

RAINFED FARMING IN THE DRY ZONE OF SRI LANKA

The emphasis on irrigated farming is now shifting in view of the high capital costs involved in such projects. It is estimated that about 2.5 million acres in the dry zone would not come under irrigation command in the foreseeable future. Hence, a system of rainfed farming would have to form an important aspect of our agricultural development strategy.

Rainfed areas in the dry zone have been traditionally characterised by a three-fold system of land use: irrigated paddy under a minor tank, settlements on 'gangoda' and chena on highland. It is the view of agricultural scientists that this pattern of land use was based on sound principles. The form of highland cultivation traditionally practised is what is known as 'shifting' or 'chena' cultivation. Chena operations during Maha season may begin by June. The 'slash and burn' operation is followed by sowing and planting with the first rains in September. Usually crops are sown mixed, the main crops being kurakkan, sorghum, maize, vegetables, chillies etc. In the Yala season, gingelly is the dominant crop. After 2-3 years, the chena farmer clears a new plot of land. The normal fallow period was 15-20 years. The reason for shifting are said to be problems of weed control and tillage rather than soil fertility as commonly believed.

Changes Occurring in Classical Chena System

The 'classical chena system' has been modified in recent years, mainly as a result of increasing population density and changing market conditions. The use of a long forest-fallow period for maintenance of fertility is not possible, when forest land becomes a scarce resource. Hence, in many areas of the dry zone, the fallow period has fallen to low levels (e.g. 5-8 years), with farmers clearing shrub jungle ('landu').

Changing market opportunities also have had an important impact on the chena economy. Import bans on several foodstuffs and consequent increases in their prices have resulted in an expansion of chena acreage and a change in the cropping pattern in traditional chenas. The best example is the case of chillie; while the prices of other products such as green gram, cowpea and sorghum also rose to unprecedented levels. These changes in relative profitability were duly reflected in chena cropping patterns. A vast expansion in the chillie acreage has taken place. With the 'Food Drive', old controls on clearing of forest and issue of chena permits etc., were relaxed and middle-class farmers cleared large areas for chena cultivation with the use of hired labour. The change also meant increased use of purchased inputs such as fertiliser and agro-chemicals.

Basic Problems Remain

However, the basic problems of chena farming still remain. The present system is wasteful of the land resource as only 10-20% of the land is cropped in any given year. The destruction of valuable forest cover is now a national problem. Continuous highland farming along scientific lines is not only feasible but also generates much higher incomes. Hence, the objective of agricultural scientists and planners is to convert the chena system to a more productive system of established rainfed farming.

Research on dryland farming in Sri Lanka was started in the early fifties with the establishment of the Maha Illuppallama Research Station. The research conducted related to suitable forms of mechanical technology, soil conservation measures, crop rotation practices, identification and breeding of suitable crop varieties and crop management practices. Weed control and tillage practices are of crucial importance under permanent culti-

vation. Crop varieties have been developed to match the rainfall regime as ascertained through study of long-term rainfall incidence data. This is extremely important as timeliness of cultivation is a crucial factor in rainfed agriculture. Development of suitable forms of farm power (animal or mechanical) for various dry farming operations still has to go a long way. Animal husbandry is also found to be an integral part of dryland farming.

Although the Government established several dry farming schemes in the fifties, their success and impact was rather limited—in relation to the investment. The best known of these is the Kurundankulama Scheme (in close proximity to Anuradhapura town) which attempted to develop dry farming on cooperative lines. The cooperative element was later abandoned and settlers were given individual allotments.

As pointed out by Dr. E. F. L. Abeyratne about two decades ago, any viable plan of development would have to be based on due recognition of the sound principles underlying the traditional system of land use. Hence, a farming system which integrates rainfed cultivation with some form of irrigated farming would be a more acceptable alternative.

The main problem is the extension and communication of research findings (which are still experimental in some cases) to the chena farmer as a general development strategy. Supporting services (input supplies, extension advice and marketing facilities) for highland farming is available only on a limited scale as rural institutions have traditionally been concerned with paddy. Even the newly constituted Cultivation Committees and Agricultural Productivity Committees have been slow in adapting themselves to the needs of highland farming. The land tenure pattern also has to be stabilised if these changes are not to play into the hands of big-time operators. It is also not easy to convince farmers of possibilities of dryland farming when 3-4 years of continuous drought have affected their cultivation.