

Historical cultivation methods of Sri Lanka, their scientific background suitability and for today's agriculture

Thilak Kandegama, Environmental Journalist, MD Seehala Ecological Farm

Agricultural productivity should necessarily be increased to meet the growing demand for food considering world's population growth. The need for increased productivity is often associated with increased acreage. Solutions to combat the conflict between the limited land availability and the increased food demand of the growing population are being researched in manifold scientific fields. The need to increase yields from existing crops is met by intensive farming using artificial methods.

In some parts of the earth like South Asia, however, modern solutions pose not only environmental but also a variety of other problems. The relatively high prices of imported artificial fertilizers lead to unprecedented economic problems for farmers. Instead of making subsidies available for farmers, as is the case in industrialized countries, the support of the government institutions for farmers is deficient. There are so far unknown types of diseases noticed most probably caused by over-fertilization. All in all, agriculture in Sri Lanka has fallen into a difficult situation.

An alternative approach, however, are the historical agricultural practices of Sri Lanka, the evidence of validity of which is increasingly heard today. History proves Sri Lanka to be one of the most fertile islands in South Asia. That the island was once the rice chamber of the East, is a fact. Agriculture was once a profitable and well recognized enterprise in Sri Lanka. The country still fulfills the natural conditions for it, but it in the meantime lacking knowledge of appropriate cultivation methods suitable under local conditions. Therefore, it is the responsibility of scholars to thoroughly study the ancient farming methods and publish the knowledge considering the true science behind it: the science of the natural cycles. Knowing the rhythm of nature meant harvesting high yields on a long term basis. A highly precise timetable was made which allowed the full utilization of nature. Timely cultivation, for example, meant to track the colors of the sunbeam in a timely manner to determine the time to sow: the purple color stimulates the rooting of the plant, the red color stimulates the flowering. They also timely fixed the growth of the plants by using the nitrogen of the lightning. Not only the sun, but also the moon and other planets served as signposts for timely sowing. The knowledge of the universe helped the farmers to use the planet's growth-stimulating rays in time. It was said: "in timely correct rhythms" Thus, the plants thrived naturally and were rich in nutrients.

The efficiency of the method is explained as follows: the angle of inclination of the earth is $23\frac{1}{2}^{\circ}$ and thus the sun's ray reaches the earth the same to the north and also to the south. The visible color spectrum between 390 and 760 nanometers influences the growth of the seeds to the flowering of the plants. The water vapor of the earth's atmosphere and the inclination of the earth forms the prism of the visible color spectrum. The 6 colors of the spectrum thus reach the earth at 6 different times. If one continent remains closest to the sun, the purple color reaches that part of the earth from the top of the prism. This time stimulates the rooting. In the order the blue color influences the further rooting, green the leaves, yellow the cells, orange the formation of the branches, red the flowering. Sri Lanka lies $6\frac{1}{2}^{\circ}$ north of the equator and thus the prism forms within 17° in the narrowest corner and 30° in the widest. Accordingly, the year was divided into two timetables for the efficient use of the sun and thus there was no shortage of food in the country.

Nutritional habits of that time prevented the emergence of monocultures by equating alternative diets with rice as a staple diet. Examples include jackfruit, breadfruit, sweet potatoes and rice as the main food. Even with a small population at that time, emphasis was placed on sustainability. Through natural storage methods, they preserved the abundance. For environmental feasibility and sustainability it is important to rely on the diversity of the vegetation in the own country or even in the region. According to current consumption patterns in Sri Lanka, a person consumes 116 kg of rice in one year. The annual rice harvest, however, covers only three quarters of the actual need. The rest is balanced with wheat flour products imported from other parts of the world. Grain, jackfruit, breadfruit, or other native foods could be integrated into the eating pattern as was historically the case.