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**THE ROLE OF AGRICULTURE IN THE ORIGINS AND
SOLUTIONS OF SOMALI PROBLEMS**

by

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Abstract

In the last 15 years Somalia has experienced a number of economic crisis, food shortages and civil war whose consequences have attracted international attention only in the last two years.

The root cause of these crises has mainly been attributed to a brutal 21-year dictatorship led by Siad Barre who played off East and West and different Somali communities to group up repressive regime. In practical terms, it has been attributed to misguided government economic policies, lack of social justice, recurrent droughts, clan rivalries and infighting etc.

In contrast with the most commonly accredited root causes of Somali problems, this document argues that these food and economic crises and civil war are linked, and that they are intimately associated with an underlying, long-term and fundamental crisis in Somali agriculture (in its broadest sense).

The document shortly describes how implementation of wrong agricultural policies such as nationalization of agricultural means of production and commodity price control of the 70s and early 80s have depressed local production and therefore, caused recurrent food shortages in the country with corresponding increases in food aid and commercial imports. It also describes how real famine or fear of it in certain strata of the society have ignited civil disorder and war, particularly when Siad Barre's regime has started using the incoming food aid as a weapon to divide the people. The devastating effects of the civil war on agriculture and some aspects of the UN agricultural relief and rehabilitation programmes in Somalia are also reported.

On the basis of the existing data on Somali population (size, annual growth) and on the extensive agricultural resources available in the country, this document attempts to show that Somalia has not only the capability to easily be self sufficient in crop, fisheries and livestock production but it has also the capability to export a great amount of agriculture output and therefore, earn sufficient foreign currency. Main problems limiting agricultural production are also reported.

2. SOME RESULTS OF THE AGRICULTURAL POLICIES IMPLEMENTED IN THE 70s AND EARLY 80s

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Urban biased low prices fixed for almost all basic staples, creation of agriculture crash programmes and large state farms (modelled after Soviet state farms), nationalization of all agricultural means of production such as tractors, creation of top-down government sponsored agricultural cooperatives are some of the agricultural policies implemented in the 70s and early 80s which led to the widely reported low growth rates of total gross agricultural production and per caput food supply (calories) (table.1 and table.2) (FAO, 1986; Boguslawski, 1986).

Table.1. East African countries ranked according to the growth rates of total gross agricultural production, 1970-1984.
(in percentage, per annum)

Country	Total	per caput
Kenya	2.7	-1.3
Sudan	2.5	-0.5
Ethiopia	1.6	-0.6
Uganda	1.4	-1.7
Somalia	1.1	-4.2

Source: FAO. 1986. African Agriculture. The Next 25 Years.
Annex I: Socio-economic and Political Dimensions.
United Nations. Rome, Italy. p.4

Table.2. East African countries ranked according to per caput food supply (calories) in 1969/71 and 1981/83

Country	Per caput calories		
	1969/71	1981/83	Change in %
Uganda	2445	2275	-7.0
Kenya	2253	2037	-9.6
Somalia	2163	2002	-7.4
Sudan	2118	2226	5.1
Ethiopia	2042	2097	2.6

Source: FAO. 1986. African Agriculture. The Next 25 Years.
Annex I: Socio-economic and Political Dimensions.
United Nations. Rome, Italy. p.5

Boguslawski (1986) reported increases in food aid and commercial imports of food over the same period. In fact, Somalia's dependence on imported grain and cereal aid rose from 40 thousand tons in 1970 to 350 thousand tons in 1984 (Conze, P. and Labahn, Th. 1986). This, in turn has caused a rapid increase in urban migration which is both a symptom of unsatisfactory growth in agricultural productivity and a cause of decline in per caput food production because of reduced labour supply. The following widespread food insecurity, particularly in the poverty stricken rural producers and urban poor, exacerbated by the government manipulation of the incoming food aid have played a determinant role in the social uprising, downfall of Siad Barre's regime and the continuation of the civil war . This is consistent with FAO (1986) findings in many other african countries where "rural poverty and famine contribute to political instability". In Somalia, because of famine or fear of it, public and private food stores have been ransacked; people have started looting of food supplies at village level; under-ground grain pits of the small farmers have been emptied; food aid convoys have continuously been attacked; thousands of animals have been raided and killed for consumption.

All these events show that food insecurity is and has always been the centre of all Somali problems. Social injustice, struggle for power, clan infighting etc. aggravate the famine situation.

It was the merit of the americans who cought first the point: FIGHT THE FAMINE and everything will gradually settle in Somalia. Infact, the main objective of the american led military intervention in Somalia, colled Operation Restore Hope, was to ensure food distribution to the needy and give the people time to settle their differences, full-bellied.

3. EFFECTS OF THE WAR ON AGRICULTURE SECTOR

A noticeable decline of agriculture sector, particularly livestock and crop production, has started in 1977-78 with Somali -Ethiopian war over Ogaden.

In order to finance the war, Siad Barre's regime has instructed all regional governors, district commissioners and village chiefs to collect from every district and village a number of animals and crop produces. When people showed unwillingness to give away their properties, the regime has ordered to confiscate them and therefore, established numerous check points along the roads and at water points. Thousands of animals and huge amounts of pulses and cereal grains were seized. These operations have left many farmers and pastoralists at the mercy of poorly paid soldiers and corrupt government officials.

At the end of the Ogaden conflict, thousands of young conscripts dissatisfied with the regime and tired of the war deserted the army. Then the first nucleus of "liberation" fronts (from Siad Barre's regime) have been founded in the Central Regions of Somalia. In order to control the fast spreading civil war in the Central and Northern regions of Somalia, Siad Barre's regime has rounded up thousands of young farmers and pastoralists from the rural areas and dispatched them, without proper military training to the war fronts. This has left old men, women and children to look after animals, to till the land and to go fishing. The worse happened when poorly paid soldiers, sent to the countryside in order to search for army deserters and to recruit new young farmers, pastoralists and fishermen, have started asking ransom the parents and relatives of the captured ones. This has opened a vicious cycle of teenage and sometimes adults, kidnapping (known in Somalia as QAFAL) and ransom paying in kind (goats, bulls, pulses, grains etc.) and/or cash.

By 1988 an open war was raging in the Northern regions. The same happened in the Central regions in 1989-90, and in the Southern regions in 1990-92.

The impact of the conflict on agriculture sector was not the same in all regions. Some have suffered heavy aerial bombardment and land mines, while others succumbed under Siad Barre's militia pressure followed by heavy factional fighting.

In the Northern regions, a good proportion of Siad Barre's army coupled with corrupt government officials and many civilian supporters of the regime have started looting agricultural machinery, water pumps, transport vehicles etc. sending them mainly to Mogadisho where a relative calm has reigned since then (1988). Because of the heavy bombardment and the land mines in the these regions, farmers and pastoralists have fled from their land and sought refuge in Ethiopia. Farms of oranges, mandarines and other fruits and vegetables were abandoned. Every form of agriculture activity has practically come to a halt.

The Central regions, known for their pastoral livestock raising system combined in most of the areas, with crop production, have also experienced incalculable human suffering and ecological damage. Siad Barre's regime has destroyed almost all privately owned water reservoirs and wells which were the only source of water for human and livestock in the dry seasons. Thousands of pastoralists and their animals were forced to flee to other neighbouring areas. This has obviously led to share limited pasture and water with other Somali communities. The result was overgrazing and death of livestock and people because of food, feed and water shortages. The ecological damage was enormous. The farming communities of the central Somalia, specialized in cowpea and sorghum production have also suffered a lot. They could not produce anything during war time.

In the Southern regions (from Middle Shabele down to Kismayo) where more than 75% of cropped land of the country is located (Reference), the impact of the war was devastating for several reasons:

(a): Unlike the pastoralists of the central and northern Somalia who are traditionally armed, a good proportion of the inhabitants of these regions are sedentary farmers, fishermen or agropastoralists known in Somalia for their peaceful manners and attachment to the land and livestock. In a climate of war, where most of the people have had weapons, they became the most vulnerable group.

(b): Because of the existing fertile soils along and between the two rivers; irrigation facilities; relatively good roads; vicinity of the main and fast expanding local markets etc. almost all national agricultural development projects were, in the past 30 years, concentrated in these regions. Many Somalis will however, argue that the overlisted agricultural

facilities and infrastructure have come after or during the agricultural development projects were established. Whatever is the version, when law and order broke down, many armed gangs went to the area searching for something to loot.

(c):When the regime was ousted from Mogadisho, Siad Barre and his nearest collaborators and militia took refuge in the South Western regions of Somalia where they practically lived on the people for almost 15 months (From January 1991 to April 1992).

(d):The factions who later on ejected Siad Barre and his militia out of the country confronted with him, militarily several times in different spots, therefore, the Southern regions became a real theater of war and looting for a long time.

(e):Even long after Siad Barre has left Somalia, well armed gangs and infighting of several factions have reduced these regions into rubble. In fact, in Lower and Middle Juba regions, real battles of tanks and artillery have taken place destroying much of the perennial crops such as grapefruits, coconuts, bananas and sugar cane fields. Weed infestation and lack of supplementary irrigations have reduced banana plantations, sugar cane and citrus fields into wild farms.

In Lower Shabele region and particularly in Afgoi district, some poor farmers who, during Siad Barre's regime were squeezed out from their farms only because they were located near the river and therefore, benefitted from easy irrigation, have taken back their lands and cut down perennial plants such as grapefruits, lemons, coconuts and mangoes, cultivated by the temporary owners, most of whom were high government officials in Siad Barre's regime. The action of the poor farmers was probably intended to reverse the state-sponsored expropriation of their lands reported by many Somali land tenure system experts (Kenneth, 1990; Khalif, 1989).

In Bay, Gedo and Bakool regions farmers and pastoralists were robbed of their belongings. Under-ground grain pits, seed stocks saved for the coming seasons and thousands of animals were taken by force by Siad Barre's militia. When people have lost everything, they started eating plant leaves, grass, hides and kept moving towards the nearest regions. Many of them did not unfortunately make it.

That these regions were by far the worst hit by the civil war, mainly because of the excessive and prolonged pressure of Siad Barre's militia (nealy 15 months) has clearly been shown by the international media which exposed hundreds of deeply distressing pictures of death and famine. Those pictures were mainly taken from Bardera, Hoddur, Bur/Hakaba and Baydoa called later the death capital of Somalia.

In the war, hundreds of thousands of farmers, fishermen, pastoralists and their families have lost their lives or became wounded, mutilated or displaced. All agricultural activities were disrupted and halted. Moreover, the war has destroyed the physical structure of almost all main institutions of the agricultural sector such as: central and regional buildings of ministries of agriculture, livestock and fisheries; all buildings of national and international agencies for fish industry, crop and livestock production and development; all university laboratories; extension service offices in the regions and districts and all research stations and sub-stations, sirum and vaccine clinics etc. All furnitures and office materials including computers, photocopy machines etc. have been looted. All agricultural librerries and documentation centres have been ransacked.

Many agro-industries such as sugar factory of Mareerey, rice milling of Mogambo, meat factory of Kismayo, several fish factories and cold stores, hundreds of water pomps, electric generators, tractors, bull-dozers, transport veichles, motorised fishing boats, canoes etc. have been stolen and sold partly abroad. Recent reports indicate that the Somali agriculture, including crops, livestock and fisheries is to be built from the scratch.

Because of its "mobility" therefore, possibility (though limited) of avoiding hot spots or areas populated by armed gangs, the livestock sub-sector has probably suffered less than the "immobile" crop production and fishery sub-sectors. It is worthnoting however, that the number of animals has dramatically fallen in the war time.

4. RELIEF AND REHABILITATION OF THE AGRICULTURE SECTOR

Many months before the total collapse of Siad Barre's regime (end of January, 1991), all big international agricultural organizations and representatives of the donor countries -having foreseen the coming disaster on Somalia- have shut their offices in Mogadisho and quickly evacuated their personnel to safety. In their places there have come a group of humanitarian, Non Governmental Organizations (NGOs) such as Medicine Sans Frontiers, Save the Children (UK), Irish Concern, International Red Cross, SOS (Italy) etc. whose personnel could not probably claim to be experts in the fields of agriculture but definitely showed to be more determined (than their countrymen of the big International Organizations such as FAO, UNDP etc.) to help the Somali agricultural communities in the middle of a civil war. The secret of their widely acknowledged success was to find out and closely cooperate with the real representatives of the farming communities, pastoralists and fishermen as well as Somali NGOs and professionals who had also the same ideals and objectives. Together, these two groups have distributed thousands of tons of seeds (cereals, legumes and vegetables) and agricultural tools such as machetes, hand hoes, rakes, shovels, kawawas (hand manoeuvred wooden land leveller and ridge maker) etc. to the farming communities in many villages. They have also distributed drugs to the livestock owners and fishing gear to many fishermen.

The most qualifying humanitarian action of these groups was however, to speak (particularly in the first year of the war) for the voiceless Somali agricultural communities and convince the world community to help them more. The long awaited help eventually came after the second year of civil war and the conditions of the agricultural communities have started improving because of the eased pressure of the free roaming armed gangs and the steady flow of food aid into the country. There are no however, reasons for complacency in agriculture sector as a whole. Young farmers, pastoralists and fishermen have migrated to the urban areas within the country, or to abroad, leaving behind old men, women and children to till the land, look after animals, repair boats, canoes, fishing gear and go fishing. Farms lay idle because long tracts of rivers and irrigation canals have been closed by silt etc.

The American led military intervention in Somalia has created for the big international agricultural organizations such as FAO, WFP, UNDP etc. the peaceful environment in which they always like to work. In the first six months of Operation Restore Hope, there has been a great enthusiasm and hope in everyone's mind, Somalis and foreigners alike. The atmosphere of fear and lawlessness had gradually been replaced by confidence and brighter future. On May 1993, the Americans have left the command of the military coalition in Somalia, passing the responsibility of peace keeping (peace forcing according to some people) to the United Nations. Assistance to the Somali reconciliation process, security, relief and rehabilitation programmes went also under the United Nations.

In its 1993 relief and rehabilitation programmes for Somalia, the United Nations (through its Food and Agricultural Organization) has allocated about US \$ 20 millions (about 12% of a total budget of nearly US \$ 170 million for 1993) to support the crop production, livestock and fishery sub-sectors. Most of the money will be destined to purchase and distribute crop seeds (cereals, oil seeds, legumes, vegetables etc.), agricultural tools (hand hoes, machetes, kawawas etc.) fishing gear and other simple equipments so that the agricultural communities may resume their activities. Part of the money is destined to rehabilitate irrigation services, water storage reservoirs and basic veterinary clinics. Livestock vaccination and treatment of animal diseases are also included in the priorities.

Declared main objectives of the UN agricultural rehabilitation programmes for Somalia in 1993 are as follows:

4.1. Crop Production

- (a): To expand the production of grains, at least to an average of pre-war levels, using appropriate inputs;
- (b): To survey existing irrigation systems, particularly those serving small farmers, and rehabilitate them wherever feasible and cost effective, including through the use of alternative/renewal energy resources;

- (c):To survey canal potential and reservoirs, and simultaneously undertake the necessary feasibility studies for the possible expansion of agricultural areas;
- (d):To establish a monitoring capability that will yield timely data on the anticipated crop yields of basic grains;
- (e):To establish appropriate mechanisms to protect crop prices, including assurances that farmers have access to markets;
- (f):To reconstitute the country's "technical memories" through the collection and dissemination of pre-war data on agriculture and natural resources;

4.2. Livestock and Fisheries

- (a):To reduce mortality through vaccinations against the main killer diseases, including rinderpest, haemorrhagic septicaemia, and anthrax;
- (b):To establish veterinary clinics in each of the country's main districts;
- (c):To support the provision of veterinary services on a private commercial basis;
- (d):To increase productivity of remaining flocks and the facilitation of export and higher prices through improved animal health and certification of the health of exported livestock;
- (e):To develop the poultry and fish industries;
- (f):To determine the feasibility and costs of long term rehabilitation of the livestock sector;

Giving judgment on UN agricultural rehabilitation programmes in Somalia through few pages of background and itemized objectives would probably be technically unfair. It is however, legitimate to notice that these few pages bear obvious similarities of those set and implemented in Somalia in the last 30 years, with the well known negative results.

There are also some seemingly overlooked or unforeseen social and security problems which have already hindered the implementation of these agricultural programmes.

4.3. Social and Security Problems

4.3.1. On March, 1993 the UN has presented agricultural programmes and gave indications to be ready to start something. On June 1993, all UN personnel was either in hiding in Somalia or transported forth and back to Nairobi for their safety, because of the death of 23 Pakistanis and more than 50 Somalis followed by retaliatory bombing raids and man hunting carried out by the UN "peace keeping" force against four of the main Somali factions. Improving security situation in Somalia up to the very sensible standard of the UN personnel will be hard if not impossible to achieve in the near future. The result will obviously be the suspension of the agricultural programmes for some time.

4.3.2. Before the war, UN representatives in Somalia were used to recruit local professionals (National Professional Officers) for local jobs and pay them US \$ 12000 per annum. The same people or others with same qualifications are now recruited by the UN representatives in Somalia at US \$ 2400-3600 per annum. On the other hand, UN is planning to increase its "non local" staff in Somalia up to 2800 individuals. The international professionals will earn about US \$ 36000-60000 per annum, while UN volunteers will earn about US \$ 18000-24000 per annum. This retribution gap between Somali and outside recruited professionals, plus the somewhat patronizing "show strength" attitude of the UN personnel after the end of the Operation Restore Hope in Somalia, have given many Somali professionals and intellectuals the feeling of being pushed toward a second class citizens in their own country.

The humanitarian foreign agencies such as Save the Children and Medicine Sans Frontiers probably pay the same amount of money to the Somali professionals. This retribution is said to be well accepted mainly because it is accompanied by a good faith and openness of the foreign NGOs personnel.

4.4. Weak Points of the UN Rehabilitation Programmes

If these few pages really reflect the contents of the UN agricultural rehabilitation programmes in Somalia, then the programmes have to be revised because they do not contain the fundamental changes and

innovations that the somali agriculture needs today. They give the feeling that the UN has some ready made solutions for different agricultural problems.

In the present case of Somalia, UN re-starts: endless surveys of the existing irrigation systems; feasibility studies for possible expansion of agricultural areas; surveillance to determine the feasibility and costs of long term rehabilitation of the livestock sector; development of the poultry and fish industries etc. as if there were not hundreds of studies on the same subjects, funded and carried out by the same UN personnel and/or other donor countries. Two examples will illustrate some of the deficiencies in the UN agricultural rehabilitation programmes in Somalia.

(a):In the few pages accompanying the objectives and priorities of the rehabilitation programmes, few words are spent on fisheries. There is nothing new, as usual for the fishing communities: few items of "fishing gear and simple equipment" to be distributed and a preliminary estimate of US \$ 575 thousand to be required for the sub-sector. No assistance for the maintenance of what remains of the old boats, canoes, vessels and to acquire new ones; no training for the young fishermen; no enlargement of the unsafe anchorages for small craft, no plans to extend the fishing activity and establish new fishing communities etc.

In a country where the only other two main agricultural resources (crops and livestock) are subjected to climatic vagaries, e.i. meagre and irregular rainfall, recurrent and sometimes prolonged droughts etc.; developing fisheries should have the priority.

(b):Crop production sub-sector of the UN agricultural rehabilitation programmes for Somalia mainly focuses on southern seven regions and particularly Lower Shabele because they account for more than 75% of the cultivated land (FAO, 1993; Dep.1989). Recurrent terms in the UN document -all referring to these regions- include: canal clearing and rehabilitation, canal and reservoirs potential surveys, agricultural extension service, flood control etc. On the contrary, present situation and potentiality of crop production in the Northern and Central regions of Somalia are hardly mentioned. Only "one FAO consultant will be recruited for the

Northern regions for the development of projects that will include rehabilitation of irrigation services" (United Nations, 1993). It is worth noting however, that most of the cowpea consumed in Somalia is produced in the Central regions, particularly in the long belt stretching from Obbia (Mudug region) to Adale (Middle Shabele region). Crops grown in the northern regions widely vary because of the wide ranging climatic differences within the regions. In the cool and humid areas there are wheat, barley, peaches, irish potatoes etc. In the hot and dry areas there are frankincense, dates etc.

Excluding the central and northern regions from the crop production rehabilitation, before the race starts could only be interpreted as a big mistake.

5. BALANCE BETWEEN POPULATION AND AGRICULTURAL RESOURCES

Somalia is considered one of the poorest countries in East Africa and in the world (Conze, P. and Labahn Th., 1986). Its name has become almost synonymous to poverty and hunger and therefore, ended up in the mailing lists of many "doner countries" so that they can divert all sorts of food aid (cereals, cooking oil, fresh and canned meat, canned fish, fruits and vegetables, powder milk etc.) to Somalia. The agricultural resources available in the country indicate however, that this picture - of almost absolute misery - does not properly fit Somalia all the time. It is mainly due to under-exploitation and poor management of the relatively abundant resources. Moreover, unlike many African countries, Somalia has not a population increase which can seriously undermine the agricultural output. In order to further elaborate these points here are some basic data on human population and agricultural resources in Somalia.

5.1.POPULATION: In 1988, Somali population was estimated at about 8.5 million of which 80.5% or 6.8 milion individuals live in rural areas and 19.5% or 1.7 milion individuals in urban areas (Directorate of Planning, 1988). The rural population is generally divided into two groups: nomads

and semi-nomads who constitute 37% (about 5 milion) and sedentary communities, mainly farmers and fishermen who constitute 27% (about 1.8 milion) (table 3). According to FAO (1986) annual population growth rate in Somalia was and still remains one of the lowest in Africa. It was estimated at about 2.2% in the years 1980-2000 and 2.8% in the years 2005-2010 (table 4). More than 50% of the population is under 15 years of age (Buchi et al. 1989).

Table 3. Population Distribution in Somalia (x1000)

Population	Total	%
Rural	6.842	80.5 of the total population
Nomads and Semi-nomads	4.995	37.0
Sedentary	1.847	27.0
Urban	1.658	19.5 of the total population

Source: Directorate of Planninig, 1988. Annual Development Plan 1988. Ministry of National Planning, Mogadisho, Somalia.

Table 4. East African countries ranked according to their population growth rates in 1980-2000

Country	Percent		
	Pop.growth rates Ave. 1980-2000	Peak growth rates	Period of peak
Kenya	4.2	4.3	1990-1995
Uganda	3.6	4.1	1950-1965
Ethiopia	3.1	3.3	1990-1995
Sudan	2.9	3.1	1970-1975
Somalia	2.2	2.8	2000-2010

Source: FAO, 1986. African Agriculture. The Next 25 Years. Annex I: Socio-economic and Political Dimensions. United Nations. Rome, Italy. p.9

5.2. LAND USE: The total area of Somalia is 63.765 milion ha. Of these 13% or 8.150 milion ha are potentially arable land. About 45% of the total land area or 28.850 milion ha are range land. The remnent 42% or 26.765 milion ha are non agricultural land (table 5).

5.3. CROPS: Most of the potentially arable land is however marginally suitable for cultivation, due to low or unreliable rainfall, soil deficiencies etc. In 1983, a total of 700 thousand ha were under cultivation. Of these, 540 thousand ha under rainfed conditions, 110 thousand under flood irrigation and 50 thousand ha under total controlled irrigation (table 5) (Boguslawiski, 1986). More recent reports on land use and development in Somalia indicate however, a marked increase in both cropped and potentially cultivable lands (FEWSD, 1988). There are two perennial rivers, the Shabele and Juba, in Somalia. Vast sediment areas formed by the rivers constitute the country's most fertile lands (FEWSD, 1988). Because of the wide ranging climatic conditions, crops grown widely vary. They include: various types of vegetables sorghum, maize, rice, wheat, cowpea, mungbean, groundnuts, sesame, sugar cane, bananas, Irish potatoes, sweet potatoes, cassava, peaches, dates, coconuts, mangoes, papaya, grapefruits, mandarines, lemons, watermelon, tobacco etc.



Area	Potential land use (cultivable land)		Cultivated land in 1983 (crop production)	
	1000 ha	%	1000 ha	% of potential land
Non agricultural land	26.765	42	----	----
Range land	28.850	45	----	----
Land for crop production				
Total controlled irrigation	250	0.1	50	20
-Shabele River	86	----	35	41
-Juba River	160	----	14	9
North/W Region	4	----	1	25
Flood irrigation	----	----	110	----
Rainfed	7.900	12.6	540	7
Total arable land	8.150	13.13	700	9
Total land	63.765	100	----	----

Source: Boguslawiski, M.v. 1986. The crop production of Somalia.

In: Conze, P. and Labahn, Th. (Eds.), Somalia: Agriculture in the winds of change. Saarbrucken-Schafbrücke, Germany, pp.23-54.

5.4.LIVESTOCK: In 1985, livestock population in Somalia was estimated at about 40 million head of which 4.4 million cattle, 6.0 million camels, 11.0 million sheep and 18.5 million goats (table 6) (FAI, 1985). Horses, mules

and asses reach at about 50 thousand head. Pastoral livestock raising has traditionally been the mainstay of millions of Somalis and is considered suitable in the agroecological system of Somalia.

Table 6. Livestock distribution in Somalia (x1000)

Zone	Cattle		camels		Sheep		Goats	
	n.	%	n.	%	n.	%	n.	%
Nord	325	7.4	1694	28.1	7360	66.5	7851	42.5
Center	815	18.4	1784	29.6	2353	21.3	6933	37.6
Sud	1319	29.8	1169	19.4	649	5.9	1728	9.4
Juba	1966	44.4	1379	22.9	696	6.3	1934	10.5
Total	4425	100	6026	100	11058	100	18446	100

Nord (W/Galbeed, Togdheer, Sanaag, Bari and Nugaal)

Center (Mudug, G/Gudud, Hiran)

Sud (Lower Shabele, Middle Shabele and Banadir)

Juba (Lower Juba, Middle Juba, Gedo, Bay and Bakool)

Source: Fondi Aiuti Italiani (FAI), Piano carni, 1985.

5.5.FISHERIES:Somalia has the longest coastline of any African country on the continent, stretching to approximately 3300 Km (Somali Chamber of Commerce, 1989 or 1990 ?). Although further studies are needed to establish their full extent, fish resources of the Somali waters are said to be the most extensive in Africa (Pomeroy et al. 1986). This high marine productivity of Somali coast is often associated with areas of upwelling (5 spots in all over the world) which bring up cold, nutrient-rich deeper waters to the surface of the sea and make them available to the organisms of the food chain. Less than 2% of the Somali population is currently engaged in the fishing activity.

6. EXAMPLES OF UNDER-EXPLOITATION AND POOR MANAGEMENT OF AGRICULTURAL RESOURCES

Despite the extensive and highly productive marine resources; the presence of over 40 million animals and more than one million ha land area under cultivation and nearly another one in reserve, the relatively small population of Somalia live in almost permanent poverty and food insecurity. Malnutrition due to protein, vitamin and mineral deficiencies is widespread among all strata of the society. Several surveys carried out by Somali and World Health Organization teams in different regions of Somalia have shown that hundreds of children as well as adults die every year for malnutrition including protein deficiency (the very nutritive substance that Somalis proudly claim to have in excess) (Safia, 1989).

There is a long list of somehow interrelated reasons for the perpetuation of this poverty and malnutrition. The following few examples will illustrate how ignorance (or mental poverty) plays a determinant role in keeping poverty and malnutrition in Somalia.

(a):Fishing activities and fish consumption are considered by the overwhelming majority of Somalis, a degrading habit and poor dish for only low class people. This, in turn, makes the majority of Somalis victims of their own wrong ideas about nutritive values of fish and marine resources in general and paradoxically, makes them starve to death on the longest and richest coastlines of Africa.

(b):In a country where millions of well-fed bulls, donkeys, mules, horses and camels are readily available and easily trainable for farm works, farmers still till the land with simple hoes, kawawas (hand monoevred woden land leveler and ridge maker), long, sharpened steaks etc. This is partly because of profound respect (not veneration) for the animals and partly because they do not know how to use them for farming. Buying or even hiring tractors being too expensive for most of the small farmers, only small fraction of the family land (about 2-3 ha) is cropped every year. North West regions and particularly Borama and Gabileh Districts are some of the few areas where animal traction has traditionally been used, probably because it has been learned from the neighbouring Ethiopian farmers.

(c):Another thing that Somalis proudly like to claim is the abundance of

animal hides and skins. Yet a great many of the rural population go around bare feet or wear a pair of shoes made of an old car wheels (kabo shaag). City people like wearing imported plastic shoes in a climatically hot country. On the other hand, millions of hides and skins are wasted every year because only few people know how to make shoes, bags and many other items from them. Shoe makers in Mudugh, Galgudud, Hiran and many other Somali regions are given the lowest status within the society.

Other reasons contributing to poverty and malnutrition are lack of tradition and know how in some production sectors such as poultry and cheese making coupled sometimes, with limited local primary products such as cereals. The following two examples will illustrate better the Somali situation.

(a): Poultry farms appear and shortly disappear in and around Mogadisho and other main cities of Somalia because they compete -and of course fail- with human population for maize and sorghum consumption. In the national holidays such as Id al Fitri (days after the fasting month) the price, say of three or four eggs could be as high as that of one Kg of the best meat in Mogadisho.

(b): Cheese production and consumption are not commonly part of the Somali tradition. Small amount of cheese is generally imported in the main cities where consumers seem to grow in number. On the contrary, there is a massive import and consumption of powder milk in Somalia. In rural areas millions of tons of excess milk which could be easily transformed into various types of cheese and powder milk are wasted every year, particularly in the rainy seasons. It is said that farmers and pastoralists around Mogadisho commonly use to buy cheap powder milk from the city, mix it with some milk of their own animals just to change the characteristic smell and taste of the powder milk and sell it back as genuine, whole and fresh milk to Mogadisho inhabitants. What is sure is however, that more than 50% of the milk processed in Mogadisho Milk Factory is in the form of powder imported from Europe.

Overall poverty and malnutrition also persist in Somalia because the

annual growth rate of its population (which is very small in absolute size) is faster, most of the time, than the agricultural output growth rate. There is however, little awareness of the demographic problems at all levels of the society. What is widely known instead, is the poor management of the relatively abundant agricultural resources which leads to extremely low productivity of crops and animals. Infact, it is because of the poor resource management coupled with adverse environmental factors, inadequate agricultural input supply etc. that the national average yields for most crops are extremely low, being about 0.2, 0.4, 0.5 and 1.2 t ha⁻¹ for cowpea, sesame, sorghum and maize respectively (Reference ?). As it is shown in table 7, the low level (even for East African standard) of agricultural input such as fertilizers used in Somalia is one of the reasons determining the low crop yields and therefore, dependency on food aid and import of commercial food. It is worthnoting however, that the small amount of fertilizers reported in the table 7 are almost interely applied to the italian owned banana plantations and state owned sugar cane farms.

Table 7. Average fertilizer use per hectare of arable and permanent crops in East Africa (Kg nutrients/ha in 1983)

Country	Kg/ha
Ethiopia	4
Kenya	38
Somalia	2
Sudan	7
Tanzania	4
Uganda	n.a.

n.a. not available

Source: FAO. 1986. African Agriculture. The Next 25 Years.
 Annex III: Raising Productivity. United Nations.
 Rome, Italy. p.8

Livestock production is also extremely low. Annual average cow milk (whole and fresh) production is estimated at about 350 Kg, while annual average beef and veal production is estimated at about 110 Kg (FAO, 1988 ?). On purely comparative basis, annual average cow milk (whole and fresh) and beef and veal production in UK are about 5000 Kg and 270 Kg respectively. These averages are also low for East African standard and definitely lower than the world average (table.8).

Table 8. Cow milk and beef and veal production in East Africa
(compared to UK)

Country	Cow milk (whole, fresh) Kg/AN (Average 1985-1987)	Beef and Veal Kg/AN (Average 1985-1987)
Ethiopia	211	110
Kenya	450	123
Somalia	350	110
Sudan	495	165
Uganda	350	150
UK	4923	269

Source: FAO, 1988 ?

In Somalia, marine resources are simply under-exploited. Fishing communities are scattered along the 3300 Km coastline. Fishermen are very small in number and poorly equipped for the task they have to perform. According to Somali Chamber of Commerce, at the end of 1987, Somali fleet was composed of 554 motorised fishing boats, 462 canoes and 84 traditional sailing boats. Fish production in 1986-1987 was as follows:

	1986	1987
Artisan fishing	12653	8088
Industrial fishing	4800	10748
Crustaceans	802	1016
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	18255	19852

In addition to the long list of problems described before, there are others contributing to the low productivity of the agricultural resources and therefore, to the poverty and malnutrition. These are:

(a):ENVIRONMENTAL PROBLEMS such as: (i) Meagre and irregular rainfall throughout the country, in terms of both quantity and distribution; (ii) Recurrent droughts, although droughts covering whole Somalia and lasting for three years are rarer;(iii) Soil degradation and desertification, particularly in Gedo, Hiran, Lower Shabele, North West regions where 1.5 milion Somali refugees from Ethiopia were settled after Somali-Ethiopian conflict in 1977-78 (Dolal, 1990). Degradation and desertification have also occurred in heavily grazed areas such as near the water points where up to 90% of the land could be bare (Barker et al. 1987:39; Yasin et al. 1987:379); (iv) Salinization, moving sand dunes encroaching on crop land, and soil depletion and erosion reducing the lands already open for agriculture; (v) Presence of huge population of insects, diseases and viruses. Local and migrating birds which practically destroy cereals and other crops.

(b):INADEQUATE AGRICULTURAL POLICY such as:(i) Fixing low prices for fisheries, crop and animal produces in order to give advantage to urban population;(ii) Direct and indirect high taxation on agricultural commodities without ploughing back the agriculture outcome to the agriculture sector;(iii) Lack of representation from the farming communities in almost all agriculture policy making levels and imposition from above inefficient regional and district administrations;

(c):SOCIO-ECONOMIC PROBLEMS such as:(i) Lack of credit facilities in agriculture sector because the small farmers, pastoralists and fishermen who constitute the backbone of the Somali economy, practice subsistence farming for which Somali Banks have not yet devised simple ways of lending money or other agricultural input; (ii) Low social status attributed to the real producers (farmers, fishermen, pastoralists) in the eyes of the

urban dwellers. The social scale in the last 20 years could be summarized as follows: soldier> clerk> small business man> pastoralist> fisherman> farmer> hunter; (iii) Lack of sanitary service in agricultural areas. This leads to illness and less exploitation of land and sea resources; (iv) Change of eating habits in the Somali big cities where people like to eat all imported commodities such as spaghetti and rice, and drink powder milk. This put the farmers, specially crop producers into a difficult position because they cannot satisfy the market demand; (v) Conflict of interests between farmers and pastoralists over water, grazing land etc; (vi) Lack of integration of crop and livestock sub-sectors.

(d): TECHNICAL PROBLEMS such as: (i) Insufficient or economically inaccessible agricultural input such as fertilizers, herbicides, improved seeds etc.; (ii) Inefficient research and extension services. This later problem has left Somalia to use genetically low producing crop varieties and animal races; (iii) Lack of innovative agricultural practices in substitution of the traditional methods.

7. AGRICULTURE: THE ONLY WAY OUT OF SOMALI PROBLEMS

In Somalia, agricultural population -defined as "all persons actively engaged in agriculture and their non working dependents" is over 85% of the total population (8.5 milion). Despite the overmentioned ecological, socio-economical, educational and technical constraints, Somali agriculture including crops, livestock and fisheries is capable of producing great amount of produces and has the potential to meet the needs of its people. In fact, in climatically favourable years, sufficient amount of sorghum and maize for human, and sometimes for animal consumption are easily produced (Reference). In traditionally sesame producing areas of Somalia such as Lower Shabele and Juba Dhesheks, yields per ha of this crop always remain slightly higher than the world average. This is partly because of the considerable knowledge of the local farmers who, in absence of herbicides, use the water as means of weed control, e.i. by pre-flooding the land destined to sesame or following the gradual retreat of the water in the naturally flooded Desheks. In Somalia there are many crops which could rapidly be improved at a level of self sufficiency.

Somalia is also well known for its fast growing livestock population and therefore, excess meat and milk production, whenever the climate remains favourable for few consecutive seasons. This is also due to the pastoralists' considerable knowledge of livestock production management and his inherent tendency to stock maximization, which is the basis of social security for the lineage and the life insurance of the individual proprietor (Dolal, 1990).

As explained before, fish resources of the Somali waters are said to be the most extensive in Africa but paradoxically, less than 2% of the Somali population is currently engaged in the fishing activity. It is worth noting however, that the fishing communities are economically more stabler than the nomads and farming communities because they are not subjected to long and recurrent droughts.

Both primary produces and byproducts of crops, livestock and fisheries can feed hundreds of small and big factories such as the ones run before and destroyed during the civil war, e.i. Sugar factory, maize and sorghum milling factories, fish and meat canning factories etc.

At the present knowledge, there are no other natural resources readily available in Somalia.

Somali agriculture -in its broadest sense- becomes therefore, the only source of life and the future wellbeing of all Somalis if properly developed. This gives strength to the widely documented role of the agriculture sector on the political stability in Africa and particularly in Somalia (Reference). Infact, if agriculture fails to deliver enough food to the people, a lot of poverty and malnutrition will be generated. This in turn, will ignite civil unrest, hence political instability and the downfall of the poverty responsible regimes as happened in Somalia.

From the downfall of Siad Barre's regime (end of January 1991) there has been a lot of fighting over who will lead the "will be" Third Somali Republic. In my opinion, it is not important who wins over who in the current struggle for political power because any established form of government in Somalia will certainly collapse within a few years if it fails to implement sound agricultural policies and effectively reduce within a short time the level of poverty and malnutrition. The only way out of the present crisis is therefore, to (i) recognize the important role of agriculture in both the origins of these economic and political problems and their solutions and to (ii) do something about it without delay.