

A JUSTIFICATION FOR AN AGRICULTURAL LAND-USE ADMINISTRATION SCHEME IN GHANA

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Summary

The lack of state intervention in the mode of use of farmland is identified as leading cause of land abuse and agricultural extensification and our inability to increase agricultural productivity in Ghana. Soil erosion, siltation of water bodies for domestic water supplies, irrigation and hydro electricity projects are some of the after effects of such degradation that the author highlights. The paper considers land degradation as a national crisis that merits immediate drastic action, and cites the case histories of other countries as evidence for the need of planned intervention of land use by the state.

Introduction

Ghana's current policy on agricultural land-use is a *laissez faire* type, i.e. there is little or no state intervention in the mode of use of farmland. This has led to much land abuse. The farmer exhausts one plot and seeks new territory, which will also eventually be devastated. Encroachment upon forest reserves in the western Region has hit the headlines in the past couple of years. More recently, it has been the sand and stone quarriers who are bearing the blunt for land degradation.

Enhanced erosion from soil exhaustion and careless land use is silting up water bodies and jeopardising domestic water supplies, irrigation and hydro-electric projects. Data on the Barekese Dam illustrate this clearly. The President reported at the 1991 FAO African Regional Conference, that after 242 farmers sprang up in its 4,400 ha basin, the Barekese water supply dropped from 220 million litres/day to 55 million litres/day. Similarly, we have seen rivers, streams and ponds dry up though data to quantify water loss and rate of siltation are wanting. These instances underscore the issue of land degradation as a national crisis that calls for immediate drastic action.

The cause of land abuse

A complex of causes operating in concert underlies land abuse. Paramount among these are ignorance, poor farming techniques, land

tenure, use of fertile soils for non-agricultural purposes, lumbering and rapid population growth. These are briefly discussed below.

Ignorance

Although most farmers are familiar with the phenomenon of soil exhaustion with the shortening of the bush fallow, one doubts that the average farmer appreciates its full impact on national food production. Nor would they be aware of the effect of enhanced erosion on water supplies. And even if they knew, could they curb it significantly?

Shifting Cultivation

To allow for the 10-25 years bush fallow needed to restore soil fertility before the next cropping, only 4-10% of the cultivable land should be cropped in any year. But the population pressure is so high that 29% of Ghana's cultivable land is cropped (PPMED, 1991). This gives a cropping cycle of about three to four years. The resulting soil exhaustion due to loss of soil organic matter and nutrients, weed infestation, pests and diseases, cause crop failure. The farmer is forced to abandon this farmland to look for fresh virgin territory, not excluding strategically reserved forests and sensitive watersheds. Eventually, this will also have to be deserted. Across Africa, FAO (1992) reports that 5-7 million ha of farmland are abandoned

annually. At present, shifting cultivation is a least cost technology and to replace it we need a demonstrable alternative, whose requirements are available, affordable and within the farmer's technical competence. These conditions have not been adequately met at the farmer's level.

Land Tenure

Land tenure also contributes some constraints. Communal land ownership with only usufructuary title for the farmer implies that the land cannot be used as collateral for credit, even by members of the land-owning group. Leased land is usually for short periods e.g. 1 to 3 years, with restrictions on the types of crops grown. Indeed, permanent structures are often disallowed even where the lease is to be renewed again and again. Development of grazing land is barred by communal ownership. Without any personal long-term stake in the land, the cultivator's farming techniques are likely to be exploitative rather than restorative. In view of these problems attendant upon communal ownership, several researchers have suggested government annexure of all vacant lands. Others, however, caution against this as it could lead to social unrest (Benneh and Amoako, 1985).

Burning and Overgrazing

Bush burning and overgrazing are also potent contributors to land degradation. The bush surrounding the village is burnt in the dry season to eliminate material that would carry a wild fire sooner or latter to engulf the village. Another reason for burning the grass is to induce a flush for grazing animals. The fire invariably goes out of hand, exposing the soil to the ravages of erosion. This soil degradation is hastened when the grass is grazed too soon causing the stand to lose vigour and die. Overgrazing is partly due to unproductive animals that swell the herd and overburden the grassland resources unnecessarily.

Non Agricultural Use of Fertile Land

Because they are free to operate where they desire, sand and stone quarriers destroy fertile soils as we have seen in suburban Greater Accra

of late. The real estate developers themselves also consume good farmland. In the past 20 years, one has seen very good agricultural land go under thousands of square km of housing estates on the fringes of the cities. The is lost irretrievably to agriculture. Meanwhile, adjacent land of little agricultural value is left alone.

This is probably because the soil on farmland is easier to work than the gravelly or stony land, and one can not blame realtors and the sand/stone contractors. The real culprit is the absence of laws of guide them.

Demand for Export Logs

The need for foreign exchange has caused large tracts of forest to fall to the lumberman's axe. This removal of tree cover is invariably a prelude to further land degrading activities. Around Africa, the rate of loss of dense forest is very high indeed, and in la Cote d'Ivoire and Nigeria, the loss is 600,000 ha per annum (FAO, 1992). Deforestation has destroyed the lairs of game and wildlife and made venison scarce thereby reducing animal protein intake of the people. This is especially disastrous in the rural areas where game used to supply almost all the meat consumed.

Population Growth

The rapid population growth demands an equally fast expansion in food supply, which in turn has caused rapid increases in cropped land area. There also is a soaring demand for fuelwood; logs for shelter; and land for housing, industrial estates, highways, quarries, etc. This growing demand for living space is at the expense of the forests and fertile farm-lands and predisposes the land to degradation.

Remedial Measures

To check this wanton destruction of our natural resources, several authors have asked for land-use planning or land zoning. Among these are Fianu (1975 & 1990), Laing (1984), Amissah (1985) and Amamoo-Otchere (1985). The first step in this direction, is to map out the land according to use capability. Having identi-

fied and mapped out the agricultural lands, it becomes necessary to ensure that they are cultivated properly. One would therefore go a step further to ask for some means of *enforcing* farming practices that will maintain the land in permanent production. This control would be in line with laws regulating fishing and hunting.

Mixed farming is the system that has enabled most countries to regain the use of their rundown farm lands, so Fianu (1991) proposed a pilot scheme for introducing total crop-live-stock integration in closed systems, in Ghana. The scheme addresses the main obstacles to the adoption of mixed-farming. The state would acquire blocks of land to be leased to farmers carefully selected for their proven farming abilities, interest and willingness to comply with stringent guidelines. The plots would go with a variety of inputs at reasonable cost and on affordable credit. There would also be free advisory service. Participation in the scheme would, however, be predicated upon strict adherence to regulations on crop rotations, stocking rates, sale of animals at predetermined weights or ages, etc. to ensure proper land use. Sanctions for breaches could include loss of placement in the scheme with little or no compensation. On the demise of the participant, his estate would revert to the project to avoid land fragmentation. The value of the estate would however, be paid to the next of kin.

Expected Impact of Scheme

Negative Prognosis

Fears have, been expressed that conditionalities would agitate a revulsion to the package thus negating the objectives of the project. Reference is made to the fact that the imposition of cattle tax caused stockmen to withhold their animals from vaccinations thereby undermining disease control. It is also thought that the desire to accumulate animals cannot be curbed in stock owners. Okaiyeto (1982), for instance, observed that in Nigeria's grazing reserves, while technicians wanted stock numbers reduced, pastoralists cried out that there were not enough animals. The result was

overgrazing. Similar difficulties have been reported by David-west (1982) on group ranches and community paddocks in Kenya, Tanzania and Botswana. It would seem, however, that these failures occurred because there had been no preconditions for participation in these projects. No sanctions could therefore be exacted for overstocking. Moreover, these pastoralists were uneducated and did not appreciate the environmental issues at stake nor could they take records. The selection of educated dedicated farmers, to be trained in the new system, is meant to address this problem.

A further pertinent example of failure at modernising livestock production could be cited from futile efforts at introducing mixed farming in Northern Nigeria in the 1920's and 30's (Okaiyeto, 1982). The author blamed the failure on the following:

- i. the pastoralists' lack of title to land,
- ii. delayed delivery of inputs especially during the long dry season, and
- iii. the excessively large herd sizes of the pastoralists to start with. Perhaps, equally important was the fact that there was plenty of rangeland for free grazing at the time, and the pastoralists were used to the nomadic/semi-nomadic life style, preferring that to being hemmed in on limited farmland. They must have felt imprisoned!

Positive Prognosis

Today, Nigerian (and indeed West African) pastoralists are under grave pressure from crop producers and have little room for unrestricted free grazing. Some have voluntarily settled in grazing reserves and many have moved southward into the previously sparsely populated middle belt and derived savannahs close to the coast; areas previously avoided by herdsmen on account of heavy tsetse scourge. Now massive cattle populations have so degraded the vegetation as to make it less hospitable for the tsetsefly. This way, these zones have been rendered more supportive to cattle rearing. Crop farmers are increasingly acquiring herds of cattle while settled pastoralists are also under-

taking crop farming (Powell, 1984).

Current conditions are therefore ripe for the diffusion of mixed farming into Northern Nigeria, including the middle belt and ILCA has registered some outstanding successes with dry season fodder banks in place of the bushfallow in these areas. (Mohammed-Saleem, 1984). Pastoralists readily invest in labour, fire break, fencing and in seeding *Stylosanthes* for the development of such fodder banks (Taylor-Powell & Ingawa, 1984). Their major predicament now is that they lose the land too soon to the crop farmers who loaned or leased the fallow land to them for cultivating the ley. This is evidence that crop farmers know that the grazed fodder bank hastens the restoration of "heart" to the exhausted soil, in contrast with the bush fallow.

In Ghana, the proposed pilot programme would not have any of the earlier mentioned drawbacks. On the contrary, during the orientation, the candidate farmers would be motivated to realise their role in the war on land degradation in the country. Higher crop yields and faster turnover of livestock would soon justify, in economic terms, the rigorous conditions imposed. This way, other farmers would be quite readily disposed to adopting the system.

Experience with Enforced Land-Use Management

Land reform is a very thorny political issue that many countries fear to tread on. This is particularly true of South America. Generally, in Latin America, farmland is owned in very large chunks by a few landlords. Some are measured in millions of hectares. In fact, the FAO (1980) said land redistribution is needed in Latin America. In Puerto Rico, however, a 200 ha limit was set for landownership in 1899. Absentee-owned lands were expropriated and redistributed in 4 to 60 ha parcels. So that "...each person who tills the land shall be the owner of the land which supports him..." (Fianu, 1970). Land use was regulated by means of subsidized inputs. Similar successful interventions have been made in Australia, Britain and

the U.S.A.

In South Australia, there had been generations of soil exhaustion by continuous cropping, or by one year fallow after one year cropping. According to Semple (1970), cattle numbers in Australia reached a peak in 1890. The ensuing overgrazing so depleted the fodder resources that by 1915 only 40% of the cattle and 52% of the sheep were left. In South Australia, the state intervened by appropriating the land, mapping it and leasing it to the farmers under stringent husbandry conditionalities. Failure to comply with the prescribed farming systems was penalized by non-renewal of the lease (Webber, *et al.*, 1976).

With the compulsory use of mixed farming, based on short-term legume pasture (leys) and controlled grazing, grain yields and animal production doubled in two decades. In this arid land, the so-called wetlands receive 500-600 mm precipitation per year and these areas make up only 5% of the state. The other areas average 250 mm yearly. Yet stocking rates have been raised from 1 sheep to 8 sheep/ha/year on some farms. This remarkable feat could not have been achieved but for state intervention with radical measures.

Great Britain has also had cause to formally intervene in land use by her farmers. In the 18th and 19th centuries, laws were enacted permitting the enclosure of wastelands for cultivation by crop rotation, including leys. Again, after World War II, state intervention promoted ley farming by means of active support (subsidies) to enable farmers convert permanent pastures to leys (Russell, 1966).

The Americans addressed distressing land degradation in like manner. Over a century of scrambling for land by settlers was accompanied by overgrazing and over-cultivation with all the effects of severe erosion. Then came the realisation of the need for conservation farming in the mid 19th century. The remaining public land was surveyed and further allocations restricted to farmers who would practise conservation farming systems. For instance, in one package 25% of the farm was to be reserved for woodlot

cultivation (Stoddart & Smith, 1955, Edwards, 1948). Grazing permits on public lands were granted only to farmers with a proven ability for proper range management and subsidies were granted to support farmers to practise conservation farming systems (Johnson & Loomer, 1948).

Conclusion

The foregoing case histories show how various countries have reacted to the ravages of land degradation. The state is the *de jure* controller of all land in Ghana albeit actual title is vested in communities; i.e. clans, families, etc. Government therefore has the power, and indeed the responsibility, to institute measures to make for the sustenance of soil fertility, and provide the institutional, infrastructural and legal framework to enforce proper husbandry of the land.

By opening up the Afram Plains and the Fumbisi-Sissili Basin, Government has enabled farmers to move into these areas. Their farming systems will soon leave the land exhausted much like the farmlands they previously cultivated. It behoves the Ministry of Agriculture, the NGO's and distributors of agricultural inputs to prevent this waste. It is also our responsibility to bring back into cultivation the exhausted farmlands around the country. These tasks are possible if the political will is forged. Van Dersal (1943) made the following pertinent observation: "Anywhere in the world the face of the land faithfully reflects the culture of the people who live upon it. Where the land is poor and worn, so are the people who strive to maintain themselves on its inhospitable surface. And where the land is rich and bountiful, the people who inhabit it have an opportunity to live a rich and bountiful life."

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