

2 CHAPTER

NEPAD's programme for agriculture – livestock, forestry and fisheries

2.1. Subsectoral interactions and contribution to CAADP

The livestock, forestry and fisheries subsectors together account for about one third of Africa's agricultural Gross Domestic Product (GDP), with the bulk generated by the livestock subsector. The three subsectors' contribution to sustainable agriculture is significant both economically and environmentally. Livestock recycle nutrients on the farm, produce output from land that is not suitable for sustainable crop production and provide power for ploughing and transport. Trees are used to protect crops from wind damage and forests play a critical role in ensuring sustained agricultural production, including animal husbandry and in some instances, fisheries. Agroforestry, a farming system that combines trees, crops and livestock, enables farmers to diversify agricultural production and reclaim degraded land.

Well over 50 percent of Africa's arable land is cultivated under mixed farming (crop/livestock), agropastoral and pastoral farming systems, forest-based or coastal artisanal fishing farming systems¹. In the absence of widespread technological change during the past decades, rapid population growth has led to the expansion of the cultivated area. This has involved mainly the conversion of large areas

of forests, wetlands, river valley bottoms, and grassland savannah to cropland. Good pastureland is diminishing as the most productive tracts are converted to cultivation. The mobility of pastoralists' herds is further reduced as settlers increasingly cultivate bottomlands previously available to herders during dry season migration.

The challenge for designing agricultural development programmes in Africa is the wide variation in the situation of subregions and countries. Specific interventions must therefore recognize as a minimum the available resource base, including climate, soils, water and topography, the dominant pattern of farm and household activities, including fieldcrops, livestock, trees and fisheries. To promote growth in high population density areas, land productivity and enterprise diversification will be important, whereas in low potential and low density areas, technologies that boost labour productivity are required.

2.1.1. Livestock

The livestock subsector provides a large proportion of agricultural value added, almost one third, and in some countries, more than one half. Close to 60 percent of the value of edible livestock products is generated by cattle (meat and milk). Sheep and goats (meat and milk) and poultry (meat and eggs) contribute about 20 percent each. Pigs are of minor importance. The livestock population is distributed unequally across the continent. Mountainous



Cassava production for animal feeding, S. Hagglad.



Chicken husbandry, FAO.

¹ Farming Systems and Poverty, FAO, 2001.

East Africa – relatively free of tsetse fly – has about half of all cattle and more than a third of all sheep. It also has 40 percent of goats and 13 percent of poultry. The North accounts for 35 percent of all poultry. Next to forestry, livestock is the largest user of land, directly as pasture and indirectly through the production of fodder crops and other foodstuffs. Livestock can be closely integrated into mixed farming systems as consumers of by-products and sources of organic fertilizer. Farm animals are an important link for recycling resources. Draught animals represent a major step towards agricultural intensification, and through the provision of transport services, market orientation.

The majority of livestock are kept under traditional pastoral and agropastoral systems and under mixed systems (crops/livestock). Under cereal-root crop mixed farming, accounting for about 20 percent of the cultivated area in the dry humid zone of Sub-Saharan Africa, cattle are numerous – some 40 million heads. Although cereals such as maize, sorghum and millet are widespread, wherever animal traction is absent, mainly root crops such as yams and cassava are grown. Under maize mixed farming in East and Southern Africa, accounting for about 19 percent of the cultivated area in Sub-Saharan Africa, the main staple is maize and the main cash resources include cattle, small ruminants, tobacco, coffee and cotton. About 36 million cattle are kept for ploughing, breeding, milk and farm manure.

Ruminant production statistics in traditional systems of Sub-Saharan Africa generally indicate weak performance. Average calf mortality is high (22 percent), calving rates are low (60 percent), and milk offtake per lactation is around 250 kg. Sheep and goats tend to be more fertile and prolific, but mortality is high in all age groups. Major constraints include shortages of feed supply, the prevalence of diseases and low genetic potential. The pastoral and increasingly agropastoral systems will become more profitable through strategic investments as proposed under CAADP's pillar on



Innovative chicken husbandry in Tanzania, N. Ndebele.

improving rural infrastructure. The establishment of well distributed, readily accessible cattle markets and strategically located slaughterhouses is essential to ensure that the livestock owners themselves profit from the value added of their cattle. Accessible veterinary care, vaccination and quarantine facilities will improve animal health and productivity and also enable certification of animals and meat for export.

Performance indicators for non-traditional systems, comprising ranching, smallholder and peri-urban commercial systems and intensive production in irrigated systems, are considerably higher, suggesting that there are significant benefits to be acquired through improved nutrition, management and health programmes. Current growth rates of livestock production are not sufficient to keep pace with demographic growth. With Africa's population projected to increase from the current level of 832 million to about 1.1 billion by 2015, total livestock production would have to increase by more than 4 percent per year.

2.1.2. Forestry

Africa's forest area, covering about one-fifth of the continent's land area, is unevenly distributed, with the Congo Basin accounting for the largest share. Forests are home to millions of people – shifting cultivators and hunters gatherers. People living in and around forests depend on a large variety of forest products for subsistence. In forest-rich countries of West and Central Africa, the production of industrial roundwood and wood products is a major source of employment and foreign exchange earnings. Notwithstanding policies aiming at encouraging local value addition, a significant proportion of timber continues to be exported unprocessed. Under forest-based farming, found in the humid forest zones, farmers practice shifting cultivation, clearing a new field from the forest every year, cropping it for three to five years, and then abandoning it for bush fallow.

Apart from the production of wood and non-wood



Oxen-pulled soil ploughing in North Cameroon, M. Havard.



Fever trees, W. M. Ciesla.

products, such as gums and resins, medicinal plants, fruits and bushmeat, there is an increasing recognition of the environmental service function of forests. The most important of these is the role of forests and woodlands in protecting watersheds and arresting land degradation. To a large extent, the future performance of agriculture will depend on how effectively catchments are managed. Key challenges for the forestry subsector are the threats to its natural resource base. During the decade of the 1990s, the continent's area under forests and woodlands has been diminishing at an annual rate of about 5 million ha. Deforestation has been particularly rapid in countries of West Africa. Weak institutional capacity, especially to enforce forest laws, has often encouraged unsustainable logging. Capturing the full benefits from the tropical humid forests would require significant efforts, especially to build-up institutional capacity at all levels and increased investments to improve processing of woods.

Within the overall vision of NEPAD, forestry aims to maximize the contribution of forests and trees to the economic, social and environmental well-being of the African people, taking advantage of the multiplicity of forest functions. In support of CAADP's pillar on extending the area under sustainable land management, forestry will particularly strive to enhance agricultural productivity through the protection of watersheds, arresting land degradation and desertification. Giving due attention to the Millennium Development Goals, the forestry subsector aims to accomplish the following:

- improved management of forests and trees as an integral part of land use, enhancing agricultural productivity through improving watersheds;
- increased supply of woodfuel on a sustainable basis and improved efficiency in its use;
- enhanced contribution to employment and income generation, especially through investment in value addition and producing products competitive in global markets;

- a significant increase in the extent of area under sustainable forest management; and
- enhanced ability of African forest science and technology to provide the knowledge base for a vibrant forest sector.

A main thrust is to strengthen the policy and legal framework that impact the forestry subsector directly and indirectly. Although a number of countries have initiated changes in policies and legislation, the implementation and ongoing monitoring of these efforts needs to be pursued vigorously. Specifically, there is a need to consider the cross-sectoral linkages and address the impact of policies in other sectors which affect forests and vice versa and to correct any inconsistencies.

2.1.3. Fisheries and aquaculture

Africa currently produces some 7 million tonnes of fish² per year, shared almost equally between marine and inland capture fisheries. The annual output from aquaculture stands at a level of 0.6 million tonnes, with the bulk produced in the Nile delta. African fisheries and aquaculture are characterized by the preponderance of the small-scale sector. Over 90 percent of direct smallholders are part of this sector, whether in production, processing, marketing or among service providers. Over the past two decades, trade in fish products has increased substantially. With African fish exports valued at US\$2.7 billion (2001), fish has become a leading export commodity.

Africa's inland fisheries play a critical role in supporting the livelihoods and food security of millions of people across the continent. They generate employment and income for households and provide a major source of animal protein and essential micronutrients. Yet catches from most inland fisheries have reached their maximum capacity and many of them are considered to be overfished. There are also strong

² Includes all aquatic production.



Farmer feeding his fish in Tanzania, G. Femke.

concerns that inland fisheries in Africa are increasingly under threat from environmental change, growing land use pressure and that current conditions of governance and management are unable to safeguard and leverage the subsector's development benefits.

Coastal and marine fisheries, representing a little over half of Africa's fish production, generate most of the export trade. Marine production is concentrated along the western coast of the continent. A large share – 25 to 30 percent of the total marine catch – is not landed on the continent and there is continued concern about the value and opportunities lost for commercial development and incomes to African countries. Since the 1990s, signs of overexploitation have become increasingly evident. They include declining stocks in most fisheries, overcapacity of fleets beyond economic efficiency, growing conflicts among fleets and a deteriorating marine and coastal environment.

For capture fisheries in general, there is growing recognition that improved governance systems for fisheries resources and better management of the resource base upon which they depend are needed for sustainable use, while carefully targeted investments in infrastructure, processing and marketing, as pursued under the CAADP pillar on improving rural infrastructure and trade-related

capacities, can further increase the value of the resources in local, national and regional economies.

Aquaculture production has increased from 100 000 tonnes in 1994 to 520 000 tonnes in 2003. The largest share of the output continues to be generated by Egypt (86 percent), followed by Nigeria (6 percent) and Madagascar (2 percent). Average yields in most countries remain low, commercial operators have yet to develop in many areas, and producers are few in number, with very little organization or capacity.

NEPAD recognizes the role of fisheries in both inland and marine waters for regional economic development and food security, as well as growing opportunities for aquaculture development. Fisheries and aquaculture are closely linked to other subsectors. At the resource level, this involves integration with water management and land use planning, both in coastal zones as well as inland river basins. The particular value of the subsector lies in tying into the main framework the aquatic environment and the economy and food supply chains depending on it. These are a vital part of Africa's overall natural resource base, rural economy, commerce and food security. The fisheries subsector thus makes contributions across the main objectives of CAADP and other NEPAD programmes.



Fish market in Kenya: the Nile perch, S. Heck.