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CONSOLIDATION OF CAPACITY OF
INSTITUTE OF FOOD TECHNOLOGY
THROUGH CREATION OF A NATIONAL FOOD PACKAGING CENTRE

DP/BRA/82/030

BRAZIL

Technical report: Consultancy on food processing *

Prepared for the Government of Brazil
by the United Nations Industrial Development Organization,
acting as executing agency for the
United Nations Development Programme

Based on the work of Enrico Moriani,
Expert in Food Processing

United Nations Industrial Development Organization
Vienna

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The mission was carried out from May 21 to June 6 1984 in the State of Sao Paulo for the UNIDO project DP/BRA/82/030/11-03/B/31.7.E in connection with the Institute of Food Technology (ITAL) of Campinas (Sao Paulo).

The scope of the mission was to visit "Vale da Ribeira", one of the poorest regions of the State of Sao Paulo. The investigation has been performed with the co-operation and assistance of Mr. Ciro Teixeira of EMBRAPA.

The Government of the State of Sao Paulo is deeply concerned about the development of "Vale da Ribeira" in order to promote the living conditions to a level approaching that of the rest of the State.

The mission has made a survey along all the region and several meetings (See att. 1) have been held with the responsible authorities of local institutions both public and private, for the appraisal of the main problems the region has to face and in the meantime to investigate the available natural resources that could facilitate the development of Vale da Ribeira.

The fields under cultivation, notwithstanding the fertility of the soil and good climatic conditions, which favour a wide variety of agricultural products, are limited to tea and above all to banana. It is to be noted that only 3% of over 16.5% of cultivable land of the Vale da Ribeira, is cultivated.

Another aspect to be pointed-out is the lack of land "property title" which represents a big conflict between the State and small farmers.

A few private companies and a small group of farmers cultivate tea in about 4000 ha. The annual production of 12,000 tn represents 0.7% of the total world production. The tea cultivation and processing is very well organized and managed and 80% of the production is exported. The obstacle to a further diffusion of this cultivation is represented by the investment cost and by the long return time (5 years).

The very large production of bananas in the valley and their poor appearance create a high fluctuation in the retail price also influenced by the commercialization systems handled by a few groups of exporters and by the production structure, composed of small producers, holders of a few hectares of land and a few medium-size and large farms.

Consequently, there is an intensive overworking of the land by the small farmers, no use is made of technical information available in public specialized agencies to improve the quality and to do research work on alternative crops.

Furthermore the small farmers, even if they decide to improve the quality of bananas or change the crops, are penalized by the lack of land "property title" to have access to the bank financing.

Furthermore the small farmers, in order to save fertilizers, are using the "engasso" of banana coming from the northern regions of Brazil with the danger of infesting their banana plantation with "PSEUDOMONAS SOLANACIARUM", a fungus contained in the "engasso".

The mission also visited stud-farms. The total amount of livestock in the Vale da Ribeira is 4 -5000 buffalos and 35,000 - 40,000 cows with an average consistence of 15 - 20 heads per farm.

Milk production for wild running cattle is 2 - 2.5 lt/d and more than double for the few farms using the pound.

A fish industry is present on the coast with a production of 3.000tn/y of fish of which 1,500 tn is shrimps. A sector that presents a wide range of potential possibilities of investment but is exploited only occasionally at an artisanal level, regards the growing of spices; vegetable essential oils, vegetable dye stuffs, Climatic conditions and character of soil are favourable to spontaneous growth of these alternative cultivations.

The quite low investment cost and an average return time of investment

less than one year represents an interesting alternative for the local farmers, at least for the smaller ones.

The Pariquera state agronomic experimental station can give all the preliminary information on the existing experiences, previous technological support and supply the farmers with seeds or roots.

At present there is a big demand on the international market for vegetable dye-stuffs or essence such as "urucu", "curcuma", "gengibe", "guarana", etc. and some are used in the food industry instead of chemical additives.

Vegetable essential oils can also be exported. The oil extracted from "sasafras" presents characteristics that make it valuable in the high precision industry.

The same opportunities apply to spices that grow in the higher areas of the region where the traditional agricultural products have a lower yield.

The actual production of the above mentioned cultivations is very low and the product is exported unprocessed and consequently at a low price. The lack of industrialization, even of small size, hampers and jeopardizes a wider development of growing these crops.

A wide territorial planning (Master plan) of a proper industrialization will not only be an incentive to develop alternative crops but will also allow a better valorization of bananas.

Only first quality bananas will be exported and the remaining production can be processed to produce banana juice, banana flour, dried banana for "merenda escolar" (school lunches) etc.

Banana peel and waste from banana and shrimp production can be used as raw material to produce loose fodder or pellettized, to increase the livestock and the milk yield.

To set a process in motion which could create the conditions for medium term solutions, a scheme has to be tested out that foresees a catalyst intervention of the Government to train the peasants to abandon monoculture in favour of a diversification in the use of the land to turn Vale da Ribeira into an agro industrial area.

A first approach to the scheme could be articulated into two phases:

a)

- qualitative and quantitative identification of agricultural and zoo technical resources actually available in the Vale da Ribeira;
- cultures that can be developed locally through feed-back provided by state experimental agricultural agencies;
- international marketing survey for the envisaged products;
- analysis of the most proper technologies to be used in the envisaged production units;
- elaboration of an integrated flow diagram of the network of the medium size plants on a regional basis of the agro-zootechnical complex together with medium term achievement planning.

b)

- identification of potential contractors both private investors and farmers co-operatives interested in the programme of industrialization of Vale da Ribeira;
- construction of key-plants foreseen in the agro-zootechnical complex by the state and to transfer in leasing the plants to the identified contractors;
- elaborate a scheme of partial repayment of leasing by production of "merenda escolar" (school lunches).

The final outputs of this scheme will be:

- a diversification of cultures in the area with a consequent implementation of cultivated land and labour employment;
- to produce an industrial bend in the area which would be an incentive for production at a higher value;
- the integrated study of the complex will allow the use of by-products as raw-material for further products with a consequent higher return value on investment cost.

Public and private associations visited during the mission in the Vale da Ribeira.

- Cooperative Cotia at Registro.
- Regional Agricultural Division of "Litorale Paulista"
(Mr. Masajuki Maeji).
- Agronomic Experimental Station at Pariquera
(Mr. Louis Carlos Saes).
- Hacienda Padri Spiritualisti
- "Banana Producers" Co-operative at Registro
(Mr. Walain Ferreira Moraes).
- Cha' Ribeira Co-operative
- Prefetto (Major) of Settebarra
(Mr. Jonas Braz de Oliveira).
- CEAGESP.
- Agricultural Division of the Ministry
(Mr. Raul Moreiras).