Chapter 7
Agricultural Policy

Although the area of land available for agriculture is scarce, uncultivated hillside land can be used extensively for fruit-gardening and afforestation. The East Pakistan Government started the Chittagong Hill Tracts' Horticultural Development Project in the late 1960s to encourage fruit farming. Thousands of hill people (especially the Chakma) took up horticulture[4]. From the growers point-of-view, gardens were successful initially but could not make much headway because of a lack of communication, storage, finance, and marketing facilities. Horticulture in ifself was not a failure; however, for the project to be successful, massive state investment was required to overcome market failure. This shows that land scarcity in CHTs is not the real problem. The real problem is to devise and synchronise appropriate policy interventions.

7.1 Food-population Balance

Food-population balance is critically important in determining the quality of the environment. When population outgrows the capacity of existing land under cultivation, there is an incentive to augment food production either through more intensive methods of cultivation or through extension of the land frontier. Both strategies have serious implications for environmental quality. Intensive methods of cultivation would require application of greater doses of fertilizer (in most cases chemical fertilizer), adoption of irrigation in the dry season and deeper ploughing, all of which damage the environment. If land frontiers are extended, then more land of inferior quality is brought under cultivation. In this case too, the casualty is the environment. One way out of this impasse is to import food from abroad. However, at present this is too costly for the society.

At the moment the CHTs provide shelter and livelihood to 0.94 per cent of the population of Bangladesh. Table 11 of Annex 1 shows the contribution of the CHTs towards the output of rice, pulses,

[4] Horticulture is used in this context to mean fruit farming and other types of market gardening.

and fruit. In terms of Aus rice production, CHTs have a definite advantage, whereas, in terms of other varieties, the CHTs lag far behind. Similarly, with respect to the Arhar variety of pulses the CHTs have an advantage. However, so far as fruit production is concerned the CHTs have a clear advantage. If per acre output is considered, the CHTs fare better than the national output per acre with respect to many fruit crops. CHTs have a definite potential for being the country's fruit land. It is difficult to tell from per acre output figures whether more inferior quality land is put to cultivation of other crops. Given the shallowness of the soil in CHTs, caution is required. Therefore, it is not possible at present to judge degradation of the environment from the point of view of the food-population balance. Improvement of the marketing network, storage facilities, fruit preservation, and canning facilities would add more value to fruit crops. With increased revenue from fruit products, shortage of cereal and pulses could be compensated. That population pressure itself is responsible for much of the environmental woes of CHTs cannot be definitively concluded from the food-population balance.

7.2 *Jhum* and Plough Cultivation

The tribal people of CHTs have been practising *jhum* cultivation for centuries. Although it is on the decline, the majority of tribals still practise *jhumming*.

In 1875, the government fixed 28 per cent of the CHTs as reserved forest; the rest was USF open for *jhumming*. Between 1860 and the beginning of the twentieth century, output from *jhumming* was constant. Every family at that time was allocated two acres of *jhum* land. According to specialists, in a society where the *jhum* cycle extends up to 25 years, one square mile of *jhum* land can provide for 25–50 persons. In 1901, the density in *jhum* areas was 35 persons per square mile. By the early 1960s, the *jhum* cycle had been shortened to between three to five years. In recent times, it has been further shortened to only two years. Output from *jhumming* per hectare has declined. The main reasons for this are loss of plough land to the Kaptai hydroelectric dam, population rise, and reversion to *jhumming* by plough cultivators.

During the last quarter of the nineteenth century, plough cultivation was introduced into the food system of the CHTs. Bengali cultivators came as sharecroppers to plough and grow paddy on the valley lands. The Chakma took up plough cultivation; later on the Marma, Tripura, and Tanchangya joined them. The technology of plough cultivation was almost completely transferred – including seasonal features. Thus, a system of dual agriculture was created in the CHTs—plough and *jhum*. The transformation to plough agriculture has brought about tremendous socioeconomic change. With plough agriculture came chemical fertilizers, pesticides, and modern seeds that are not environmentally friendly, and the energy intensiveness of the food system has increased.

Jhumming did not require elaborate market systems, because it was practised at the subsistence level. It entailed simple borrowing and bartering. With the introduction of plough agriculture, marketable surpluses began to emerge. The government response was to establish *haat*[5] and other bazaars to facilitate marketing. Unequal market exchanges precipitated differentiation in the natural economy of the hill people. This, along with a crowding in of population from the plains, has meant that survival of the hill people has become evermore dependent on

[5] *Haat* refs to a local hill market occurring at regular intervals.

ecological reserves. Under such a situation, if the labour market remains undeveloped, the deleterious effect on the environment could be further aggravated because people lacking purchasing power and poor in exchange entitlements are likely to fall back upon ecological reserves more intensively.

Rubber plantation began in CHTs on an experimental basis in 1959. Land previously used for *jhum* cultivation was acquired. By 1998, there were 25,000 acres (10,100 ha) under rubber plantation. Rubber plantation is under direct government supervision; land is leased to hill people and settlers. Rubber plantation has been reported a 'colossal failure' (Gain 1995). Corruption is said to be one of the main reasons. In fact, rubber production in CHTs has been much lower than expected.

Fruit cultivation was once encouraged in CHTs. In some places people were somewhat coerced into carrying out pineapple cultivation. However, it did not prove profitable because little attention was given to building processing plants.

The Bawm, Lushai, and Pankhua were perhaps the first peoples in CHTs to start market-oriented horticulture on a commercial scale in the 1950s. Then in the 1960s, bereft of their paddy lands, a large number of Chakma rehabilitees from the Kaptai dam project started taking up horticulture as their main occupation. By the late 1960s, as part of the Kaptai dam rehabilitation package, the government-owned East Pakistan Agricultural Development Corporation (EPADC)—now re-named the Bangladesh Agricultural Development Corporation (BADC)—started the Chittagong Hill Tracts' Development Project. As part of the project, up to five acres of land were allotted to each family in a number of locations. Soft-term loans were provided through the government-owned Agricultural Bank, along with technical advice and other extension services. Although allottees did not receive title deeds to their lands, the project was, on the whole, successful as far as the growth of fruit trees was concerned. Pineapple, citrus, cashew nut, and banana yields were at least moderately successful. In 1973, the newly established Horticultural Development Board took over the management of this project. However, the board was dissolved soon afterwards and the project was discontinued.

7.3 Impact

Fruit-growers faced serious problems as a result of the lack of preservation and storage facilities. Local farmers were forced to sell perishable fruit, such as pineapples, at below production costs to unscrupulous middlemen and cartels, who manipulated the situation outside CHTs. Since pineapple was—and still is—one of the most widely produced fruit crops, the marketing problem severely affected the horticulture-based economy of many rural communities. Although the BADC and the Department of Agricultural Extension (DAE) provided routine extension services, most farmers were not able to obtain credit, seeds, and other facilities to the extent required. The problems in this sector of the CHT economy certainly deserve serious attention from the authorities, but this is not forthcoming. Consequently, although fruit farming is still a major occupation in CHTs, many potentially suitable lands lie unutilised, and rural poverty has increased over the last two decades.

7.4 Sloping Agricultural Land Technology (SALT)

It has at times been suggested that terracing of hill slopes might be the best method to control or stop soil erosion in CHTs. Experience has shown, however, that terracing is too expensive a soil-erosion control measure to be affordable by most

farmers. This is primarily because the hills in CHTs, unlike those in the northern Punjab or Nepal, are too sandy and are devoid of rocks suitable to be used in terrace walls. A better alternative would seem to be the introduction of contoured hedgerows of suitable plants; these hedgerows would act both as a measure against soil erosion and as a marketable crop in line with Sloping Agricultural Land Technology or SALT. It has been argued that the SALT system, which emphasises a local resource-based, low external input-oriented, integrated technological option, is suitable for introduction in CHTs. SALT has been implemented successfully in the highlands of The Philippines. In CHTs, the Chittagong Hill Tracts' Development Board has started two experimental SALT-style farms: one at Alutilla in Matiranga *Thana*, Khagrachhari district, and the other at Linejhiri in Lama *Thana* in Banderban district. These should be monitored closely so that, if successful, they can be replicated on a large scale (Roy 1996).

The project at Khagrachari suffers from a number of technical problems that have hindered acceptance of the prototype for application on an operational scale. One problem is the selection of species for hedgerows; most species are exotic. Death of plants in the hedgerows creates large gaps and filling these gaps is troublesome. An indigenous broom-grass, *Thysanolaena maxima*, has reportedly performed better than several exotics (Khisa, pers. comm.). The grass has multiple-use value and is easy to grow in a short time. Other indigenous species should be tested. Another problem is that the attempt to minimise soil erosion by hedgerows has not been promising. One reason seems to be the selection and time of cultivation of annuals in the top alleys. This needs critical examination. Introduction of permanent crops in the farming system should reduce the risk of soil erosion in the fragile terrain of CHTs. Choices for testing may start with coffee, tea, cashew nuts, bamboo, and cane.