

of subsistence crops (sorghum, millet, watermelon and some cow peas) grown in conjunction with cash crops (sesame, groundnuts, roselle and watermelon). These patterns result from the strategies followed by farmers regarding the types of crops grown, area cultivated in each crop, intercropping practices, thinning practices, timing of cropping activities and rotation of fallow land. Both the environmental constraints and the decisions of farmers in allocating resources for agricultural inputs, such as seeds, chemicals, and labor have a tremendous influence on these cropping patterns as well. These decisions directly effect crop output which influences consumption, marketing and investment.

Animal husbandry in this system involves the rearing of livestock such as cattle, sheep, goats, camels, donkeys, horses and poultry. Animals serve several functions including: 1) a source of investment; 2) a food source; and 3) a transportation and labor source. They represent a channel of investment for high crop production as well as a cushion in case of crop failure. Patterns in animal rearing result from the strategies farmers follow regarding investment of their resources in different types and amounts of livestock and the various uses to which they are put. Such strategies have a direct bearing on consumption and marketing as well.

Off-farm economic activities consist of all the various income generating activities that farmers pursue to supplement the income generated by their own farms. These include dry season migration for wage labor, wage labor for other farmers, specialized nonfarm occupations (e.g. tailors, bedmakers, carpenters, blacksmiths), government occupations (e.g. guards, clerks, school employees), manufacture and sale of charcoal and building materials, service charges for crop and water hauling, and income generated from capital intensive enterprises (e.g. shops, trucks, cisterns, oil presses, flour mills, bakeries). The activities of farmers are often limited by the resources and opportunities available to them. This often results in a limited number of options being pursued by farmers so recurring patterns of non-farm economic activities often appear. The income generated by these activities can be channeled into agricultural inputs for cropping, animal purchases, or consumption needs.

Marketing<sup>3</sup> consists of all sales made by farmers of agricultural products (both crops and animals) and all purchases of consumption goods by farm households (food and material goods). In addition, marketing includes the purchase of livestock for investment purposes. Marketing patterns result from the strategies of farmers regarding the timing of the sales of agricultural products (e.g. cash crops, livestock), the timing of the purchases of consumption goods (e.g. food stuffs like millet and sorghum), and the timing of the purchase of livestock for investment. Marketing is closely related to cropping patterns because farmers are price responsive in selecting the mix of crops they grow. Likewise, market prices heavily influence animal sales and purchases. Marketing strategies can also influence consumption patterns. For instance, farmers' decisions to purchase sorghum at low prices may result in forgoing the consumption of millet during the dry season.

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<sup>3</sup>Marketing will be discussed in greater detail in the following section of this report.