

# Plants and human activities

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## Plants and Human Activities

Plants are the major source of many materials used in human life; however, it is hardly ever noticed by common people. The botanic garden educational proposal, presented in this paper, intends to highlight plant cultivation and the process of making food, clothing, wood artifacts, combustibles and other products from plants. The botanic garden's aim is to make people aware of the key role of plants in human activities and the importance of plant conservation.

The botanic collections consist of a rich source of knowledge which staff can work with visitors in an educative way. The public ranges from ordinary people to growers who would be able to carry out educative experiences to their day-to-day life. The botanic garden activities can promote the historical and technical recovery of agricultural approaches to nature, innovative ways of farming, genetic plant conservation and connect people through contact with plants and their uses.

The Agronomical Institute (IAC) is a public research center subordinate to State Agricultural Office, founded in 1887 with the aim of helping the development of the agricultural production of the State of São Paulo. Nowadays, the IAC policy is based on the scientific transference of knowledge to Brazilian agro-business in order to improve plant productivity, social and economic development and sustainable environmental planning

Santa Elisa farm, IAC's main site, is located in the northeast area of the city within the urban area of Campinas. It covers 700 hectares, consisting of wild Cerrado flora, rainforest, botanic collections and economically important crops such as coffee, rubber and wheat. The biggest part of the farm area is used for agricultural experiments.

The IACs botanic garden nucleus has an important role in plant conservation (*in situ* and *ex situ*) but educative activities are still under development. Sustainability is a major concern in botanic garden and the connection to an ONG with social interest will provide new financial and technical support to improve educational activities with public and private companies

## The educational proposal

The botanic garden educational proposal intends to connect people with all natural components at the Santa Elisa farm. Guided tours, activities and agricultural experiments will be key aspects of the botanic garden as well as illustrations of food and plant derived products, ecology case studies and the analyses of environmental impacts generated by human activities (especially plant, soil and water degradation).

By the contact with agronomical and natural processes people will learn about the key role of plants in human life and the importance of their conservation. The botanic garden educational proposal will highlight the agriculture condition as a landscape shaper and will be able to demonstrate the new technologies in crop production and in ecological design. The botanic garden should work with the research centers of the Institute, not hindering the development of scientific research and include it in the educational activities.

The educational proposal must define guidelines to hold both global and individual educative projects. Since the Santa Elisa farm has many different natural components, the individual educative projects must be the way to achieve the educational goals. The proposal is to offer different small projects that may have public or private financial support in order to guarantee their sustainability.

The educational proposal has two different kinds of educative projects:

- The global educative projects: mostly building construction or adaptation of current facilities for use in education, such as the visitor's center, the agriculture's memorial, the experimental kitchen and the environmental education center.
- The individual educative projects, the "Cultural Stations", that may be self sustainable and related in terms of architecture and historical/cultural aspects with some natural component of the farm. These might include the Coffee Station, the Cotton Station, the Sugarcane Station, the Bamboo Station, the Rainforest Station, the Cerrado Station among others.

The idea is to encourage visitors to gather many different experiences related to botany, agriculture and the environment. The audience will range from school children to rural growers and they will take part in the educational activities, such as debating several social environmental issues. The aim is that this created knowledge can be transferred to their real lives in urban or rural zones.

This educational structure allows public and private companies to finance the educative projects that range from small to big budgets. Since the target audience ranges from small children to rural growers there is a range of technical and financial investment possibilities.

The Santa Elisa botanic garden educational programme must communicate to any kind of visitors, however, the educative projects must be flexible to fit in many different situation. For example, when school children visit the botanic garden, teachers and educational staff must select the best methods to fulfill the formal education goals of different schools.

Some visitors may use the botanic garden as a contemplative place, finding their way through the garden with self guided paths or they can join some official garden tour in order to get specific information. The idea is to encourage people to visit the botanic garden in different times of the year to be in touch with several aspects of crop production and natural processes. The educative proposal turns the learning process a continuous and dynamic knowledge situation.

The agronomical characteristic allows rural growers and agricultural companies to take part into educative projects. Many different technologies and production techniques can be analyzed and worked with the participants to allow crop production to be environmentally responsible without any lack of productivity. The maintenance of agronomical productivity allied with plant, soil and water conservation at rural growers home, original landscapes can be a good way to evaluate the botanic garden educational programme.

Considering the range of target groups, different natural components and educative activities that can be held in Santa Elisa botanic garden it can be a model on education, conservation and agriculture. It includes responsible agronomic techniques, food and plant derivated products processing, recycling materials, recovery of natural areas and a way to improve life quality.

The partnership enlargement can make the Santa Elisa botanic garden a representation of State of Sao Paulo environmental policy, in parallel with the Agriculture, Environmental and Education State Secretariat witch would be an important subsidy to botanic garden without losing the private investments.

The Santa Elisa botanic garden is one of the few kinds of institution that incorporates the agriculture process into educational proposal in order to contribute to environmental conservation. This importance relies on the fact that agriculture is a major landscape shaper among human economic activities and it has to be considerate in order to use the agronomic techniques and technologies to provide better environmental conditions to all.

The botanic garden educational proposal, as presented at this paper, may have all the conditions to fulfill its conservation goals and make people aware of the key role plants have in human activities and the importance of their conservation. Since plants are major source of many materials used in human life in different nations it is possible to think that less aggressive environmental actions can save as well as keep the natural resources to future generations and make the world a better place.

## References:

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