Useful plants in Sudan <Part 9>

Oil Crops

Oil crops are indispensable to humankind, and in Sudan too, fats and oils are important in the daily diet, as they are used as cooking oil for fools (boiled broad beans) and as a dressing for vegetable salads with unsweetened peanut butter. A large amount of cooking oil is also used for fish, ‘tamiya’ (chickpea croquettes), and fried wheat flour snacks. Typical oil crops in Sudan include soybeans, sunflowers, groundnuts, sesame, and cottonseeds, which are mainly grown in the rain-fed belts of Gadaref and Sennar states, and the process of extracting oil from the seeds is carried out in oil mills in various places. On the other hand, olives, which are commonly used as cooking oil in Middle Eastern countries along the Mediterranean coast, are not grown in Sudan. The long high temperatures of summer and the lack of sufficient low temperatures and their duration in winter are considered to be the limiting factors for cultivation.

The author has been working on the introduction and dissemination of oil crops to support farmers in improving their incomes in the flood irrigated agricultural areas of Kassala State (hereafter, KS) and the state irrigation scheme of River Nile State (hereafter, RNS).

When the introduction of oil crops in KS began 13 years ago, the first goal was for farmers to sell their harvested agricultural products, and contract cultivation through vendors was planned to bring them to private oil mills. However, the main farmers in the flood irrigated areas of KS were actually pastoralists. For pastoralists, therefore, the primary concern was sheep and goat production, and they did not like to cultivate crops in a complicated way, so at the farmers' meetings, cottonseed and sunflower oil crops, which can be grown with relatively extensive management, were selected. Their traditional experience of growing sorghum for food and feed was originally limited to this crop, but they were encouraged to try growing a cash crop as an extension of that, and the oilseed crops were chosen. Supporting the introduction of new crops to pastoralists who were not accustomed to growing crops was a series of unexpected difficulties, but the seasonal irrigation that relies on flooded rivers in the flood irrigation area and natural fertilization made for favorable soil conditions, and they were able to produce a satisfactory harvest.

Based on the experience in KS, the irrigation scheme in RNS also started to deal with highly liquid oil crops. The high temperature conditions in RNS have been mentioned many times in AAINews, but in general, field work is restricted and it is called the "death season" for crop production locally. The only summer crop in RNS is sorghum for feed. We considered the potential of three oil crops, sunflower, groundnut, and sesame, and recommended them as a source of income for farmers in the summer. Sunflower was popular with farmers because of the ease of weed control in cultivation management, followed by groundnut, but ultimately sesame was adopted by many farmers due to its soil conditions and profitability. The difference from the activities in RNS is that we did not limit it to simple contract sales of harvested agricultural products. Based on the experience of the irrigation scheme in RNS, the basic strategy was to have farmers carry out the oil extraction process after harvesting according to the level of farmers in RNS, and to sell the oil in the local market through added value. This proved successful, and small-scale oil extraction plants in RNS operated by farmers functioned as regional processing bases and sales destinations (markets). The motivation of surrounding farmers to produce oil crops has increased, and the area under cultivation has been steadily increasing. Oil crops have been "useful" from the beginning, but the synergistic effect of cultivation techniques under stable irrigation conditions and oil extraction processing techniques is further increasing the usefulness of oil crops in RNS for local farmers and consumers.

Harvesting Sesame

Installing small-scale oil extraction machine