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## Notes on the vegetation of Somalia

P. R. O. BALLY

### Abstract

Bally, P. R. O. (1976). Notes on the vegetation of Somalia. *Boissiera* 24: 447-450.

The author gives a short description of the topography, climate, and vegetation of the Somali Democratic Republic. Finally he discusses the problems of food-reserves, land-use, and nature conservation in this country.

### Résumé

Bally, P. R. O. (1976). Notes sur la végétation de la Somalie. *Boissiera* 24: 447-450. En anglais.

L'auteur décrit brièvement la topographie, le climat et la végétation de la République démocratique de Somalie. Ensuite les problèmes suivants sont abordés: réserves alimentaires, emploi du terrain, protection de la nature.

The Somali Democratic Republic extends over the greater part of the Horn of Africa. Today it consists of the former British and Italian Somaliland, but ethnologically French Somaliland, the Ethiopian Province of Ogaden and the North-Eastern Province of Kenya belong to it; ecologically too, for the entire region is one of low rainfall and is almost devoid of permanent watercourses. Only in the south two rivers, the Juba and the Webi Scebelli, springing from the Ethiopian Highlands, are more or less permanent; occasionally their beds are reduced to dry sandy lanes. The Scebelli does not reach the Indian Ocean at all; it loses itself in the coastal plains south of Muqdishu.

The mountain ranges in the Horn of Africa are insignificant when compared with those of neighbouring countries such as Ethiopia and Kenya. They are too low and too few to retain much moisture from even the lower cloud-formations, nor are the plateaus comparable to the extensive and fertile highlands of its neighbours. Along the northern seaboard facing the Gulf of Aden, the land rises fairly abruptly above the Maritime Plain to a plateau averaging 1000 to 1400 m; it is dominated by several mountain ranges such as the Golis-Range, Daloh and Surud whose summit is — at 2700 m — the highest elevation in the country. Further east are the massifs of El Mascat, Al Maduh and Haddah near Cape Guardafui.

Towards the south the plateau inclines gently to an average altitude of 500 m and less, with numerous minor and much eroded hills, some of them of pure gypsum.

The south-east, bordering on the Indian Ocean and extending south to the Kenya border is even more uniform in character and rarely exceeds 300 m above

sea-level. The two rivers which traverse it contribute little to the general aspect of the vegetation; both banks are fringed with a dense but very narrow belt of riverine vegetation, whose dominating tree is the Doum Palm, *Hyphaene*; immediately beyond this fringe one finds oneself in arid desert country. In the lower reaches even this wooded fringe is absent, for recurrent flooding of the sandy plains tends to uproot the woody vegetation. The floods are partially regulated here by irrigation schemes which feed extensive banana-plantations whose produce is exported mainly to Italy.

### Rainfall and vegetation

The rainfall in the Somali Highlands and on its mountain ranges hardly exceeds 500 mm annually, while along the coast it is 75 mm or less.

Every now and then — at intervals of sometimes up to 20 years — the coast experiences mighty cyclones with heavy rainfall penetrating up to 80 km inland, giving rise to a rich spontaneous but fugitive vegetation, but causing considerable damage to the land through erosion which is the more damaging where the plant-cover has already been destroyed by the ever-growing herds of livestock and by the cutting-down of trees for the needs of the rapidly increasing human population.

Only in the north-east and in the very south the annual rainfall comes up to 380 mm, but the rapid evaporation makes for poor soils, caked with lime and other salts. The rainy seasons are of short duration and separated by long dry periods during which high winds cause considerable sheet-erosion, especially on land already severely denuded of vegetation by overstocking.

Until less than a hundred years ago the Somali countries were practically unknown to the West, and their inhabitants depended entirely on the very limited resources of their arid land, frequently plagued by droughts with ensuing famines. Blood-feuds and internal fighting took their toll too, to reduce the human population.

In spite of the aridity of the Horn of Africa which must have prevailed from time immemorial, an extraordinarily varied and highly specialized xerophytic vegetation had come into being, able to withstand the long periods of drought and at the same time to support a rich and diversified fauna. Man with his frugal demands on Nature's resources fitted in with the scheme of things without upsetting the natural balance.

This does not mean that life was happier or more harmonious than it is today. On the contrary, famines, infectious diseases, poor hygiene and war-like customs took a much heavier toll of man and beast than they do today.

However undesirable these factors appeared to Western thinking, they kept man and beast within the limits tolerated by the plant-cover to renew its productivity from year to year.

Reliable accounts by travellers at the turn of the century bear witness to the rich vegetation covering the hillsides; on few of the mountains forests still exist. The tree-studded plains were densely covered with grasses. They teemed with numerous herds of a great variety of wild game, including several endemic species, herbivores with their attendant predators and scavengers.

The Flora of the Horn of Africa is extremely rich in endemics, estimated by some botanists to be as high as 30% or even more.

Besides (cf. Lavranos, *Boissiera* 24a: 67-69), there is an important Northern Temperate Element to be found, especially in the extreme northern tip of the Horn. It clearly points to its earlier, much closer connection with the Euro-Asiatic Continent, previous to the formation of the Great Rift which created the Red Sea.

Another striking feature is the wealth of Xerophytes, some of them highly specialized, suggesting that arid conditions have prevailed there over immeasurable geological epochs.

But while delicately adjusted to hold its own against the rigours of an arid climate, the plant-cover cannot withstand the sudden onslaught of today's proliferation of man and his livestock, such as we witness these days the world over.

There is no time left to Nature for adaptation to new conditions by gradual selection, and we witness a total collapse of the plant-cover, either by sheer removal, or exposure and destruction of the last vestiges of the soil's fertility.

### Planning for the future

Somalia is now an independent Republic and she has to stand on her own feet. In the absence of oil or other mineral resources and with her very limited potential for conventional food or other crops, her economy is based almost entirely on her livestock and its by-products, such as skins and hides.

The Government accordingly has encouraged stock-breeding to be intensified, yet it is aware that the increased herds continue to impoverish the country's rapidly vanishing fertility. Should the present trend continue, Somalia will turn into an unredeemable desert within less than 20 years.

Yet there is hope for survival. Although the herds *must* be reduced drastically – by 50% or more in order to restore the lost soil-fertility – other sources of food can yet be developed. An active Agricultural Research Center endeavours to exploit to its utmost the possibilities of food crops in the regions which can be irrigated by the Juba River and by the Webi Scebelli.

Besides, there is the potential wealth of the sea, waiting to be exploited along the immense coastline of the Republic, totalling about 2900 kilometers. It has remained practically untapped because the Somali with his nomadic and land-bound habits eats no fish.

Yet, this rich potential of protein food, if judiciously exploited, could well enable the country to reduce its teeming herds of livestock in exchange for a partial fish-diet.

At present the Somali authorities propagate the notion among the people that fish is an edible commodity, and equivalent to meat as a basic food. A fisheries industry is to be initiated.

Another neglected source of protein food may prove even more promising, for it appeals to the palate of the Somali in particular.

The vast semi-arid regions straddling the frontier of Somalia with the Ethiopian Province of Ogaden is the home of the Yicibnut-bush, *Cordeauxia edulis*, endemic in the Horn of Africa. Its seed has always been an important item of the diet of the local people. It is, indeed, so popular that the formerly immense regions where it was the dominant shrub, have now shrunk to small, scattered patches, due to such relentless harvesting for the last decades, that regeneration has been nil.

Besides, once the harvest is over, the herdsmen let the herds of goats and camels browse the trees at will, claiming that the meat of animals having fed on the leaves is particularly tasty.

The Somali authorities have now decided to protect and to rehabilitate the shrub through the greater part of its former area; in fact, the project envisages an eventual area of 5000 square kilometers; if successful it would render this vast region productive, which is now unfit for other food crops on account of its poor soil and low rainfall.

It is a long-term project, not only due to its size but also because the growth of the tree in this habitat is slow.

On the other hand, the marketing of the crop is assured, not only in its home country, but because the demand for edible nuts on the world-market is great, so it may eventually become an important money-earning item for export. Over other edible nuts the Yicibnut has the advantage of not turning rancid in storage.

The outlook is thus not as gloomy in Somalia than in other African countries, although a great effort and a thorough understanding of the situation are needed to carry the country through the present desperately difficult times.

However, it must be kept in mind that the natural resources in the Horn of Africa cannot support more than a marginal population, and that any attempt to exceed this limit is bound to lead to eventual disaster.

Where the protection of the indigenous flora is concerned, one or two plant sanctuaries do exist, several others have been recommended, but at the present juncture the total excision of larger areas for the preservation of endemic plant species for their own sake might be difficult to enforce in view of the desperate need for fodder throughout the country.

*Note.* Since this lecture was delivered in the autumn of 1973, extremely dry years caused unprecedented losses among the country's livestock, besides taking a heavy toll of its nomadic population.

The Somali government responded to this challenge with commendable energy and resourcefulness: Many thousands of nomadic families in the affected northern regions had lost all their livestock.

The Government intervened, and with the aid of Soviet trucks and transport planes, three-hundredthousand people were taken to the plains watered by the Juba River in the south of the country, where the attempt is being made to establish them as crop-producing farmers by means of irrigation systems.

Another hundredthousand were settled along the coast to use the fish-, turtle- and dugong-resources which hitherto have been exploited only sporadically by Far-Eastern fishermen (Koreans, Taiwanese and Japanese).

This inspired intervention is likely to change the entire future development of the Somali people, apart from being the greatest movement of populations in the history of Eastern Africa.