SECTION III. ANIMAL TRACTION PROJECT EXPERIENCE

Several country presentations were made during the networkshop in order to become more familiar with the animal traction experiences of the country representatives visiting Togo, in terms of research agendas, development, improvements and methods of introduction. These were not prepared in advance, but were informal presentations which used the conceptual framework as an organizational guideline for information presented. Summaries of the presentations on Sierra Leone, The Gambia, Burkina Faso and Senegal are presented in this section.

For Togo, several means were used to elicit an understanding of animal traction experiences. A brief overview of animal traction project work in the Savannes region and the area around Kara itself was given on the first day using the conceptual framework. On the second day, the entire networkshop group was divided into four small groups. Each one went to visit a different animal traction project site in the Kara area. That evening, reports were prepared which were given in the plenary session on the third day. These reports were summarized by the resource persons in order to draw out the common issues and problems identified by the four field trip groups. These summaries are also included. As there are some 30 projects in Togo which have animal traction components, a listing and summary of these projects is also provided.

In addition to the above information on animal traction experiences, each participant completed a project inventory questionnaire. These have been summarized and are listed in Appendix 6. Further inventorying will be needed in order to complete the record of results and experiences in the region.

ANIMAL TRACTION IN SIERRA LEONE

PAUL STARKEY and BAI KANU
SIERRA LEONE WORK OXEN PROJECT

AGRO-CLIMATIC TYPOLOGY AND LIVESTOCK RESOURCES

Sierra Leone is a small country (73,000 km^2) with Guinea savannah ecology in the north, where annual rainfall is 1800 mm, and rain forest in the south, where rainfall exceeds 2500 mm annually. The staple food of rice is the dominant species in the rain-fed intercropping of the traditional bush/fallow agricultural system. Swamp rice is also grown in numerous inland valleys.

The whole country is considered to be of medium trypanosomiasis risk, and the national herd of 333,000 cattle are all of the N'Dama trypano- tolerant taurine type. In the north of the country, where 75 percent of the cattle are found, natural pasture is available for most of the year, with dry-season regrowth being stimulated by fire. Cattle ownership is concentrated in five percent of the farming population, notably within the Fula and Madingo ethnic groups. Cattle obtain all their feed from grazing natural pasture, but a traditional mineral supplement of leaves, salt and termite hill soil is provided two or three times a year.

PREVIOUS PROJECT INFLUENCES

Animal traction was introduced on a small scale in 1927. In 1950 a government-sponsored scheme to expand draft animal usage was inititated in one part of the country, but it was not followed up and was forgotten by the agricultural department after a few years. However, the farmers in the area continued to use work oxen, and the technology was transferred to subsequent generations. In 1985, three-quarters of the plows bought in 1950 were still in use, indicating that animal traction was perceived as economically viable by the farmers, and could be sustainable without significant government intervention. The farmers use their draft animals for plowing and harrowing, mainly for swamp rice production, but with some cultivation of rain-fed rice and groundnuts. Several subsidized tractor cultivation schemes have been attempted, but have all proved impossible to maintain. However, they have raised unattainable aspirations in many sections of society, somewhat reducing national interest in the potential for animal traction.

SOCIO-ECONOMIC FACTORS AFFECTING ANIMAL TRACTION

Agricultural investment is affected by land-tenure systems which do not guarantee continued usage of specific areas of land to individual farmers. In general, farmers' income is low and arable cropping is seldom profitable if conventional economic criteria are used to assess farming costs and benefits. A labor constraint exists, particularly for land preparation. Ownership of draft oxen is associated with the more affluent farmers cultivating above-average areas. Smaller farmers can have access to draft power through traditional systems of hiring; in one area 274 farming families make use of 52 pairs of work oxen. Some women farmers have been among those

hiring oxen from others, and recently some womens' groups have started using animal traction. Through the influence of donor agencies, some village associations have been formed for communal ownership of work oxen.

PRESENT PROJECT ACTIVITIES AND METHODOLOGY

The present Sierra Leone Work Oxen Project is a national project charged with promoting animal traction through adaptive research, extension and training. It is primarily catalytic, providing technical advice and training services to other agricultural development programs, which then develop animal traction components. The project started from a university-based pilot study, which included the review of past records and published experience from other countries, on-station trials and on-farm socio-economic studies. The socio-economic surveys were stratified to allow comparisons of ox users and non ox-users in villages where draft animals were used, and ox hirers and non ox-hirers in villages where there were no work oxen. Studies identified availability of equipment as a limiting factor. Implements from several countries were tested, first on research stations and then by farmers in various villages. The preferred design of a multipurpose implement was appropriately modified and its local manufacture was started. The toolbar is now available with both six- and nine-inch plow bodies to suit different ecosystems and different sizes (ages) of animals. A triangular harrow is also available and other cultivation implements and carts are being evaluated by farmers in several locations. All innovations, such as the use of nose rings to improve animal control and the use of inter-row weeding, are first tested on-station and then by selected farmers in different villages. If proved acceptable, techniques are recommended for widespread adoption and are then followed through with monitoring and evaluation studies.

The project comprises a multidisciplinary team of Sierra Leone, British and French research workers who must all participate in general extension and promotional activities in addition to their specific research areas. All staff, both senior and junior, commence their project experience by training a pair of work oxen themselves. French language training has been given to the Anglophone senior staff to allow liaison with neighboring Francophone countries. Present research interest covers equipment evaluation, animal health, traditional animal husbandry techniques and medicines, row-cropping systems, socio-economic studies and the formation of farmers' associations, including womens' groups. Monthly multidisciplinary technical meetings of staff ensures a farming systems approach is maintained. Overall project policy is determined by a national liaison committee, comprising representatives of the Ministry of Agriculture, agricultural development projects, the university and several aid donors.

The project has great placed emphasis on publicity, with the development of symbolic logos, participation in agricultural shows, wide circulation of project reports and the organization of an annual national ox-plowing competition. The project has also emphasized external liaison, and has initiated several exchange visits and workshops, notably with neighboring Guinea and Liberia.