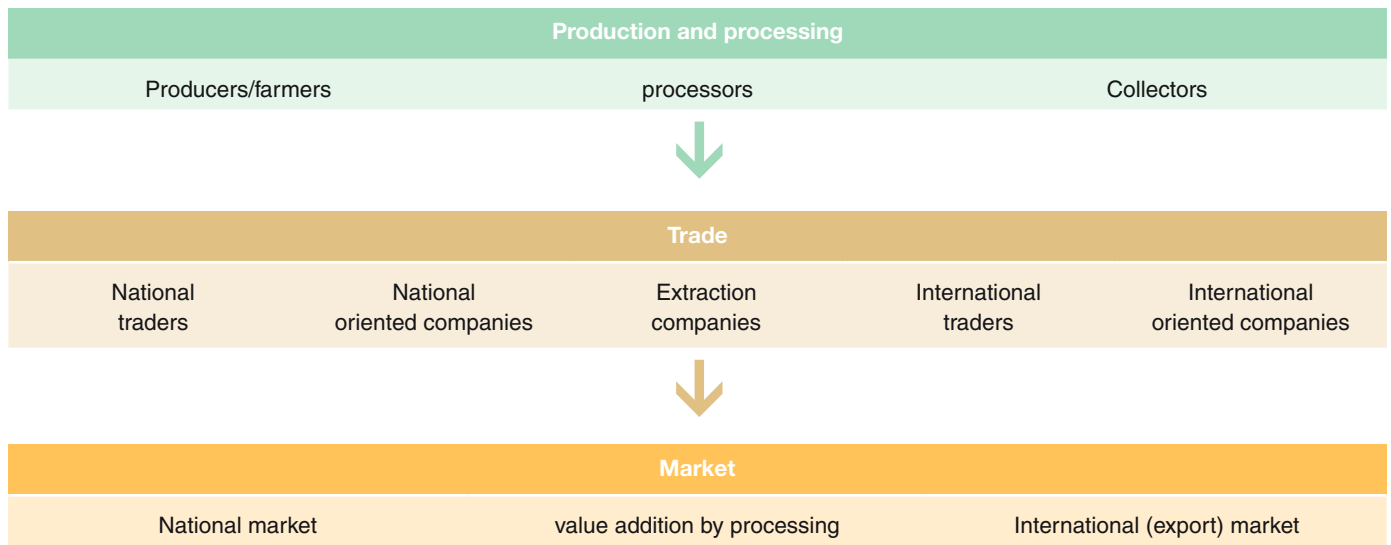
Caesalpinia spinosa (Molina) Kuntze, known as tara or «spiny holdback' in Europe, is a leguminous shrub native to the Andean Cordillera. The tara fruit itself is a flat yellow-to- orange pod, 10 centimetres long and 2 centimetres wide, containing up to seven dark red seeds.

Its economic importance derives from its traditional use in tanning leather and, more recently, for the production of thickening, gelling agents and stabilizers in nutritional supplements, and in the pharmaceutical, cosmetic and food industry. In the latter case, the tara gum is obtained by grinding the endosperms after separating the

Peru is the main producer of tara worldwide and accounts for 80% of global tara production. From the Peruvian production of tara 60% is exported as powder, 9% as gum and 6% as seeds. The rest is sold in the national market. It is estimated that only 3% of the tara production in Peru is commercialized in Peru. The other 97% is exported.

Peru is recognized globally as a supplying country of natural ingredients. Due to its biological wealth distributed in 11 ecological regions that are home to 22,000 species (8.8% of the world's plants) Peru offers a wide range of medicinal and aromatic plants.

Figure 1. Tara sector map.



skin from the germ. Since the properties of the tara gum are comparable to those of carob beans and guar gums commonly used in Europe, tara is also referred to as Peruvian carob.

In sum, tara is used as tannin for the leather industry, as thickener and stabilizer in the food and cosmetics industry, as in foods, and as a natural medicine.

The sector map (Figure 1) shows the supply chain and the principal actors in the industry's three distinct categories and functions.

Even though UN Good Practices Guidelines for member countries concerning ingredients for the food, cosmetic/chemicals and pharmaceutical sectors, as well as regional (Andean Pact) and national legislation have been developed and are being implemented in Peru, the strong positioning of some of its products in international markets has not been well used.

2. Product status.

Introduction to the market

Tara powder and gum is an important natural, ingredient used as a nutritional supplement in the pharmaceutical and cosmetics industry.

Tara gum is produced from the seed, while the powder for the tanning industry comes from the pods. The markets for both are similar, but independent from each other in terms of raw material use. The largest market for tara is in the food industry. Europe is the most important player in the tanning industry.

Peru accounts for approximately 80% of the global tara production and is the world's leading supplier, but it also grows in Chile, Ecuador, Venezuela, China, India, Kenya and Morocco. Italy is the principal market for tara in Europe due to its extensive leather industry. Belgium, the Netherlands and France are bulk purchasers of tara servicing the manufactures in the food, cosmetics and pharmaceutical industries. Their imports almost doubled from 2006 to 2010.

Following factors are affecting the trade with tara: the new trend towards traditional medicine, good quality of natural products and food, fair marketing and sustainable production. Medium term a minimum increase of market size is expected by 13% per year.

Current trends point towards low-fat foods and tara can therefore be used as fat-replacement. Moreover, the natural trend in the food and cosmetics industry offers new opportunities. Most important in this context is to keep one updated to new developments in these sectors. Basically, organic gum availability is limited and tara could meet the specific requirements of specialised producers and manufacturers.

For more detailed information on the market please see the Annex.

Risks and constraints

Four categories of risks (supply, process, demand, and control) have a direct impact from the environmental risk and management standpoint.

The uncertainties in supply and demand, market globalization, complex international supply network relationships have resulted in higher exposure to risks in the supply chain, including chaos and decision risks.

The risks in scaling up production, procurement and value adding include:

- Difficulties in finding a sustainable supply in terms of properly identified botanical raw material, and as a consequence of price speculation
- Quality of raw material
- Supply chain risk management process
- Vulnerability (logistics, extent, elements at risk and why, people and their locations at risk)
- Degree of resilience in natural resource management and logistics
- Lack of confidence in the supply chain
- Lack of visibility
- Lack of supply chain control

Producers and processors also face difficulties in approaching international markets for value added tara products (e.g. due to reasons related to microbiology and purity), and ingredients in terms of quality and availability, but specifically because of opportunistic business attitudes of the supply chain, including exporters of raw material.

The following SWOT analysis articulates specifically the core needs for export marketing and market entry in Europe and identifies specific bottlenecks in resource management and market access.

Table 1. SWOT Analysis (Biotrade 2005, reviewed by K. Duerbeck 2011).

<p>Strength</p> <ul style="list-style-type: none"> • Peru is recognized worldwide as the major supplying country of tara. • Plant part used is the fruits of tara. • The different microclimates of several inter-Andean valleys provide unique growing condition between sea level and 3100 m. • Sector associations at the level of producers. • Well researched and documented ingredient. • Appropriate legislation governing conservation and sustainable use. • Communities have traditional knowledge about the utilization. • Tara plant material and extract: source of innovation of more than 30 products. 	<p>Weakness</p> <ul style="list-style-type: none"> • Short- and medium term shortage of plant material from sustainable sourcing in Peru. • Peru has bad image as supplier of tara products to Europe. • Difficulties in domestication leading to insufficient and heterogeneous national agricultural production. • There are few specialized and accredited laboratories for quality control analysis. • Limited calculation of production costs making the sector inefficient, and price speculation. • Most processors do not implement procedures of Good/Best Practices. • Problematic land tenure. • Missing strategy for direct market access.
<p>Opportunities</p> <ul style="list-style-type: none"> • Widespread worldwide trend towards increased tara applications and consumption. • Diverse product range (30) for niche markets. • Consumers favour use of tara as food, cosmetics and tanning ingredient. • Implementation of sustainable sourcing and marketing strategies. • Institutional support to companies and APOs to establish sustainable supply chains. • Income generation for rural areas through increased sustainable production. 	<p>Threats</p> <ul style="list-style-type: none"> • Loss of markets for not complying with the international quality standards and buyer requirements like hygiene and quality conditions (HACCP, GACP, GMP). • Native natural products are domesticated and cultivated in other countries. • The presence of opportunistic exporters known as «golondrinos» («opportunistic players») that enter and leave the market.

Tara prices in Peru have traditionally been determined by local buyers and not based on cost calculation along the value chain. This has led to loss of interest for sustainable procurement of raw materials.

Table 2. Constraints, opportunities and objectives.

Constraints	Opportunities	Objectives
Resource management and control mechanisms	Best practices Transparent costing and pricing Institutional strengthening	Generate participative ways of managing natural resources and actors in the chain
Enabling environment Socio-economic	Information for niche markets Market entry for value added products	Organize access to market and increase transparency of value chain including quality selection
Enabling environment Policy and legislation; INRENA implementation	Permits: Framework conditions Access to credits, subsidies Access rights/land tenure policy	INRENA support to stakeholder involvement and representation; market control and facilitation
Enabling environment Institutional	HR development and management Access to rural extension	Encourage capacity development in management skills, institutional strengthening
Enabling environment Production and processing	Product and market development for diversification	Facilitate access to communication and services

These constraints need to be acknowledged before considering opportunities and pathways to improve responses to environmental and natural resource issues.

Trade barriers

The requirements and specifications for the products and the company internal control systems in Europe are increasing constantly (e.g. API, REACH, GACP, GMP etc.). The increasing requirements in the EU law have a direct effect on the supplier services of finished products.

Exporting companies have no other option than to comply with regulations based on international guidelines provided by different UN-Organisations (WHO, Codex Alimentarius of WHO/FAO). An alternative option is to look for new markets which might be easier to penetrate for the time being outside Europe.

3. Product strategy.

The aim of the SIPPO product strategies is to achieve consistency of what Perúbiodiverso II (PBD II) does within SIPPO's indicators. Simultaneously, it aims at building a common platform for other potential SIPPO partners so they can develop separate interventions and still be consistent with these strategies. SECO may use this document to unify strategies for the selected product. The bulk of data and analysis comes from the sub-sector analysis done by SIPPO studies, Biocomercio & Perúbiodiverso in recent years.

The product strategies of products preselected by PBD II are meant to revisit the earlier recommendations in the context market entry in Europe using the following filters:

- market access,
- achievable target for March 2013, and
- work planning for 2013 and beyond.

The short-term strategies should concentrate on efforts to improve the performance of the supply chains for tara in Peru and the business ethics of Peruvian supply chain actors in their national and international markets.

In long-term strategies, an overall review of the value chain can help in eliminating structural weaknesses that significantly hinder competitiveness.

The principal weaknesses to be considered are the lack of research at national level around sustainable resource handling, plant breeding, costs and supply chain management in Peru.

The above shows increased exports are hindered by lack of confidence in the supply chain and weak trust for the product and the companies involved in creating value and managing the supply chain. Since the volumes of plant raw material are large and increasing, SIPPO recommends adopting a participatory resource management approach to include communities and collectors, and a transparent chain management as the key strategic goals to be achieved.

Given the constraints mentioned so far, SIPPO sees four core elements of the product strategy to achieve this target:

- An increase in the collection and production of tara that will result in a considerable increase of rural income among communities, APOs (Asociaciones de Productores Organizados) and companies.
- An increase in the value addition of exportable products by:
 - An increase in the percentage of certified products
 - Moving up the value chain to extraction of the active ingredients through investment in more modern technologies
- Reducing production costs by introducing production of the raw material in coastal areas
- Developing a promotional strategy that supports these initiatives through:
 - Creating greater awareness, in strategic markets, of the value proposition of tara from Peru (BioFach, etc)
 - Emergence of private sector trade associations to represent this industry in major markets

The export companies and manufacturing industry are quite large and may achieve competitive economies of scale once they expand to their full potential. Peru should therefore adopt a focused strategy either in terms of cost or differentiation.

4. SIPPO focus.

Guiding criteria

This section explains where SIPPO will focus its attention in the tara value chain in order to have the maximum possible impact on the industry's competitiveness and export orientation. Clear guiding criteria for determining the intervention area will result in greater impacts that may be reflected in SIPPO's indicators.

- Is the desired change feasible for the selected target group?
- Can the project's output be delivered in a sustainable way?
- Can this be done within the project's time frame and available resources?

Based on this logic, SIPPO can monitor the sector's evolution and design market based solutions to emerging issues. SIPPO's facilitator/national consultant will therefore focus on local governance, environmental education and awareness raising through institutional strengthening with and among resource owners and users.

The assessment of market based solutions results in:

- a. Identification of existing national service providers, i.e. consulting firms, institutes, etc.
- b. Identification of existing and potential users: collectors, farmers, companies, etc.
- c. Constraints to provision (by service provider type).
- d. Proposed provider of sustainable market based solution.
- e. Commercial feasibility of market based solution (by service provider type).

Table 3. Assessment of market based solutions.

Type, Value Chain Constraint/Opportunity	Identified potential market-based and commercially-viable solutions
Resource management and value chain development	<ul style="list-style-type: none"> • Organize training courses for personnel of companies in best practices, quality standards, export requirements, new technologies, etc. • Promote the domestication of selected plant species that have become endangered or vulnerable in the wild
Service Providers	<ul style="list-style-type: none"> • Assist sector service providers, such as consultancies, research institutions to improve service capacities • Support promotion of wide range of authentic products
Organization and Management	<ul style="list-style-type: none"> • Encourage companies to introduce business plans and management plans and to implement good practices • Organize trainings for producers regarding development of management, marketing, business plans, etc.
Regulatory (Policy)	<ul style="list-style-type: none"> • Support preparing national regulations in accordance with UN guidelines and to enable its appliance • Generally help improve the business enabling environment
Finance	<ul style="list-style-type: none"> • Micro-finance schemes for collectors and companies • Identification of service providers for access to finance
European market access	<ul style="list-style-type: none"> • Promote B2B with importers/final buyers to develop alternative products and appropriate product documentation for value added products as colouring, vegetable oil or other extracts • Support conservation of traditional knowledge and practices
Infrastructure/Human Resources	<ul style="list-style-type: none"> • Collectors training • Logistics
Business organization Consejo Nacional de la Tara - CONATARA	<ul style="list-style-type: none"> • Strengthen APOs at regional and national level • Maintain open permanent dialog and cooperation among all value chain stakeholders • Strengthen sector work and develop competent sector representatives at national, regional and international level • Organization of education trainings • Associations as service providers and to generate income

Market-based solutions should be adopted through a priority listing to accomplish the two major identified objectives, namely to expand the value chain and increase the industry's competitiveness, and to increase the number of target SMEs that will benefit directly and indirectly (outreach) from these initiatives.

Status of supply and strategy

The main constraints of the Peruvian tara industry were explained earlier in the strategy. They are summarized below.

- Limited area of production (agriculture, forestry and wild collection)
- Poor technological development
- Need to develop better working and business environment
- Need to raise the interest of authorities to be more active in the sector
- Insufficient legal framework
- Weak sector marketing

Visibility and control can be achieved through better documentation, transparency and open pro-active communication throughout the supply chain. Ultimately, this transparency should also be visible to the consumer. A labelling or verification framework should be established to preserve trust in the whole supply chain. In the medium term Fairtrade certification for these products could be applied to address these risks.

Partners

The core partners in the implementation of the project's interventions are:

- Intervention: Implementation of rural income generation and sustainable sourcing based on market access requirements for national and international market requirements. With this intervention PDB's role is more facilitation and linkage between research and development, service providers from one side and companies from the other side.
- Intervention: Promotion for export. The partner is PromPeru, which gathers export oriented companies and provides support to IPPN Association.
- Other interventions: PDB will work on identifying other partners depending on type of intervention, for example regarding development of national legislation partners will be representatives of respective ministries, etc.

5. Interventions.

The interventions considered in the context of this product study are primarily part of component I of the Perúbiodiverso II.

Ongoing interventions.

Identification of new companies

The purpose of this activity is to increase the impact of the interventions on as many companies as possible so that all good export ready companies in Peru can profit from market access.

Collaboration with the sector association and PromPeru

The trade associations so far have always had difficulties because they were not able to build up trust and to get enough funding for their activities.

The ministries of agriculture, and trade and industry have expressed their interest to support the sector and to include them in their rural development strategy if they are organized in a structured way. Subsidies and financial support are available in a special budget heading for requests from clusters or associations.

Types of interventions needed

The overall objective of SIPPO's Perúbiodiverso II project is to enhance the competitiveness of exporting companies and therefore help to alleviate poverty in the countries where we work. In order to measure the accomplishment of such objectives similar indicators should be used as those used in the other SIPPO activities, namely increased sales or exports, increased revenue, employment, diversification of markets, products, services, and number of participants at promotional events.

Sequencing of interventions of SIPPO

After mapping the productive environment, human resources and miscellaneous basic infrastructure needs, and determining the categories of interventions, the context and the sequencing of activities, it will be required to identify access opportunities, available service providers, and leading firms. After the first intervention the number and expertise of the leading firms is expected to unfold and develop. The leading firms and the service providers may vary for the different interventions and their sequencing.

Consistent with the temporary nature of the interventions, there needs to be a clear exit strategy defined from the beginning. The access strategy must be linked to the achievement of the development objective, like the creation of sustainable service providers for the target group of companies.

Table 4. Priority matrix.

Interventions	Aim	Actor	Time	Lead by
Elaboration of product parameters	R&D for MSDS, Novel Food, REACH, GMP	National research institutions, universities	April 2011 - March 2013	PBD
Product documentation	Product profiles (data sheets, certification, etc.)	Companies, national service providers	June 2011	SIPPO
Sustainable resource management	Sustainable wild collection and harvesting, domestication, cultivation	Companies, national service providers	August 2011	PBD
Access to market	National & international trade fairs, buyer missions	PromPeru, SIPPO	September 2011 – March 2013	SIPPO

Ranking and prioritization of issues.

During the stakeholder meetings the expert presented the «gap analysis» findings including the prioritization on the basis of the identification of potential market-based and commercially viable solutions.

1. Sustainable resource management
2. Implementation of market access
3. Export promotion
4. Assistance to service providers
5. Organizing training courses
6. Enabling environment (national and international)
7. Business planning

The stakeholder meeting will review the experts' recommendations and recommend the aspects of access to finance and company promotion to be included in the national priority listing.

The detailed portfolio of services of PBD II is available in the context of Estrategia del Proyecto Perúbiodiverso para Empresas y Asociaciones de Productores Organizados (APOs) as implementation pathway at company/APO level.

Intervention pipeline.

First Intervention: Implementation of market access

Market access has been identified as one of the main constraints for the companies. Since the major applications of tara ingredients are for the food and health markets, the food ingredients European trade fair (in Paris 2011) and the health ingredients European exhibition (in Frankfurt 2012) are recommended for market entry in Europe. As a first step, tara processing companies will participate as visitors at Vitafoods 2011 in Geneva. There should be a mixture of specialised raw material companies dealing with organic and/or fair-trade qualities, and value added companies. Also, both long standing and new companies should attend the trade show while the products should vary, so that not only raw materials and ingredients (vegetable oil) will be presented.

Table 5. Impact logic and indicators for access to markets.

Impact Logic		Indicators of Impact Logic
Activity	Trade fair	Companies, products and parameters
Output	Documentation, MES	Documentation (e.g. brochures, business contact sheets) Marketing strategy
Use of output	Contacts Offers	Market research, intelligence Contacts, marketing activities
Outcome	Contracts, orders	Pre-fair: company/product documentation, tools for fair Fair presentation format, booth, HR, documentation, EOI Post-fair: contacts, EOI, trial orders, contracts
Impact	Sales	Increased turnover
Aggregated impact	Increased employment	Increased employment

The Results Chain for this intervention with indicators at each level is as follows:

SIPPO's market access intervention requires the support of the second intervention for sustainable resource management to be executed by components 2 and 3 of PBD II.

Table 6. Indicators and measurements used.

Indicators	Measurement used
Preparation of companies	Completeness of documentation; preparation of samples; stand arrangements; marketing strategy
Documentation	TDS, MSDS, price calculation, business contact sheets
Marketing strategy	Brochures, posters, website, language, company appearance
Market research	Number of new ideas gained and quality/ technology/ marketing improved
Contacts	Number of contacts established
Marketing activities	Number of brochures distributed, number of mailing campaigns
Expression of interest,	Number of offers sent out
Orders and contracts	Number of contracts signed and orders made
Increased sales and turnover	% business growth
Increase of employment	Number of new workers hired after intervention

Second Intervention: Resource management

The sustainable production of raw material has been identified as one of the main constraints for the companies and APOs. For several years production of raw material has been a principal constraint for access to national, regional and international markets.

Table 7. Impact logic and indicators for resource management.

Impact Logic	Indicators of Impact Logic	
Activity	Implementation of best practices	Companies, products and parameters
Output	Documentation	Documentation of resource management (companies and products, e.g. management manuals, check lists, strategy)
Use of output	Contacts Offers	Market research, intelligence Contacts, marketing activities
Outcome	Contracts, orders	Pre-fair: company/product documentation, tools for fair Fair presentation format, booth, HR, documentation, EOI Post-fair: contacts, EOI, trial orders, contracts
Impact	Sales	Increased turnover Increased rural income
Aggregated impact	Increased employment	Increased employment

The Results Chain for this intervention with indicators at each level is as follows:

Table 8. Indicators and used measurements within the result chain.

Indicators	Measurement used
Preparation for trade fair	Completeness of documentation; preparation of samples; booth arrangements; marketing strategy
Documentation	TDS, MSDS, price calculation, Business contact sheets
Marketing strategy	Brochures, posters, website, language, company visualisation
Market research	Number of new ideas gained and quality/technology/marketing improved
Contacts	Number of contacts established
Marketing activities	Number of brochures distributed, number of mailing campaigns
Expression of interest	Number of offers sent out
Orders and contracts	Number of contracts signed and orders made
Increased sales and turnover	% business growth
Increased employment	Number of new workers hired after intervention

In the course of the first two interventions, the intervention pipeline for additional interventions in the context of PBD II may generate a number of raw ideas that, if proved valid, may be further developed into new interventions. For additional interventions, new sources of funding can be made available by national interest groups, service providers or national government and donors.

Two categories of interventions were studied (1) market access, and (2) resource management. For tara a specific development potential is identified in production and processing to increase the opportunities for rural income generation.

A target group for each intervention is specified consisting of lead firms and the respective sourcing framework and companies with interest for diversification of their existing portfolio as part of the outreach.

For different products categories of tara the following lead firms were identified:

- a. value addition through (organic/fair-trade) certification
 - Molinos Asociados
 - Exandal
- b. extraction of active principles
 - Somerex, liquid extracts
 - Liofilizadora del Pacifico, Lima, freeze dried extract

The lead firms are considered the main pillars of the PBD II in Peru leading the way for other sector companies in the business association and in the communication with the national service providers and moreover the enabling environment.

What is emerging in the country portfolio of products from tara is the processing of liquid extracts as innovative starting product and ingredient. The international demand for this product is already leading the way for new product ideas according to consumer preferences.

6. References.

- Agroforestry Database 4.0 (2009):
Caesalpinia spinosa. worldagroforestry.org
- Biotrade Peru (2005):
Sector Assessment. Natural ingredients for cosmetics and pharmaceuticals in Peru.
- Biotrade Facilitation Programme (BTFFP):
Sector Assessment. Natural Ingredients for cosmetics and pharmaceuticals in Peru.
- Coppen, J.J.W. (1995):
Gums, resins and latexes of plant origin. Non-wood forest products. Volume 6 for FAO.
- Correa, Jaime E. and Bernal, Henry Y. (1992):
Especies Vegetales Promisorias de los Países del Convenio Andrés Bello. SECAB - Secretaría Ejecutiva del Convenio Andrés Bello. Tomo III.
- Brack Egg, Antonio (1999):
Diccionario Enciclopédico de las Plantas Útiles del Perú. CBC.
- García, Javier (2002):
Amazonia competitiva. El reto de la bioindustria.
- Leakey, R. and Temu, A. (1996):
Domestication and commercialization of non-timber forest products in agroforestry systems. Non-wood forest products. Volume 9, FAO.
- Rios, Montserrat et al. (2007):
Useful Plants of Ecuador. Applications, Challenges and Perspectives.
- Rios, Montserrat / Pedersen, Henrik (1997):
Uso y Manejo de Recursos Vegetales.
- Porter, M. (1980):
Competitive Strategy. Free Press. New York.
- SALUPLANTA (ed., 2009):
Handbuch des Arznei- und Gewürzpflanzenbaus. Grundlagen. Volumes 1 and 2.
- SIPPO Market Survey (2008/9):
tara. Caesalpinia spinosa. Market survey. Compiled by ProFound, Advisers in Development.
- SNV (2009):
Estudio de mercado de tara en El Perú. Informe Final. Compiled by Malaga-Webb & Asociados.
- Soukup, Jaroslav (1970):
Vocabulario de los nombres vulgares de la flora peruana y catálogo de los géneros.
- UNIDO (2008):
Andean products. The future of products of the Andean High Plateau and Central Valleys. Final Report.
- UNIDO (2006):
El futuro de los productos andinos en la región alta y los valles centrales de los Andes. Plantas Medicinales. Informe. Road Mapping Peru.
- Villanueva Mendoza, Carlos Manuel (2007):
La tara: el oro verde de los incas para el mundo. Lima: Universidad Nacional Agraria La Molina.

7. Annex.

Tara and its use

Tara gum is an important natural organic product used as a nutritional supplement and an ingredient in the pharmaceutical and cosmetics industries. In the food industry tara is referred to as Peruvian carob, since its properties are similar to those of carob beans and guar gum used in Europe. Even at 1% concentration, tara gum produces highly viscous solutions and has also a synergistic effect in combination with other gums.

The economic use and the entailed cost efficiency of tara gum compared to other stabilizers have raised demand. Even though the price per kg exceeds other stabilizers, the actual cost within the final product is lower. However, tara is not completely soluble in cold water and is not suitable for formulations with a pH value below 4.

In general, gums perform a wide range of functions from thickening, stabilizing, emulsifying, to clouding and flavour encapsulation. Tara is used for frozen desserts, in the meat packing industry, for fruit preparations, as well as replacement of fats in low-calorie foods. Moreover, tara is known for traditional medicine in case of coughing and cold, as gargle for anginas and products for diabetics.

Tara production

Neither tara powder nor tara gum are registered under a separate code in the Harmonized Commodity Description System (HS) used for customs tariffs and international trade statistics. The powder can be registered as «Tanning extracts of vegetable origin» (other than quebracho, wattle, sumach, vallonina, oak, chestnut) with HS code 3201909030. Tara gum belongs to the product group «Mucilage and thickeners whether modified, from vegetable products, not elsewhere specified», HS code 130239. However, the tariff code in Peru for tara powder is 1404902000 and for tara gum 1302391000.

Moreover, tara gum is an approved food additive within the Codex Alimentarius Commission (Codex) system with INS (International Numbering System) number 417 approved by the European Union, equally recognized in Japan and the USA.

Peru accounts for approximately 80% of the global tara production, but it also grows in countries like Chile, Ecuador, Venezuela, China, India, Kenya and Morocco. From the Peruvian production of tara 60% is exported as powder, 9% as gum and 6% in seed form. According to PromPeru figures and SNV studies (2009) tara production in Peru doubled in the years 1993-2003 to 13,000 tons of tara pods, and to approximately 15,000 tons in 2007 (SNV 2009, page 55). The main producing regions are Cajamarca (36%), La Libertad (22%), Lambayeque (21%), Ayacucho (7%), and Huánuco (5%). Because the better part of tara production comes from wild collection, producers have to face quality differences between cultivated and wild-collected tara.

Market situation and trading

Tara gum is produced from the seed, whereas the powder for the tanning industry comes from the pods. Markets for both are similar, but independent from each other. The tanning industry in Europe mainly supplies the footwear, clothing and furniture industries. On the other hand, tara powder is used in the food industry, the main market for tara. Although the organic food market in the EU is growing constantly at about 10% per annum, demand for organic tara gum is small and future development hard to predict.

Table 9. Exports of various tara products from Peru, 2006-2011.

	2006	2007	2008	2009	2010	2011
Powder	16.964.250	23.384.882	30.903.248	18.522.693	32.020.210	1.854.494
Gum	1.475.809	2.552.903	6.375.805	4.333.637	6.598.425	225.000
Tanning agent	1.213.377	3.317.015	2.179.111	1.067.728	3.163.712	218.040
Seed	579.875	299.002	598.203	642.560	613.884	65.000
Extract	52.390	151.740	0	117.674	357.900	0
Natural	13.650	616.583	1.150.281	685.575	149.800	0
Filtered	0	0	0	0	47	0
Leaves	0	104.000	0	0	0	0
Sweets	0	0	50	0	0	0
Others	657.440	1.330.708	433.285	3.636	230.977	0
Total	20.956.791	31.756.831	41.639.983	25.373.503	43.134.954	2.362.534

Source: PromPeru

As shown in Table 9 tara is sold in various forms. This fact and the multiple possible uses of tara account for the steady increase of exports. Over the last years, however, tara producers-collectors have been unable to meet market demand. The resulting increase in prices prompted tara processors also to start growing the crop.

Tara gum is a hydrocolloid. A hydrocolloid is a substance which forms a gel when mixed with water. The EU accounts for around one third of the global hydrocolloid market, according to SIPPOs market survey on tara. Furthermore, food applications account for approximately 90% of the global hydrocolloids market. The cosmetics sector is a much smaller market for gums, accounting for less than 5% of the total market. Between 2003 and 2008, the global hydrocolloid market grew by approximately 1.5 to 2.5% annually.

Since tara appears in the European trade statistics in the same product group as «raw vegetable materials used in dyeing or tanning» and «mucilages and thickeners whether or not modified, from vegetable product, not elsewhere specified», these statistics do not show how much tara is imported by the EU. In reverse, the exports numbers from Peru to the EU shows an obvious strong increase from 2006 to 2010.

Peru is by far the leading supplier of «raw vegetable materials primarily for dyeing or tanning» to the EU. As the table above shows, Italy is the principal market for tara in Europe due to its large leather industry. Belgium, the Netherlands and France are bulk purchasers of tara, which almost doubled their import volumes from 2006 to 2010.

Due to the various presentations and multiple uses of tara, demand for tara is increasing steadily. However, exporters are unable to meet growing demand, resulting in higher prices.

Table 10. Exports of tara from Peru to the EU, 2006 and 2010.

Peruvian exports to:	2006		2010	
	FOB value US\$	Net weight Kg	FOB value US\$	Net weight Kg
United Kingdom	86.000	20.000	68.580	54.000
Finnland	81.000	18.000		
Sweden	28.800	6.000	76.200	12.000
Switzerland	655.659	842.000	437.487	83.950
Germany	1.324.861	694.952	773.355	329.000
Austria	124.308	144.000	478.180	326.600
Belgium	422.334	358.202	1.065.490	671.000
Spain	987.540	352.750	947.840	280.000
France	519.654	316.075	2.027.366	647.525
Italy	2.905.970	2.556.065	3.070.366	2.323.214
The Netherlands	678.615	347.500	2.147.325	654.490
Portugal	17.150	18.000	49.530	37.000
Czech Republic	4.500	1.000	51	4

Source: PromPeru

Market requirements

The EU has several legislative requirements for imported food products, of which the following requirements are important for tara:

- General Food Law 178/2002/EC: basic principles
- EU Official Controls Regulation 882/2004: for imported products
- EU Regulation 852/2004: food hygiene
- EU Regulation (EEC) 834/2007 (has come into force in 2009): organic food
- EU Regulation 89/107: food additives

Furthermore, quality standards set by the European Commission are minimum requirements. Products that do not meet these requirements cannot be imported into the EU, regardless of the importers' needs.

Table 11. Product specification of the EU for tara

Criterion	Specification limit
Loss on drying	Not more than 15%
Ash	Not more than 1.5%
Acid insoluble matter	Not more than 2%
Protein	Not more than 3.5%
Starch	Not detectable
Arsenic	Not more than 3 mg/kg
Lead	Not more than 5 mg/kg
Mercury	Not more than 1 mg/kg
Cadmium	Not more than 1 mg/kg
Heavy metals (as Pb)	Not more than 20 mg/kg

For medicinal products the marketing requirements are very strict and are described in Directive 2001/83.

Quality requirements for the tanning industry are less strict than in the food and pharmaceutical industry. However, tannin content is of importance, as are iron content, purity, colour and a fine mesh size. Tannin content must be at least 50%.

To minimize threats and to overcome obstacles, exporters have to comply with the following decisive requirements for exports to the EU:

General:

- Traceability documentation (certificate of origin)
- ISO certification
- GMP/GACP certification

Food industry:

- Certificate of analysis
- HACCP certification
- Technical data sheet

To increase tara's competitive edge, the following is advisable:

- Highlight its unique characteristics
- Provide extra product documentation and information (GMO-free certificate, health certificate)
- Assure stable supplies and short delivery times
- Guarantee consistent quality
- Focus on language and communication
- Provide organic certification

More detailed information can be found in SIPPO's 2009 tara market survey.

Influences

The following factors and trends are increasing demand for traditional plants, such as tara:

- increased interest in traditional medicine
- focus on the quality of natural products
- consumer focus on the quality and nutrition characteristics of food
- opening of conventional marketing channels to alternative products
- increasing attention to fair marketing practices

- consumer interest in the products' ethnic origin
- product exoticism, and
- interest in ensuring sustainable production.

However, the European market is strictly regulated with strict monitoring procedures, such as the «novel food» regulation that regards a food product as «new» if not consumed in Europe before 1997. «Novel food» has to undergo an extensive authorisation process for registration in the European market.

Opportunities and trends

Manufacturers in the food sector need to constantly adjust their offers to consumer preferences. Currently, the demand for low-fat and low-calorie foods is influencing the market for tara. As a hydrocolloid substance, which forms a gel with water, tara can be used in fat-replacement food systems. In 2008-2012, growth in the hydrocolloids market is expected to reach 2.5-3% annually. However, the growth rates for hydrocolloids differ significantly between products.

A natural trend obviously is recognizable in the food sector, as well as in the cosmetics sector.

The EU natural cosmetics markets have grown around 20% annually in the last couple of years with a share of 2% of the total cosmetics market. The fastest growing markets are Germany and France. Yet, the market is very small and cosmetics producers only need small quantities.

Generally, all natural gums markets are consolidated, according to the SIPPO market survey on tara. The market for natural gums does not indicate growth. Nonetheless, although still small, the market for organic tara gum is increasing. Importers indicate that the availability of organic tara gum is limited and that organic tara gum offers answer to the specific requirements of specialized organic food producers. Still, the production of natural gums is subject to climatic conditions and a consistent supply of natural gums cannot be guaranteed. Manufacturers cannot rely on a steady supply of ingredients for their products. Therefore it is important to inform and assure communication between producers, traders and manufacturers about the opportunities and limits of natural gums.

Perspectives

Tara gum was only introduced on a commercial scale in the 1980s, while other gums have been on the market for centuries. In that sense, the market for tara gum still has room for growth. Industry sources indicate that the market for tara gum is developing fast. However, it should be noted that tara gum cannot replace all other hydrocolloids.

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