

## AGRICULTURE AND HORTICULTURE

The Kenyan coastal zone supports important agricultural activities including the production of food for local consumption and export. Important food crops include cassava, sweet potatoes, maize, coconut and cow peas, with rice being grown in irrigated areas, marshes, and floodplains. Bananas, mangoes and pineapples are also grown for domestic consumption and export while cashews and sisal are grown mainly for export. In the higher areas, coffee is becoming increasingly popular among small-scale growers. Several projects exist for the expansion of cotton cultivation as well as large scale production of other crops in the coastal zone.

The Coast combines high temperature with high humidity and apart from the Shimba Hills, much of the land is below 250m above sea level. The soils are complex but are usually low in fertility - they range from beach sands to poorly drained clays. The floodplains of the Tana and the Sabaki (Galana/Athi) rivers are fertile however, they are subject to flooding and localized salinity. East of the Tana the clay soils are prone to waterlogging.

Farms on the Coast average 6-8 hectares, with low-intensity cropping dominated by maize. Nearly 50% of the arable land is under tree crops -mostly cashews and coconuts, with some citrus and mangoes. Due to the unsuitable soils, sugar cane is no longer grown and the mill has closed down. Rice is produced locally wherever surface water levels can be controlled but the main arable cash crop is cotton, important in Kilifi, Tana River and Lamu Districts, even though yields are poor. In Kwale District, where the rainfall is high, the dye crop anatto is important.



*Figure 57 : Sisal plantation*

A traditional agroforestry practice on the Kenyan Coast involves the intercropping of coconut and cashew nut trees with maize, beans, simsim and cassava, especially during the early phases of tree establishment. During the dry season, when these inter-crops have died down, cattle are introduced to graze among the trees. With this system, the income from cashew nuts and dairy has been found to be double that of planting cashew nut trees alone. The trees provide windbreaks and shade that create good growing conditions for the livestock. The livestock in turn, suppress weed growth and recycle nutrients and organic matter to the soil with their wastes.

The Orma, who are pastoralists, move with large herds of cattle, sheep and goats in the lower reaches of the Tana River basin in search of grass and water. However livestock raising in the coastal lowlands is limited by the tsetse fly, and reduction of this vector through bush clearing, especially in river plains, could lead to increased livestock raising.

Mangrove forests are harvested for poles and various other timber products. Other forested areas still exist in the coastal zone and while some of these have been designated as forest reserves or national parks, many areas are milled for timber.

The high population growth has driven cultivated areas to expand into areas of marginal rainfall, dry-season pasture, slopes greater than 15° and river margins. In addition, the relatively higher potential soils that constitute only about 20% of the total national area have come under more intensive cultivation pressures, and soil conservation measures have not been sufficient to counter the impacts of emerging agricultural patterns.

Subsistence farmers throughout the region tend to practice shifting cultivation with new areas being subject to clearing and planting in a regular cycle. Fire is often used for land clearing and burning is of special concern along the Coast because it can lead to destabilization of fragile coastal soil structures such as bluffs and dunes. Small gardens known as shambas are routinely established along the banks of rivers and streams and in interdune areas. Livestock raising can also be especially destructive near the coast with tracks made by animals tending to destabilize fragile dune vegetation and leading to sand movement and serious erosion.

## Coastal Resources and Their Use

Table 10 (below) provides a summary of the types of crops grown and tonnages produced in Coast Province in 1992, according to the Ministry of Agriculture District Annual Reports. The largest crop recorded was cassava with over 111,000 tonnes, followed by maize (61,000 tonnes), citrus (53,000 tonnes) and coconuts (52,000 tonnes). Most crops were produced throughout the Province in all Districts. However, some crops were specific to one or two Districts. For example, Mombasa was the only District to grow potatoes, cucumbers and karella; while arrowroot and coffee were only produced in Kwale; sisal was only grown in Kilifi; and cabbages and pineapples were produced in Kwale and Kilifi.

Table 10 : Agricultural crop production in 1992 from Coast districts (Data from Ministry of Agriculture District Annual Reports)

crop in tonnes	District					TOTAL
	Lamu	Tana	Kilifi	Mombasa	Kwale	
maize	2384	1317	33356	421	23837	61315
sorghum	136	0	30	5	129	300
rice	14	292	1429	70	1508	3313
millets	39	0	1	3	67	110
cow peas	432	104	3211	50	1132	4929
green grams	103	167	544	4	311	1129
beans	0	72	196	0	429	697
cassava	1771	427	71640	1620	36250	111708
arrowroot	0	0	0	0	140	140
potatoes	0	0	0	546	0	546
tomatoes	63	1776	2232	0	3339	7410
kales	82	1040	832	24	520	2498
brinjals	11	0	696	440	384	1531
chilles	23	0	235	54	255	567
capiscum	0	0	110	14	190	314
okra	4	0	205	231	90	530
onions	3	210	45	6	125	389
cucumber	0	0	0	54	0	54
cabbage	0	0	224	0	441	665
karella	0	0	0	27	0	27
water melon	24	24	320	27	441	836
amaranthus	0	0	170	2286	390	2846
bananas	4460	8530	3300	1900	16288	34478
citrus	513	95	16000	777	35640	53025
mangoes	6190	8736	21000	1376	10300	47602
pineapples	0	0	10800	0	848	11646
pawpaws	750	80	905	1947	117	3799
coffee	0	0	0	0	11	11
bixa	630	0	0	0	1512	2142
cashewnuts	860	10	3370	135	5648	10023
cotton	1897	992	73	1	7	2970
coconuts	2970	414	30750	517	18258	52909
simstim	148	1	654	5	511	1319
sisal	0	0	4334	0	0	4334
<b>TOTAL</b>	<b>23507</b>	<b>24287</b>	<b>206662</b>	<b>12540</b>	<b>159116</b>	<b>426112</b>



*Figure 58 : Traditional coconut plantation and a more recent planting of mangrove trees*