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A Review of Ethiopian Agriculture: Roles, Policy and Small-scale Farming Systems

BACKGROUND

Agriculture is the backbone of the Ethiopian economy. This particular sector determines the growth of all other sectors and consequently, the whole national economy. On average, crop production makes up 60 percent of the sector's outputs, whereas livestock accounts for 27 percent, and other areas contribute 13 percent of the total agricultural value added. The sector is dominated by small-scale farmers who practice rain-fed mixed farming by employing traditional technology, adopting a low input and low output production system. The land tilled by the Ethiopian small-scale farmer accounts for 95 percent of the total area under agricultural use and these farmers are responsible for more than 90 percent of the total agricultural output.

Small-scale farmers produce 94 percent of the food crops and 98 percent of the coffee, the latter being Ethiopia's leading export good. Private and state commercial farms produce just 6 percent of food crops and 2 percent of the coffee grown. These commercial farms use about 5 percent of the total cultivated land. Coffee, cotton, tea, fruits, and vegetables are the major crops grown by the few commercialised state farms, although with very minimal return despite huge investments in them (MEDIC 1999). With these statistics, one can easily infer to what extent the small-scale farmers (who are all rural dwellers) are the key element in strengthening the effort towards agricultural growth and consequently to the overall economic growth.

The country has varied agro-climatic zones. The Government extension programme lists these as: areas of adequate rainfall; areas of moisture stress; and pastoral areas. Farmers traditionally classify them as dega (cool), woina dega

(temperate) and qolla (low land; warm climate). This diversity makes it a favourable region for growing a variety of crops (Desalegn Rahmato 2008).

The country is endowed with one of the most biodiverse ecosystems in the world. It has earned the name “the Water Tower of Eastern Africa” for having more than ten rivers, each of which has irrigation potential. It also has the largest livestock population in Africa (est. 114 million), i.e. 2.5 per capita (MEDIC 1999). As regards to the agricultural suitability of the country’s territory, some estimates indicate that more than 65 percent (78.9 million hectares) of the land is fertile for agricultural purposes (Haile Kibret 1998).

Demographically, the country is the second most populous country in Africa after Nigeria. In 2007, Ethiopia had a total population of 79.22 million. The total fertility rate of the country is 5.9 children per woman; 3.3 for urban and 6.4 for rural women (estimates for the years 1995–2000). 83 percent of the population lives in rural areas, whereas only 17 percent reside in urban areas. However, a report by UN-Habitat (Economist 2010) foresees an increase of 62 percent in the number of urban dwellers by the year 2025 for Addis Ababa. The same source also states that the age structure of the population is youth dominated, similar to

Ethiopia is known as the Water Tower of Eastern Africa.



other developing countries. 43 percent of the total population is under the age of 15. With such a predominantly young population the country has undoubtedly the potential for fast growth (theoretically known as “population hidden momentum”). The UN report also indicated that the dependency ratio (the proportion of the population younger than 15 and older than 64 to the total population) is high; 55.45 percent of the population is the productive segment and the remaining 44.55 percent is the dependent segment. From this data, it is possible to infer that such a high dependency ratio can easily hamper the country’s efforts to develop.

Being aware of the above mentioned factor endowments – a huge labour force in the rural areas, relatively abundant agricultural lands, diversified agro-climatic zones and sufficient water resources – the Government of Ethiopia has devised the current national development strategy called Agricultural Development Led-Industrialisation (ADLI). ADLI takes agriculture as the engine of national economic growth. Through ADLI, the country plans to end up with rapid and sustainable economic growth and independence from foreign food aid, ensuring maximum benefit for the local population in the context of a free, open market. As the Government has taken the small-scale farmer and the local leadership (lower strata of the administration) as active and fundamental players in the implementation process, building the capacities of the peasant farmers and the local leadership are the two most important goals.

This paper tries to assess and to identify the role of the agricultural sector in the Ethiopian economy at macro- and micro-levels. Eventually, it identifies possible areas within which the voluntary sector could intervene in supporting the sector at both national and local levels.

THE PLACE OF AGRICULTURE IN THE ETHIOPIAN ECONOMY: THE MACRO-LEVEL

THE ROLE OF AGRICULTURE

In 1999, The Federal Ministry of Economic Development and Cooperation (MEDIC), (now called the Ministry of Finance and Economic Development MoFED), revealed that agriculture contributes greatly in terms of export, employment, and subsistence to the Ethiopian economy. It contributes 50 percent of GDP, 85 percent of employment (the rural population of Ethiopia), 90 percent of earnings from export, and 70 percent of raw material requirements for large and medium industries that are agro-processing (MEDIC 1999).

Haile Kibret revealed that the agricultural sector, due to its major contribution to the GDP, highly influences the performances of the other sectors of the economy (Haile Kibret 1998). It, for example, accounts for more than 80 percent of employment and 90 percent of exports. Ethiopian export commodities are agricultural outputs: coffee; hides and skins; and seeds and nuts used for edible oil production. As these are the main sources of foreign earnings, they also automatically define the country's capacity to import other materials used in manufacturing. Kibret also stresses that macro aggregates, like employment and inflation rates, are also influenced by the sector (Haile Kibret 1998).

Ethiopia's 2004 Millennium Development Goals (MDGs) report – jointly compiled by the MoFED and the UN Country Team – confirmed these statistics and stated that the Ethiopian economy is fundamentally rural and agricultural. Agricultural employees account for more than 85 percent of total population and the sector contributes to half of the GDP. Nonetheless, recent sources indicate that there is a shift in agriculture's contribution to GDP.

The updated estimates of the 2005/06 Ethiopian fiscal year (year 1998 in the Ethiopian calendar) and the 2006/07 forecast (year 1999) are based on the 1999/2000 base year, which revealed that the GDP contribution (both nominal and real) of agriculture was taking a lion's share of the total GDP growth with 53.6 percent in 1995/6. This had started to decline, and reached 43.3 percent in 2002/3. Its contribution then rose again to 27.3 percent by 2005/6. Table 1 shows the share of agriculture to nominal and real GDP.

The same report indicated that the GDP contribution of the major sectors for the year 2005/6 were 47 percent, 13 percent and 40 percent for agriculture, industry and services, respectively. The national economy grew at an average rate of

10.7 percent for the three successive years of 2003/04 to 2005/06. For this period, the agricultural sector contributed 60 percent of the growth whereas the industry and the services sectors contributed 10 percent and 30 percent, respectively (MoFED 2006). One can therefore easily understand how agriculture has been playing the key role in speeding up the overall growth of the economy.

In the history of Ethiopia's export markets, coffee has been the number one export good, dominating all other export products. It not only supports the entire economic growth of the nation but it is also the source of income for millions of coffee growers, thousands of coffee traders, primary cooperatives and unions, financial institutions and transportation enterprises. Some of the Ethiopian coffee importers include Germany, Japan, Saudi-Arabia, Belgium, USA, Italy, France, the Sudan, England and Switzerland.

Oil crops take second place in terms of Ethiopian agricultural exports. Niger (nueg), sesame seeds, sunflower and ground nuts are also exported to Asia, Europe, America and Africa. Countries like China, Turkey, Israel, USA, Jordan, Greece, Switzerland, Yemen, Saudi Arabia, Canada and Britain are the main export partners.

YEAR	SHARE OF AGRICULTURE TO NOMINAL GDP	SHARE OF AGRICULTURE TO REAL GDP
1995/96	56.7	53.6
1996/97	55.4	53.4
1997/98	50.6	49.8
1998/99	47.4	48.6
1999/2000	47.4	47.4
2000/01	45.7	48.8
2001/02	41.9	47.3
2002/03	41.2	43.3
2003/04	43.4	45.4
2004/05	46.9	46.6
2005/06	48.1	47.3

Source: MoFED, Department of National Economic Accounting

TABLE 1: Share of Agriculture to Nominal and Real GDP



Cattle from Ethiopia is exported to various countries.

Pulses like white pea beans, chickpeas, peas, mung peas, lentils, and beans have also been exported to Sudan, UAE, Pakistan, Yemen, India, South Africa, Germany and Singapore, in addition to other regions.

Horticulture items (vegetables and fruits) like beans (*Phaseolus vulgaris*), lemon, tomatoes, potatoes, banana, oranges, onion, mango, avocado, cabbages, papaya, and garlic are also exported to different countries.

In terms of livestock numbers, the country stands atop the list in Africa and ranks tenth in the world. However, animal husbandry has not managed to establish itself as a main contributor to the national economy as once hoped for due to the use of backward technologies. Ethiopia has been exporting different livestock like cattle, camels, sheep and goats, together with their meat, to different countries. The same report also shows that notwithstanding various constraints, external trade has increased relative to past years. Table 2 depicts the difference over 23 years (between 1984/5 and 2006/7).

There is, however, a structural shift in the overall macro-economy and, hence, in the relative position of agriculture. The Hand Book of the Ethiopian Macro-Economy (Access Capital 2010) describes the projected composition of the Ethiopian GDP by analysing three broad divisions of the economic sector: agriculture, industry and services. Table 3 indicates that the services sector,

	VOLUME (IN TONNES)			VALUE (IN ETB)		
	1984/85	2006/07	DIFF. %	1984/85	2006/07	DIFF. %
COFFEE	73.8	176.4	239	446.3 m	3.8 bn	851
OIL SEEDS	12.4	235.2	1,887	15.6 m	1.7 bn	10,897
PULSES	20.0	158.7	795	16.9 m	624.2 m	3,695
VEGETABLES & FRUITS	9.9	41.0	415	6.0 m	145.5 m	2,416

Source: MoRAD

TABLE 2: Changes in major export agricultural commodities of Ethiopia

involving real estate, wholesale and retail trade, accommodation, catering, financial services, education, etc. has taken the lead position in the economy. It also shows structural shifts in the Ethiopian economy over three consecutive years and a forecast for the 2011/12 fiscal year in terms of the trends for the three sectors relative to GDP contribution.

Nonetheless, despite the recent structural shifts, agriculture still plays a key role for the growth of these other sectors and the growth of the national economy as a whole.

MAJOR CONSTRAINTS FACED BY THE ETHIOPIAN AGRICULTURE

Ethiopian agriculture has been suffering from various external and internal problems. It has been stagnant due to poor performance as a result of factors such as:

- Low resource utilisation (e.g. the proportion of cultivated land compared to the total amount of land suitable for agriculture and the amount of water available for irrigation is far below the capacity and thus compels the sector to be rain fed);
- Low-tech farming techniques (e.g. wooden plough by oxen and sickles);
- Over-reliance on fertilisers and underutilised techniques for soil and water conservation;
- Inappropriate agrarian policy;
- Inappropriate land tenure policy;
- Ecological degradation of potential arable lands;
- Increases in the unemployment rate due to increases in the population (Haile Kibret 1998).

Yonas Ketsela has summarised the main structural constraints for Ethiopian agriculture (Yonas Ketsela, 2006). These, among others, include the following:

- Archaic mode of production and low uptake of technological innovations, which in turn yield low levels of productivity;
- Degradation of land and other natural resources due to intense cultivation and overgrazing;
- Recurrent drought, civil strife and political unrest;
- Effective policies governing such issues as land ownership, land titles, land fragmentation, credit systems and land and crop insurance mechanisms are not available or are very limited; and
- Neglect and lack of agricultural investment.

These constraints, coupled with the rapid population growth, have significantly contributed to the problem of food insecurity since the 1960s. For Ketsela, the total population under the national poverty line facing dramatic food insecurity is estimated to be 50 to 60 percent (Yonas Ketsela 2006).

Nonetheless, readers should take caution when encountering such a figure as many recent reports reveal that the current total population under the national poverty line is estimated at 29 percent and is forecast to decline to 22 percent by the end of the year 2015. The Ethiopian Government has cited in its agriculture development policy a lack of appropriate policies and strategies as the ultimate reason for the sector's past stagnation. The driving force for the government to issue the Agricultural Development Led Industrialisation (ADLI) policy therefore is to alleviate these problems.

The external market is a binding constraint on the positive development of the country's macro aggregates due to deterioration of trade (especially coffee) and the rising level of imports combined with the volume of exportable goods (MoFED 2004).

FISCAL YEAR	SECTOR CONTRIBUTION TO GDP (IN PERCENT)		
	SERVICES	INDUSTRY	AGRICULTURE
2008/09	45.1	12	42.9
2009/10	46.7	13.2	40.1
2010/11	49.1	13.3	37.6
2011/12	47.0	12.8	40.2

TABLE 3: Structural Shift in the Ethiopian Economy

OVERVIEW OF THE ETHIOPIAN AGRICULTURAL DEVELOPMENT POLICY

POLICY OBJECTIVES, PRINCIPLES AND STRATEGIC DIRECTIONS

Ethiopia's current overall economic development objective has four elements:

- Rapid economic growth;
- Maximum benefits to the Ethiopian people from this growth;
- The elimination of Ethiopia's dependence on foreign food aid; and
- Ethiopia's emancipation from its current status in the global economy – from the position of being mere aid recipient to becoming an active partaker in the global integration process.

An independent, free market economy and a democratic system of governance are understood to be the underpinnings of these efforts to realise the four elements of the aforementioned policy objective. The Government's strategy is to achieve these development objectives through an agriculture-centred rural development programme. The rationale for choosing such a strategy is based on the rural nature of most livelihoods in Ethiopia and the dominance of agriculture in the Ethiopian economy.

This strategy acknowledges that the country's main resources are land and labour, while there is a critical shortage of capital. This factor takes on further significance when one factors that 85 percent of the population lives in rural areas. Therefore, by fostering agricultural development, it will be possible to create strong rural-urban linkages, increase capital available for re-investment, and sustain foreign exchange earnings. The assumption is that agriculture will be able to contribute to the development of other sectors. Thus, it is more realistic to assume that the role of the agricultural sector has a comparative advantage as opposed to the other sectors when considering it as the engine for economic growth in the country. The strategy is also expected to bring about enhanced benefits for the people. The prime source of growth is output created via the employment of labour and land resources worked by the people themselves. Thus, the government's policy plans to combine pro-agricultural policies with effective health policies and labourer education and training.

The strategy is also taken as means of eliminating the country's food aid dependency, as it is believed to increase the purchasing power of the majority of the population and to promote an internally interconnected national economy. This means that it will both promote national economic development (i.e. expand

the domestic market) and minimise the country's vulnerability to external shocks. The end results include minimised dependency on foreign aid, enhanced participation in the global economy, and eventual economic independence. The strategy is also expected to bring about a free market economy, which is regarded as a governing principle of and a suitable context for achieving the above mentioned development objectives. The free market economy however would need to be based on broad economic activity. Thus the strategy is geared to productively engage the majority of the Ethiopians in the economy. If the majority of those Ethiopians within the productive age bracket are involved productively in the economy, this will be one of the first steps on the way to a developed free market economy (MoFED 2003).

The ADLI strategy is also supposed to be implemented following a number of strategic focus areas:

- Labour-intensive technologies and strategies;
- Proper utilisation of agricultural land;
- Incorporating existing indigenous farming technologies where suitable;

Land tenure and property rights are major issues for agricultural development in Ethiopia.



- Taking different agro-climatic zones into account;
- Integrating agricultural and rural development programmes;
- Building an agricultural marketing system (involving the promotion of agricultural exchange through grading agricultural products, provision of market information, improving and strengthening the participation of private capital in agricultural marketing, and promoting the setting up of cooperatives);
- Improving rural finance systems;
- Encouraging private agricultural investors;
- Expanding rural infrastructures (education, health, water supply, etc); and
- Expanding agricultural non-development activities.

The policy also stresses that no matter how well policy and strategies are designed, they cannot bring about the desired effects unless they are implemented effectively through efficient leadership. As a result, two key forces are considered as crucially important: the local leaders and the peasant farmers. Thus building the capacities of the local leaders as well as ensuring the popular participation of the small holder peasants, are considered core elements of the strategy.

POLICY DEBATES: CONTROVERSIAL ISSUES

As regards to the current agricultural development policy of Ethiopia, two major issues have been controversial points of debate: the land holding system and tenure security; and the role of the small-scale farmer in being the main contributor to the achievement of the developmental objectives expected from the agricultural sector.

The questions most often raised are:

- Can the small-scale farmer, with fragmented and small sized plots farmed by applying backward technology, be responsible for attaining the intended developmental goals and reach food self-sufficiency?
- Can the current land tenure and ownership system encourage land-holders to make land-augmenting investments on their land?

LAND TENURE POLICY AND ITS EFFECTS

Ethiopian scholars agree that land tenure and related issues feature prominently in the political as well as economic history of the country. According to Tafesse

Olika, land rights have been and remain a central problem in the development of the agricultural sector (Tafesse Olika 2006). Hence, the issue of the landholding system was at the core of Ethiopian politics. Present land tenure systems in Ethiopia are to be seen within the context of three different past systems: the feudal system, the military government, and the current federal democratic state.

In the Imperial regime, land holding systems were divided in three: the rist which meant access to land based on one's lineage, the gult was land allocated to the Orthodox Church, and the crown (state) lands. According to Tafesse Olika, during the imperial regime two contradictory landholding systems were observed: the tendencies towards both privatisation and nationalisation of land. Not only the land but also the peasants (tillers) theoretically belonged to the state or the emperor. Peasants were not allowed to leave to their descendants the land they used to till.

The same source also indicated that the Derg-socialist regime, after assuming power by military force in 1974, promulgated the 1975 "Land to the Tiller" Proclamation, which aimed to: weaken the feudal landlords who were in favour of the imperial regime; respond to the students' protest which had "Land to the Tiller" as a slogan; and to cool down peasant upheavals against the land holding systems of the imperial regime. The peasantry was given the right of use but without any transfer rights. Land was not to be sold, mortgaged, or leased.

The current land policy is one element of the 1995 Federal Democratic Republic of Ethiopian (FDRE) constitution. Art. 40 vests the right to ownership of rural and urban land exclusively in the state and collectively in the peoples of Ethiopia. Only use and not ownership rights are guaranteed. As land is the common property of the "Nations, Nationalities and Peoples of Ethiopia", it cannot be sold, exchanged and mortgaged. On the one hand, it gives the Government the right to expropriate the land for public purposes and to give to private investors the right of use on the basis of payment arrangements. On the other hand, the provisions grant the peasants the right to:

- Obtain land without permanence;
- The protection against eviction from their possessions;
- Enjoy full rights to improvements one brings about on the land by labour and/or capital: including the right to alienate, to bequeath, to remove one's property when one's usage rights expire, to transfer his/her title or claim compensation for it (Dasalegn Rahmato 2008).

Although the aforementioned policy is said to be better than the previous policies in defending the rights of small-scale farmers as development partners (as opposed to the previous ones where the peasants were considered mere subjects of the ruling parties), it is highly criticised for not giving adequate ownership rights to farmers (Tafesse Olika 2006).

Desalegn Rahmato (2006) has summarised the fundamental criticisms of the current Ethiopian Peoples' Revolutionary Democratic Front's (EPRDF) land policy (as currently stated by many other writers) as follows:

- The policy promotes insecurity of tenure because it allows, among other things, periodic redistribution (or at least the threat of such redistribution);
- It is inefficient because it limits land transactions and has inhibited the emergence of a dynamic land market;
- It promotes fragmentation of land and growing pressure on land resources because it discourages rural people from leaving their farms for other employment opportunities;

Small scale farmers are the key actors in Ethiopia's current development strategies.



- It inhibits dynamic differentiation within the peasantry as well as the emergence of an enterprising class; and
- It gives the state immense power over the farming population because land is state property.

In the light of these points, the current land policy has been criticised by most members of academia and the opposing political parties.

Some proponents asserted that unless the current land tenure system is changed or at least modified, the hitherto structural constraints that have been retarding the sector's growth cannot be removed. Tafesse Olika, one of the advocates of private land ownership, critiques the effectiveness of the current land tenure arrangement system based on three principles. The first is security of tenure, which involves the right to use land without fear of any form of eviction for political or any other petty reasons. Thus, tenure security would mean the absence of uncertainty that prevents the farmers from investing in the land to enhance productivity. The second critique regarding clarity of title, which means farmers' rights and obligations to the land are not clear. Doubts include: do farmers have the right to improve their holdings? To what extent can one farmer exclude others from using his/her plot? To what extent can the system guarantee permanent boundaries of plots of land? The author Tafesse Olika also details a third critique which has to do with farmers' freedom to use land as a guarantee (or financial collateral) to secure credit from banks, which might help finance investments on land for better productivity and agricultural development (Tafesse Olika 2006). For Tafesse Olika, the current land tenure arrangements in Ethiopia are not good policy and fall into the aforementioned traps. He therefore calls for reform.

Workneh Nigatu argues (Workneh Nigatu 2006) that tenure security and the size of farm lands are two most important determinants of farmers' application of improved technology. Their rate of advanced methods utilisation is in turn the determining factor in farm productivity and output. He stresses that farmers' decisions in favour of using advanced technologies, land management practices, and farm enterprise patterns that improve productivity depends on "land tenure systems which may affect future returns from current investments in land improvement". Nigatu also argues that with insecure land tenure and land transaction, farm households may have less incentive to invest in improved technologies and land management techniques because it takes longer to reap the benefit from suitable land management practices. However, farm households may also increase investment on their land if the investment has a chance to secure tenure for them. Nonetheless, in Nigatu's opinion, within the Ethiopian context it is land tenure

security that precedes farmers investing in the augmentation of their land and not vice versa. Thus he calls for measures to improve the tenure security in order to spur gains in investment and productivity.

In addition to land tenure security, a farm's size determines what kinds of improved technologies can be applied. The application of suitable land management techniques such as crop rotation, agro-forestry, inter-cropping, and soil erosion control is generally negatively influenced by the fragmentation of farm land. A decrease in farm size correlates with a reduction in the application of these techniques, which need relatively larger farm sizes. Because small-scale farmers face the challenge of higher overhead costs per unit of land area; and as they have low incomes and operate in a risk-prone and precarious environment, they tend to avoid risk. Consequently, farmers with smaller plots of land are the ones that in most cases are vulnerable to food and income insecurity. Nigatu stresses that the smaller the size of the farm plots, the less frequently the farmers apply improved technologies (Workneh Nigatu 2006).

The author substantiates his arguments by taking a case study of four districts of the South Wollo Zone Administration, which is located in the northern highlands of Ethiopia. Based on his study, Nigatu asserts that because the farm plots owned by peasant farmers are very small, the farming households could not apply improved technologies. The incidence in the use of improved crop seeds, chemical fertilisers, pesticides, and irrigation water were found to be minimal. 420 farmers were asked whether or not they use fertiliser. In the 2000/01 cropping year, only 16.67 percent asserted that they applied fertiliser, whereas in the following cropping year only 5.68 percent applied it. In the case of improved seeds, in 2000/01 they were used by only 0.94 percent of the farmers and in the years 2001/02 only 6.60 percent used them (Workneh Nigatu 2006).

In short, Nigatu claims that the existing public-ownership land tenure system in Ethiopia, which derives from official allocation by the local governments and through transfer or transaction of land usage rights, precludes any opportunities for land transactions and thus greatly reduces the deployment of new technologies and holds down farm productivity.

The Government has tried to ensure tenure security for farmers by applying user rights registration and certification where the duration of registration lasts for 20–30 years. The intent of the registration and certification scheme was to:

- Secure rights of tenure to peasant farmers and protect the rights of vulnerable groups such as women;

- Reduce land disputes and litigations;
- Facilitate land use planning and management of community and state land;
- Increase investment by small holders on their plots; and
- Provide better opportunities for access to credit services.

However, according to Desalegn Rahmato (2008), the peasants perceived the certification scheme as a means of the right to compensation in the event of dispossession and as a good proof for claim of a given plots of land in the event of land disputes. This means that eviction, dispossession, and disputes are inevitable.

The Government's underlying assumptions and justifications for its policy of public land ownership include the following socio-economic equity issues:

- Every rural individual has the right to a plot of land sufficient for his or her livelihood and should claim the right in his or her kebele or locality (economic reason). If land is privately owned, it is impossible to fulfil such a right but rather can create peasant dispossessions through distress sales or evictions. This might concentrate land in the hands of the few (particularly the urban upper middle class) with concomitant effects of widespread poverty and landlessness;
- State ownership will help do away with the problems of landlessness within farming communities, though this assumption is criticised by the Government's opponents, as many rural people are landless. The government has been employing various instruments to tackle the problem of landlessness. These include periodic redistribution; expropriation of land from those who fail to fulfil certain obligations and transfer of said land to landless individuals; and, more recently, privatisation of the hill sides;
- Promoting social equity among the rural dwellers. Land ownership by the state is also thought of as a means to narrow the gap between the rich and the rural poor, thereby mitigating the disparity in wealth and property that is the cause of antagonism and class conflict (Desalegn Rahmato 2008).

THE SMALL-SCALE FARMER: RESPONSIBLE FOR FOOD SECURITY

The most common definition of food security is that of the World Bank: "access by all people at all times to enough food for an active, healthy life". At the World Food Summit in 1996 the definition was further elaborated to detail the dimensions

of availability, access, and stability. Food security was defined as ‘a situation in which all households have both physical and economic access to adequate food for all members, and where households are not at a risk of losing such access’. The factors considered within the notion of food security are sufficiency (adequate supply of calories and other intakes such as protein and micronutrients); time (chronic or transitory) and access (ability of households to acquire food). Food self-sufficiency has a different meaning than food security as the former chiefly focuses on domestic production whereas the latter incorporates international specialisation and comparative advantage (Yonas Ketsela 2006).

Addressing the ever persistent lack of food security is one of Ethiopia’s major domestic policy goals. The effort is focused on making the country self-sufficient through increased food production and higher farm productivity, with the final goal being ending the country’s dependence on external food aid. Ethiopia’s current development strategy, ADLI, takes the small-scale farmer as the key actor responsible for implementing the rural and agricultural development policies (Desalegn Rahmato, 2008). According to public officials, all that is required to make the small-scale farmers more productive is to help them adopt improved technology and modern land use techniques (Tafesse Olika 2006).

However, this rural-centred agriculture-led development strategy is strongly criticised. Desalegn Rahmato (2003) asserts that Ethiopian agriculture has virtually exhausted its potential and is incapable, in its present form, to serve as an engine for growth and development. His argument is based on the following factors:

- Small-scale farmers are taken as the primary actors responsible for catalysing the Government’s intended growth and development. Nonetheless, they themselves are inflicted with destitution and food insecurity. They are also burdened with insecure holdings, tiny plots of land, and undemocratic extension services.
- It is impossible to attain food self-sufficiency on the strength of domestic agriculture. Rahmato stresses that only a few countries were proven to be successful in feeding their population solely from domestic production. Most countries rely on international markets. As a result, he advocates other alternatives like expanding employment opportunities for rural households, diversifying their sources of income, and expanding rural dwellers’ capabilities.

THE MICRO-LEVEL STRUCTURE OF ETHIOPIAN AGRICULTURE

This section of the paper will highlight the living conditions of farming households at the grass-roots level. Two consecutive group discussions were held with farmers. The first group discussion was held with farmers living in the Amhara National Regional State, North Showa Zone, Tarmaber Woreda, Asfachew Kebele Administration. The second group discussion was conducted with farmers of District Nine (one of the peripheral areas of the City Administration of Addis Ababa, the capital of Ethiopia)

CROP PRODUCTION AND MANAGEMENT

The management and production of crops in specific localities as well as throughout Ethiopia demands much labour and time, and in some cases might necessitate machines and advanced technologies. At minimum the process involves land preparation, planting, weeding, soil fertility management, storage, and proper crop use.

MAJOR CROPS AND BENEFITS

Participants in the rural region (in the Amahra National Regional State) placed the major crops in order of importance. Food crops include teff, which is the staple source of food in Ethiopia, sorghum, chickpeas, and maize. The principle cash crops include mung bean (locally called masho, which is recently gaining popularity as the most favoured cash crop in the area) and sesame seeds. Cash crops are very important for households when they require cash to purchase goods they couldn't otherwise make themselves (like industrial products, for example). The mung bean could fetch as much as ETB 1,500 per 100 kg. Nonetheless, according to research participants, the food-cash dichotomy is no longer unassailable in that the food crops may be sold for attaining different objectives. Teff, the traditional staple food of Ethiopians, is also sold to generate cash in order to, for example, replace oxen or when a household needs to rent more land.

In rural areas of Addis Ababa, the major crops grown are wheat, teff, chickpea, mamoncillo (guaya), lentil and abish, which is one of the locally known spices. Teff and wheat are intended mostly for food consumption but are also being sold when households are in need of cash. White teff is mostly used for



Group discussion participants

trading purposes whilst red-brown teff mixed with wheat is most often used for food consumption within the household.

In short, crops are serving as important sources of food and income for the rural households at both localities of this study.

AGRONOMIC PRACTICES – CHALLENGES AND COPING MECHANISMS

According to findings from a case study by the Sheno Agricultural Research Centre (2002) – currently called Debre Birhan Agricultural Research Centre at Kewet Woreda, which is just ten kilometres from an area featured in one of this

paper's case studies – the types of crops grown and the cropping activities are determined by the onset and distribution of rainfall, the nature of the soil, the priority given to the specific crop, the fertility of farm plots, and the requirements of the crops. One crucial element in the process of crop production is land preparation, as it is decisive in obtaining a good harvest. Establishing a good crop, increasing yield per hectare, reducing weed pressure, and improving soil moisture retention all depend on good land preparation (tillage). Farmland is prepared using the traditional ploughing instruments. Row planting is not easy for the farmers as it needs more labour than broadcasting; therefore, many apply the latter alternative. These and other activities, like weeding and soil fertility management, are highly labour-intensive.

The group discussion participants (who live in the rural area, i.e., Asfachew Kebele Administration) pointed out that some of the biggest challenges they face in the process occur during the stages from land preparation to harvesting. The households have developed coping mechanisms to alleviate shortages of farm labour. These mechanisms are traditionally called *woenfel* and *debo*. The former refers to the exchange of labour between neighbouring farmers based on an agreement where they collaboratively work for each other during the challenging stages of land preparation, weeding, or harvesting. *Debo* refers to the organisation of labour force among neighbours, relatives, or kinsmen for the same purpose. As the *debo* method traditionally demands that the hosting family prepare a sort of feast (involving drinks and foods that might be costly for poor farmers), many are not able to use this method. Farmers who lack the adequate supply of labour also engage in share-cropping where one gives his/her land to others who have a relatively abundant labour supply. Farmers who are better off then hire day labourers.

The most common mechanism for mitigating those shortages of capital that hinder farming activity is *idir*, which is a traditional, informal, economic, as well as social organisation among neighbours and relatives. It was originally intended to conduct burial ceremonies in an economic fashion but grew into a means to regularly save money by members that is used during other times of adversity (like during a crop failure). *Irtiban* is another locally organised social arrangement devised to mitigate economic distress; for example, during livestock death or crop failure, although it is becoming less common these days.

Shortage of land is caused by the distribution of the land among parents and older children, which leads to fragmentation and diminishing plot sizes. Moreover – and more dramatically – rapid population growth is still the centrepiece of

rural poverty and no good solution has been found thus far. Land rental for a fixed period of time (duration and size depend on the land laws of the respective regional state) is one of the solutions meant to mitigate land shortages, but only for those who have the financial means and can employ the necessary labour force. Nonetheless, small-sized farming plots, according to the participants of the focus group, remain a serious cause of rural unemployment.

Lack of farm oxen is another constraint faced by the farmers. This used to force farmers to engage in distress sales of their food crops simply to buy farm oxen. These emergency sales often disrupted the farmers' intended usage and could lead to shortages. Another possible arrangement, traditionally called *mekenajo*, involves the exchange of farm oxen between farmers who collectively own only one animal.

The farmers apply two types of fertilisers: chemical fertilisers (i.e., urea and diammonium phosphates (DAP)) and compost from animal dung and crop residuals. According to the interviewees, both types of fertilisers show similar results in increasing productivity per hectare. However, the organic fertiliser creates a benefit lasting three years once applied, which is far better than the chemical fertiliser's effectiveness. According to the farmers, the preparation of compost is a labour intensive task and therefore they arrange *debo* or *wonefel* as deemed necessary and depending on their financial capacity. The chemical fertiliser is expensive and many farmers cannot afford to pay the full price upfront. Therefore, the District Offices of Agriculture – which are part of the Ministry of Agriculture – sometimes obtain chemical fertiliser in bulk and sell it to farmers while requiring repayment in instalments.

Seed supply is another critical issue that farmers have to deal with. As there are no cooperatives or unions that can supply improved seeds, the farmers themselves apportion and retain seeds from their produce.

Group participants from the peripheral areas of Addis Ababa mentioned many constraints including the small and diminishing size of farm lands; inadequate extension services and follow-ups by the respective office of agriculture; soil infertility; outdated modes of production; and a lack of correct agricultural information. The lack of adequate land is due to the increasing encroachment of public and private investments, as the Government is legally endowed with the right to confiscate land for investment purpose. As already mentioned, large family sizes and rapid population growth are also severe causes of land fragmentation and diminishment. Soil infertility is owed to the over-exploitation of cultivated land. For a farm plot to give good yields, farmers have to apply a high quantity of fertiliser,



Agricultural production is constrained by fragmented plots of farm land due to population growth and growing encroachment of public and private investments.

which is very expensive. Since the land supplies low yields per hectare, many farmers try to take advantage of living near the mega-city of Addis Ababa. These farmers look to wage labour to subsidise their families' livelihoods. According to these farmers, many face the risk of crop failure as a result of unexpected rain because of inadequate extension services given by the office of agriculture, coupled with a general disregard for weather forecasts.

According to the comments of an agricultural development agent, unlike those who live in rural areas, farmers in Addis Ababa try to mitigate labour shortages by employing day-labourers based on a negotiated wage. This is primarily during the times of land preparation, weeding, threshing, and so on. This is possible because these farmers live near the capital where many young rural-urban migrants are seeking jobs. Intensely prolonged or short-lived rain, a variety of pests, and a shortage of land are also some of the constraints faced by the farmers in the course of crop production.

POST-HARVEST MANAGEMENT

Formerly, the farmers used to store their produce in gotera/rique or the equivalent, which translates into barn. However, today, the most common method is storing produce indoors in industrially produced sacks. According to the discussion participants, this is due to decreasing productivity and production that precludes the need to construct a barn. Insects and rodents are threats at this stage and farmers often purchase pesticides from local merchants.

The amount of output produced is generally minimal for farmers who are living at the periphery of Addis Ababa, therefore storage is not much of a concern. Because they are near to one of the many market centres in Addis Ababa, farmers can sell before signs of damage or pest infestation occur during storage.

MARKETING AND MARKET INFORMATION

The Sheno Agricultural Research Centre (2002) conducted research on the Kewet Woreda District, in the Amhara National Regional State. Findings indicate that households usually sell their crop by transporting it to the nearest small town or station using pack animals, on the backs of people, or by means of public transport (the latter is a very rare case due to high transportation costs and a lack of availability). The case study areas have a biannual harvest time (twice a year), traditionally called meher (following the big rain) and belg (following the small rain). Most crops are sold immediately after the big harvest time (meher lasts from December to January). The sale of crops occurs after meher because it is at this time that farmers are expected to settle payments associated with the holidays, previously extended credit (related to fertilisers, seeds, etc), taxes, and other social obligations. Price fluctuations and lack of information are causes for disadvantage to the producers in the selling-buying process.

Group participants clearly revealed that producers are not fairly benefiting from the prevailing market arrangements. The farmers transport their goods from the areas of production to the nearest markets on the backs of pack animals and/or on the back of other household members, which requires much effort and prevents the animals and other family members from participating in other productive activities. Their customers are households in the nearest towns or local retail traders. According to the research participants, the prevailing marketing arrangement is working against them because they have no negotiation power with the traders.

Their lack of leverage is due to three factors:

- Farmers are not organised and sell their produce individually whereas traders are relatively well organised. Thus the traders always reach consensus among themselves to cut the prices of each crop;
- Farmers are often pushed into distress selling in order to purchase industrial materials for household consumption or to buy livestock such as oxen; and
- Farmers are not informed as to the price similar farm commodities fetch elsewhere and thus cannot make informed decisions.

Therefore, according to the participants, it is the traders who set the market price while the producers sell at farm-gate prices and often this does not include the transportation costs and the like. They also do not engage in bargaining to set the prices of their produce.

Farms headed by females and lacking adult male relatives in the household are disadvantaged because of limitations on how far women are permitted to travel to get to the market. Law recognises the equality between women and men but traditions will not change overnight. Women still experience enormous difficulties when trying to benefit from their newfound rights. Rural farming is laborious and tiresome. Women caring for their children cannot simultaneously work on a farm. In addition, women lack capital and other agricultural assets. Even if they own land, most women rent it out in return for very little payment. Moreover, means of transportation in rural Ethiopia are very limited. Farmers travel some three to four hours on foot to reach markets. Women cannot leave their small children unattended for such a long time in order to get to the markets. Their movement is restricted, thus holding them back from meaningful commercial participation in the agricultural sector.

The situation of farmers living in the area of Addis Ababa is different from those living in the Amhara National Regional State. The farmers are well informed (even though still unorganised) of the currently prevailing market prices and they generally manage to sell their produce at higher prices. According to the interviewees, they sell only after a clearly defined and consistent bargaining process with traders (as well as with household consumers). Nevertheless, they too have constraints owing to the lower yield per hectare ratio of their lands due to prior over-cultivation.

LIVESTOCK MANAGEMENT, BENEFITS AND THREATS

In the Amhara National Regional State (the rural setting for the case study) the varieties of livestock raised include cattle, sheep, goats, donkeys, and poultry. Cattle are sources of draught power, threshing, and milk products. Sheep and goats are an important source of income during times of economic stress and cater to more urgent needs of households. Donkeys are kept for transportation and poultry is raised as food as well as for the purpose of trading. However, shortage in feedstuff, animal diseases, and price fluctuations are the main challenges to

Women farmers in Ethiopia are facing exceptional challenges.



the livestock farmers. The participants discussed their recent experiences, including an instance when the price of an average ox in August 2010 was ETB 6,000 but dropped to ETB 4,000 only two months later. The 33 percent decrease in the price of an ox was caused by the outbreak of a severe animal disease. The local veterinary institutions supported the farmers but still many oxen died of diseases such as anthrax.

While these findings were true in the case of farmers living in the Amhara National Regional State within the rural lands of the North Showa Zone, participating farmers from Addis Ababa's periphery told researchers that only oxen for farming and donkeys, few in number, are being kept in the area, given the limited capacities to hold cattle within Ethiopia's capital city's limits. Thus, the smaller numbers of animals reduce the chances of diseases spreading among the animal stock.

THE LAND POLICY AND ITS EFFECTS AT GRASS-ROOTS LEVEL

As discussed above, land tenure systems are one of the critical factors impacting growth and development in an agrarian society like Ethiopia's. The current public ownership policy of Ethiopia is criticised by many scholars, opposition parties, and some external development partners. Critics stress that this kind of land tenure diminishes tenure security among the farmers, reducing the possibility for farmers to increase their investment capacity and enhance production.

- In the urban case, participants revealed that the Government can confiscate land for private or public investment following compensation to the farmers. Compensation is a principle common to all regional states and administrations.
- Farmers can bequeath the right of use to their children. However, as to the issues of whether or not farmers' heirs can pay tax on the bequeathed land plots in their own name (which has potential ownership implications), the reality was found to be contradictory in some instances. In one local administration it was possible while in another it was not possible.
- However, according to a staff member from the land administration, paying taxes on land you inherited in your own name was possible until recently but is now prohibited due to new instructions from superior institutions, in response to some temporary problems.

- There are no land registration and certification services for farmers in the Addis Ababa area. As a result there are regular land disputes among adjacent farmers due to the confusion over the demarcation lines between farm plots.

According to the participants in the Amhara State (those who live in rural areas):

- There is land registration and certification. It helped to avoid conflict between farmers and indicated greater gender equality as the photos of both husband and wife are attached to the certificate;
- Farmers believe that farm lands belong to them, at least in terms of the right of use (although this position calls for further investigation with regards to the extent to which they would hold security of tenure); and
- According to the research participants, the land certification does not specify the duration of the right of use nor does it spell out the details of the contract between the state and the farmers. The possible impact of such non-specified durations on the farmers' sense of security and on their associated development endeavours also calls for investigation.

CONCLUDING REMARKS AND RECOMMENDED AREAS OF INTERVENTION

SUMMARY AND CONCLUSIONS

From our research it can be concluded that Ethiopia is endowed with immense natural resources: vast amounts of agriculturally suitable land; varied agro-climatic zones favourable for raising wide varieties of flora and fauna; readily available water resources that can be used for irrigation and power generation; and a relatively numerous and cheap labour force. However, despite such endowments, the country's economy was stagnant due to its major sector, agriculture. Ill-designed policies, natural calamities and backward peasant farming techniques with a low input-output ratio have hampered this sector.

Irrespective of its size as compared to the developed and developing large nations, Ethiopia has been cited to be one of the fastest growing economies in the world. For the first time in the country's history the Ethiopian economy has begun to be led by the services sector, which heralds a structural shift that allows for sparks of hope to develop.

As agriculture is still the dominant sector of the economy, the overarching national development strategy is rural-centred and focused on agriculturally led industrialisation. This policy has been and is still a point of controversy for the Government and its allies on the one hand side and academia as along with other opposing sectors of civil society on the other. The Government claims that growth is the result of a sound development policy (the ADLI), whereas the opponents attribute growth to naturally favourable conditions like good harvests owing to adequate rain. The ADLI strategy considers small-scale farmers and local government administrations as the two key players in achieving its policy goals. Therefore, the Government intends to support small-scale farmers through integrated packages of agricultural extensions to raise the yield per hectare ratio while training the local leadership and boosting their capacity to aid farmers.

Despite the fact that many areas of the economy have made progress, the livelihoods of small-scale farmers are still constrained by many impeding factors. The salient constraints include: small and diminishing farm lands due to large family sizes and rapid population growth; soil infertility with decreasing yield-per-hectare ratios; on-field and post-harvest crop pests; unpredictable patterns of rain; input scarcity and outdated technologies leading to low outputs; shortage of capital; reduced market access; lack of market information; outbreaks of animal diseases and shortages of animal feed, and declining price structures. Whether or not the public ownership land policy has negatively or positively affected the agricultural sector needs further study. The land certification book has helped the farmers of the Amhara National Regional State by settling disputes among adjacent farmers, while those who live in the periphery of Addis Ababa do not receive such certification, which leads to frequent conflicts between the farmers.

RECOMMENDATIONS TO THE VOLUNTARY SECTORS

Possible interventions in support of the agriculture sector can be categorised into the following three measures:

- Support the successful implementation of the current national agriculture development policy with adequate financing, especially through collaboration with international funding agencies;
- Support the sector by building the capacities of the local (district and keel) offices of agriculture through training to develop extension experts and leaders and by providing logistics support; and

- Support small-scale farmers by providing functional, practical, and productive education and improved agricultural technologies, as well as supplies and improved access to markets.

These recommendations were given by the farmers themselves, as well as by an expert from the Ethiopian Ministry of Agriculture.

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