

## **PRODUCING ADDED VALUE FROM UNDERUTILISED TROPICAL FRUIT CROPS WITH HIGH COMMERCIAL POTENTIAL (PAVUC)**

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### **Introduction**

The current strategy that aimed the sustainable development in rural tropical countries may include the use of tropical fruit due the potential of the market but also the nutritional potential of such fruits. There are many tropical fruits that until now are underutilized. Some of them are used to use for small farmers families, poor families and for rural families in general also.

From this approach was developed the research project to analyzed the importance of several tropical fruits with high potential to improve the socio-economics status of the rural families and contribute to the sustainability of this tropical areas, but in the other hand to contribute to enhance the offer of high quality foods and supply internal (domestic) and external markets.

The mail goal of the project is “to contribute to the sustainable development of the bio-diverse fruit sector in marginal rural areas of tropical America (high lands, dry and humid areas), by strengthening the informal production chain dedicated to the commercialisation of under-utilized fruits with high nutritional and functional potential, by offering innovative and more efficient appropriate technologies that will allow optimal assessment of their potential and diversity in the development of new non perishable products of high quality that will meet niche market demands in the global system of international trade”.

Nine tropical fruits from four countries were selected to be analyzed in the project. The diagnostic of the socio-economics aspects and others key issues like technical aspects has been done in coordination with the growers associations and industries co-participants of this project in focal production areas. The main findings of this parts will be presented and discuss in this paper.

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## Methodology

The agri-chain approach was used to identify all the actors in the different agri-food systems in each country. This diagnostic of the socio-economic and technical aspects has been done in coordination with the growers associations and industries co-participants of this project in selected production areas. In a first initial survey were identified the actors that are involved in each agri-food chain: 1) Services supplies: Research and development (R&D), technology transfer (TT), financial support; 2) Growers and their organizations; 3) Collectors; 4) Intermediaries: transporters and primary and/or secondary middleman; 5) Industry; 6) Market: local market, supermarket and retailers 7) Consumers; and 8) Exporters.

Secondary information, such as regional and national statistics, was also analyzed. Producers and traders were surveyed, as required, to obtain primary information. The result is a model of the consumption, marketing, and distribution of fruits and their products at a regional scale.

## Results and discussion

### Selected agri-chain

**Table 1.** Fruits focal producing areas

<b>Fruits</b>	<b>Countries</b>	<b>Focal Producing Areas</b>
Açaí	Brazil	Amazonian river estuary
Berrycactus	Mexico	Guanajuato, Querétaro, San Luís Potosí and Hidalgo States
Black berries	Costa Rica	Cartago region
	Mexico	Michoacan State
	Ecuador	Tungurahua region
Camu-camu	Brazil	Northwest of the Pará state and Manaus region
Cashew apple	Brazil	East coast of Ceará State
Naranjilla	Ecuador	Pastaza and Pichincha regions
Peach palm fruit	Costa Rica;	Tucurrique region
Pitahaya	Nicaragua;	Carrazo region
Tree Tomato	Ecuador	Imbabura region

**Table 2.** Focal(s) agri-food chains by country and fruits (Foraleza, 2006).

<b>Fruits</b>	<b>Countries</b>	<b>Focal(s) Agri-Food Chains</b>
Açaí	Brazil	Frozen pulp
Berrycactus	Mexico	Fresh fruit, popsicle and jam
Black berries	Costa Rica	Frozen pulp
	Mexico	
	Ecuador	
Camu-camu	Brazil	Frozen pulp and powder products
Cashew apple	Brazil	Integral juice
Naranjilla	Ecuador	Frozen pulp and nectar
Peach palm fruit	Costa Rica	Floor
Pitahaya	Nicaragua;	Frozen pulp
Tree Tomato	Ecuador	Frozen pulp and nectar

Table 3 – Summary of actors involved in each agri-food chains

Fruits	Country	Services	Growers	Collector	Intermediaries	Industry	Market
Açaí	Brazil	R&D, TT and financial support	Small growers associated	No	Transporters and middlemen to small industries	Small and middle cooperatives, small industries, middle and big industries (without middlemen)	Retailers
Berrycactus	Mexico	R&D	Small growers (three)	Women	Primary middleman	Popsicle	Local market
Blackberries	Costa Rica	R&D and TT	Associations (three)	No	Association	Middles and big	Local markets and supermarkets
	Ecuador	R&D and TT	Small growers and associations	No	Primary and secondary middleman	Smalls and big	Supermarkets
	Mexico	R&D and TT	Smalls and big (traditional and modern)	No	Primary middleman (from the traditional growers)	Middle and big	Local markets and retailers
Camu-camu	Brazil	R&D and TT	Traditional and modern	No	No	Small and cooperative	Supermarkets
Cashew apple	Brazil	R&D, TT and financial support	Traditional and modern	No	Primary and secondary middleman	Primary (extractors) and big	Local market and supermarkets
Naranjilla	Ecuador	R&D and TT	Smalls and middles	No	Primary and secondary middleman	Smalls and big	Local market and supermarkets
Peach palm fruit	Costa Rica	R&D	Association	No	No	Association (the same)	No
Pitahaya	Nicaragua	R&D and TT	Associations (two)	No	No	Association	Local market and supermarkets
Tree Tomato	Ecuador	R&D and TT	Smalls and associations	No	Primary and secondary middleman	Smalls and big	Local market and supermarkets

Source: PAVUC, 2008.

### **Competitiveness factors**

To analyze the factors that determine the competitiveness of the different agri-chains was used the SWOT methodology.

### **Final remarks**

To improve the different agri-chains and the performance of the actors in each selected case some key aspects are important to be mentioned and to take in account:

- Few alternatives for the processing (rural agroindustry). The agri-food system in rural areas contributes to the rural development. In this sense is necessary to give support to the rural agro-industries in order to reach the sustainable development of the territories.
- Under utilized Technology at farm level.
- Production value is important in terms of the national economy: potential to improve the agrichain.
- Farmes training programs.
- Cultural aspects of the actors in the agrichain
- Many small producers, few canals of commercialization, few final products: diversification potential.