

DRY ZONE FOOD SECURITY PROJECT



Implemented by the Food and Agriculture Organization of the United Nations (FAO)

MYA/96/006

The Dry Zone of Myanmar is a huge swathe of infertile soils and low rainfall in the central part of the country. Almost all of the annual 20–40 inches (500–1000 mm) of rain falls in the monsoon period from May to October, though a dip in June and July means that farmers cannot take full advantage of the early rains. Moreover, rainfall is erratic, and droughts are common.

The landscape of the Dry Zone is undulating, and soils are mainly sandy with some clay and sandy loam in the valley bottoms. Soils are generally poor and shallow, and are easily eroded by the intense rains and strong winds. The main crops are sesame, pigeonpea, green gram, groundnut, cotton and sorghum. Yields are low, and crops often fail because of the irregular rainfall. The population density is relatively high, and landholdings are small and fragmented. In order to survive, farmers are forced to cut trees for fuelwood, cultivate ever-steeper slopes, and graze cattle on the remaining scant natural vegetation. All these practices encourage further erosion; gullies eat into the remaining farmland, turning potentially valuable land into wasteland.

Many people are landless: an estimated 290,000 families throughout the area. These families survive mainly as seasonal agricultural labourers. The lack of roads in the area restricts access to markets in Mandalay and other large towns. Credit is expensive or hard to get: many families do not qualify for the formal credit programme because they have no collateral, and are forced to borrow at exorbitant interest rates.

The HDIE Dry Zone Food Security Project

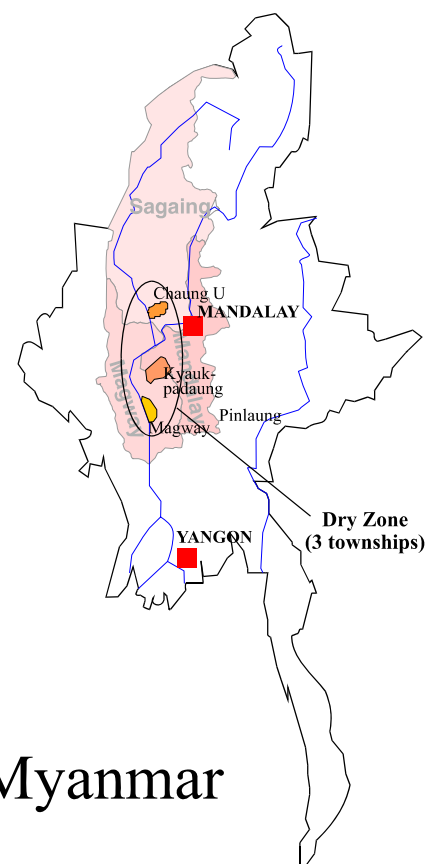
Environmentally Sustainable Food Security and Micro-Income Opportunities in the Dry Zone is one of 10 projects under the United Nations Development Programme's multisectoral Human Development Initiative Extension (HDIE) programme in Myanmar. The project focuses on three of the poorest townships in the Dry Zone: Chaung U (Sagaing Division), Kyaukpadaung (Mandalay Division), and Magway (Magway Division). Out of a total of about 200 "village tracts" (administrative areas covering several villages) in these townships, the project has identified 40 for priority interventions.

The Dry Zone Food Security project collaborates closely with staff of HDIE projects working in the same three townships; these projects cover the complementary areas of education, health, water and sanitation, credit and administrative support. It also shares information and approaches with the two other Food Security projects under HDIE, working in Shan State and the Ayeyarwady Delta.

Participatory approach

The main objective of the Dry Zone Food Security project is to improve the living conditions of 11,000 of the poorer households in the three townships, and to rehabilitate the degraded environment. The project focuses on land-based development: it seeks ways to enhance local people's incomes through agriculture, forestry and livestock production.

The project uses a participatory approach with the full involvement of village communities, giving priority to small-scale farmers, the landless and women. Staff discuss the local situation with villagers, and work with them to identify ways to solve the problems they identify. The project's technical specialists offer a "basket" of improved technologies, from which the farmers can choose those that most closely match their needs.



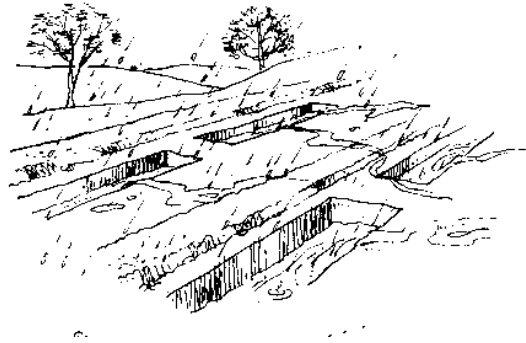
Myanmar

Key to the project's success are income-generating groups of farmers and landless people. The project encourages local people to form such groups, and helps them select ways of earning income—for example, pig-raising or crop production. It then trains them in appropriate methods, and provides small amounts of credit to help them get started. The money must be repaid with interest; it goes into a "revolving fund", managed by the group itself, that can be lent out and reinvested again and again in successive seasons.

Project activities

The project promotes four major types of technologies:

- Soil and water conservation.
- Agroforestry.
- Agriculture.
- Livestock production.



Soil and water conservation

Slowing the rate of soil erosion and conserving soil moisture are vital for sustainable agricultural production in the Dry Zone. The project supports villagers to build a variety of structures to conserve soil and retain water: ranging from large earth-and-stone barriers to plug gullies and trap eroded sediment, to smaller series of ridges and trenches, built along the contour, that slow runoff and help rainwater seep into the ground. For the larger structures, the project hires equipment such as ox-drawn graders locally, purchases cement and other key inputs, and pays labourers a small daily wage for construction work. In other cases, the project provides technical know-how and advice, and encourages the villagers to put the new ideas into practice on their own fields. One simple but effective method is contour ploughing: by ploughing across the slope rather than up and down, a farmer can reduce soil erosion in a field by as much as 50%.

Agroforestry

Much of the Dry Zone has been denuded of its trees by the expansion of farming and the need for fuelwood. The project promotes the planting of fast-growing trees species such as calliandra and gliricidia, which improve the soil fertility by fixing nitrogen and can be used for forage and timber. It also encourages farmers to plant fruit and timber trees. It helps groups of farmers start tree nurseries, and advises them on how to grow community woodlots to supply fuelwood and building poles. It trains farmers how to plant trees on steep slopes and eroded land: techniques include planting saplings in shallow depressions, where water can collect and nurture the growing tree. In order to cut the demand for fuelwood, it promotes a fuel-efficient stove known as the "A1 stove": this uses half the amount of wood of the three-stone open fire traditionally used for cooking.

Agriculture

Crop yields in the Dry Zone are low because of the infertile soils and the poor quality of local varieties. The project encourages farmers to make compost from animal manure and crop residues, and demonstrates how inorganic fertilizers are best used under these difficult conditions. It introduces new, high-yielding varieties of crops (such as a new, early-maturing mungbean variety), and even entirely new types of crops (such as mushrooms) that might find a profitable local market.

Livestock production

Constraints to livestock production in the Dry Zone include the scarcity of fodder and water in the dry season, the shortage of good-quality grazing land, the high price of cattle, and the high incidence of disease. The project attempts to improve the availability of fodder through planting forage trees and grasses (the contour ridges built to control soil erosion are good places to plant high-yielding fodder grasses). It provides loans to farmers to buy cattle or pigs, trains them how to raise and market livestock, and provides basic veterinary services such as vaccinations and castration.

