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Introduction

This piece is a summary of a 42-page volume paper presented at the “Expert Group Meeting (EGM) on Mainstreaming Age Structural Transitions (ASTs) into Economic Development Policy and Planning, 7-9 October 2008, Vienna”. I summarized the article and submitted it to the editors for the purpose of initiating a debate on policy options to promote agricultural growth and rural development in Ethiopia.

The starting point of my study is that since 1995 Ethiopia has started to experience an increase in working age population and an associated decline in the dependent age population. The labour force has grown rapidly as a result of moderate decline in the fertility rate and the echo of the baby boom generation of the 1975/76 land reform. In 2008 the country has a total population of 79 million, the second largest population in sub-Saharan Africa, and 48 percent of the adult population is in the age group 15-29. In 2005 in the rural area the labour force is estimated about 32 million and each year one million people are added in the labour force.

Since the middle of the 1990s the size and speed of the labour force has dramatically changed like tsunami wave without being noticed. My point of argument is that this change in the age structure of the population and labour supply should be the starting point for the formulation of the country’s development programs and growth policy strategy.

In analysing the effects of the labour force growth on the Ethiopian rural economy, I focused on studying the sources of rural economic growth: employment generation and productivity levels which lead to improved income and reduction of poverty. The changes in rural employment structure and the level and determinants of household grain production are analysed based on detailed national labour force survey and agricultural sample enumeration covering 6.5 million households in three regions of the country (Tigray, Amhara and SNNP). I used the following data sources: UN Population data (2006 revision) and Central Statistic Authority (CSA) Statistical Abstracts 1969-2007, CSA Labour force surveys of 1999 and 2005, CSA Agricultural Sample Survey of 2006/07, and my own qualitative field studies on life course and cohort studies in rural Ethiopia.

The central questions of the study are: what happens to rural household economic activities, resource needs and livelihood strategies when the working age population grows faster than the total population? What is the demographic characteristic of the labour force and how is that characteristic related to process of employment creation and production increase in rural areas? How well did the current government policy of rural development succeed in achieving its objectives and what will happen in the future if business continues as usual? These issues are examined at the national, regional and household levels.
In the following sub-sections, first I will summarize the growth and characteristics of the labour force particularly in the rural areas since 82% of the country population live in this area. In the second section a summary is presented on labour force growth effect on employment structure, unemployment, and household production output again in the rural areas. The last sections deal with conclusions of the study and policy implications that emerge from it.

**Labour Force Growth: Size, Characteristics and Employment Creation**

The absolute size of the national labour force was estimated at 12.9 million people in 1984. Over the subsequent decade the size of the labour force increased, reaching an estimated 28.3 million people in 2005, with an annual average increase of 1.26 per cent. During the period under consideration, the population growth effect on labour force growth is more significant than the participation rate. The effect of changes in the population growth has exceeded those of the participation rate, contributing to 1.12 and 0.14 percentage point per year respectively, to the change in the labour force.

The rural labour force is characterized by young age. The prime working age persons, age group 10-29, accounted for the highest share of the labour force. In 2005 they constituted 56% of the labour force, up from 55% in 1999. In 2005, the share of the middle aged group, aged from 30-59, reduced to 38%, compared to 39% in 1999. The older workers (60 and plus) has lower share of the labour force, even if it has slightly increased from 6.2% in 1999 to 6.4% in 2005.

How is employment creation/reduction?

The following table shows status of the current employed rural population size and structure in the year 1999 and 2005.

<table>
<thead>
<tr>
<th>Sectors</th>
<th>1999 (in percent)</th>
<th>2005 (in percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>farm self employed</td>
<td>41.52</td>
<td>44.46</td>
</tr>
<tr>
<td>farm wage</td>
<td>44.01</td>
<td>45.07</td>
</tr>
<tr>
<td>nonfarm public service</td>
<td>0.57</td>
<td>0.90</td>
</tr>
<tr>
<td>nonfarm private service</td>
<td>13.75</td>
<td>9.54</td>
</tr>
<tr>
<td>Not stated</td>
<td>0.16</td>
<td>0.03</td>
</tr>
</tbody>
</table>

In both periods the majority of employment was created in the farm sector (85.5% in 1999 and 89% in 2005) compared to the small base sectors (non-farm service sectors). The farm sector is followed by the non-farm public service sector (0.6% in 1999 and 0.9% in 2005). In the farm sector most of the increase was in the self-employed subsector.

An increase of small holder agriculture means further increase in land fragmentation. That means as the young age labour force grows employment has to be created through de-accumulation of rural assets such as land. When we say small scale farms create employment we mean there is a continued land fragmentation beyond the optimal level for self sufficient production. As a result of a growing young labour force and continued land fragmentation and households higher food consumption requirements, there is already problem of food security. Of the 6.5 million households in the three researched regions about five million (76.8%)
households have food-grain deficit, and these households are made up of child-rich households (56.7%) and labour rich households of larger size (15%).

Currently food is mainly acquired through employment creation resulted from:

- land/resource fragmentation: through partition and redistribution
- area expansion: into wildlife inhabited lands or fragile environment areas
- sharecropping and land rent (often informal in nature), and
- farm wage labour

This means there is heterogeneity of activities but not diversification (there are no new fields of activities with new products). There is no transformation of structure of output/input (specialization based on an exchange economy). The characteristic of the labour force is such that its growth requires area expansion. My own estimation is that currently the labour force needs 21 million hectares of additional land for employment creation and food self-sufficiency. Since this is practically impossible, the Ethiopian government has adopted a policy of promoting improved technological inputs and commercialization of the small scale farm production system. The question is do the rural households have the capacity to adopt the technology and preference to commercialization?

**Reflection on Government Strategy**

Government solution is to promote small holding through improved technological inputs (chemical fertilizer, improved seeds, better cultural practices and expert support) and commercialization of smallholder agriculture. The focus of the government on smallholder agriculture emanates from the conviction that small scale farms, unlike big scale farms, do not need much capital. Small farm is efficient in a country with very low saving and limited availability of capital. The government believes that land and labour are excess and would be combined to produce more without the need for too much capital (Zenawi, 2008).

Another argument of the government for the attraction to the small farm is the view that they can create large amounts of employment, reduce rural poverty and food insecurity, support a rural nonfarm economy, and help to contain rural-urban migration.

Given the low level of labour productivity the significance of improved technology is undoubted. But when is technological adaptation takes place? In a situation where households have little or no saving adaptation will not take place. Many high value crops require considerable up-front cash investment in seeds, fertilizers and pesticides. The argument of this study is that the decision whether or not to adapt to a new technology is based on the household saving capacity. This study showed that higher consumption

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1. The government view is shared by some researchers who suggested crop and land productivity as strategy for food security and growth. “Given a high population density in most of Ethiopia’s rural areas, increasing land productivity is the only feasible strategy for improving food security.” (Diao 2005).
2. For a detailed discussion on the adoption, dissemination and efficiency of agricultural technologies see Demeke et al. 2003.
requirements and dependency ratios (as a result of population growth) are negatively associated with household self-sufficiency and savings.  

Assuming that there is the infrastructure capacity to provide the improved technology, adoption can lead to food security for the 76% grain deficient households. Large scale provision of improved inputs is not tenable in the long run if and when the working age population continues to have unchanged reproductive behaviour. What is produced will be consumed by the increased number of population and the provision of higher inputs has to keep pace with the growth in small farms.

If the government continues with its policy of improved package policy, it has to launch a massive family program aimed at increasing private saving that can be invested in technology. In a recent study the World Bank by advised the Ethiopian government to accelerate the fertility transition in order to capture the demographic bonus or dividend (World Bank 2007). Since behavioural change takes time, the government has to provide farm credit to smallholders pending an increase in household saving. Already the rural budget expenditure of the government is overloaded by the rapid expansion of primary education in rural areas. Given the current household situation even if the government provides the input technology freely households still need cash to hire labour and in some cases rent land to adopt the technology.

The strategic thinking that small scale farms provide employment and income to millions of people in rural areas is not working as desired. As we saw in this study the potential of small scale farms to provide jobs for growing labour force is exhausted. Annually there is an addition of one million labour forces in rural area and the government, if pursued with its strategy must provide more land for new comers to create employment. But there is an acute land scarcity and the government cannot provide land to all new labour entrants. If the government continues business as usual there will be a growing agriculture involution. Farmers’ application of more labour to land than was optimally necessary in order to raise output leads to low agricultural labour productivity.

The commercialization of small scale farms has problems of adaptation. Which of the households have the ability to commercialize their production system? By definition commercialisation assumes a profit motive (Pingali and Rosegrant 1995). Previous field study has shown that child rich households, which are the majority type of households in the rural areas, are primarily interested in food security and meeting basic needs. Cash crops are cultivated if there is an excess resource after meeting the required for grain self-sufficiency. Child rich households have little incentive to produce non-food cash crops or food cash crops for the market until enough land and resources have been devoted to grain for self-sufficiency. Beyond this point one may expect that extra productive resources would be used increasingly for cash crop production if these crops provide higher returns for sale.

The other difficulties in trying to adapt to the commercialization system is the choice of crops for production. There are food crops (including, enset, sorghum, maize, barley and wheat) and cash crops (including, chat, coffee, teff, and horticulture). All types of households do not

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3 Some attribute problems of technological adaptation to institutional environments (Gebreselassie 2006).
cultivate any kind of cereal (teff, sorghum or maize) as they prefer. The kind of cereal to be grown is also determined by the unit cost of production and values of the crops grown by households. Households compare the costs and values of the alternatives and select the one that matches their need and capacity. For example, in medium density areas where the unit cost of production is high, cash crop such as teff can be grown by labour-rich families and these are not the majority in rural areas. In most cases it is non-food cash crop such as Khat which is expanding due to its relative low cost of production. In addition, the decision for choice of cash crops on each additional hectar put under cultivation dependences if the farm household can buy food grain by selling cash crops and the consumer price of the food grain is less than the cost of its production. This requires among others access to roads and markets.

Commercialisation of smallholder agriculture means making them dependent on purchased inputs and services. Smallholders require financial schemes, extension, input markets, market information and linkages. Can the state actively provide these services under the current conditions where the private sector is underdeveloped? In rural Ethiopia there are not sufficient conditions of drivers of commercialisation: there is lack of asset accumulation, growth in per capita production and urbanization.

The conclusion of this study is that small farms cannot be the engine of agricultural growth at a time when labour force growth is characterized by young age and household types of higher consumption requirements. The start of the labour force growth in rural Ethiopia is associated with an increase in the number of

- landless households (5.5% of the 6573143 households)
- unemployment (3.41% of the economically active labour force),
- Higher frequency of farm wage labour (45% of employed persons)
- low productivity of the households (a result of food crop area expansion into marginal lands), and
- food deficiency (76.8% of the research households)

If there are no more lands for expansion and problems of technological and market adoption, what is the purpose of keeping the labour force in the rural areas where employment generation and level of productivity is very low? Is it not wasting a resource?

How will the increasing number households with food grain deficiency be supported with inputs? Simultaneoussly, how will an average of 1.3 million of new entrants and still more in the future find employment in a sector which is stagnant? Which part of the economy and the institution has to change to generate employment and improve the livelihood conditions of the rural people?

**Recommended Strategy**

The alternative is to reduce the growing rural working age population through policy of rural labour emigration and creation of new urban spaces in rural areas: urbanization of rural areas through large scale migration of rural labour force. What kind of rural reform will trigger large labour flow out of agriculture? There is a need to study the push and pull factors. Land market reforms in rural areas may serve as push factors. The pull factors include the development of small scale enterprise in small towns, development of rural enterprise, township, village enterprises which provide farmers with job and extra income to contribute
to the household budget); and promotion of small towns as centres of economic and business transaction. The government should be committed to a policy of development of small urban centres and control the development of large cities. Active promotion of towns and rapid development of township and village enterprises give a boost to rural urbanization.

Rural labour emigration has a series of chain effects once it has started. The experiences of China (Sheng 2006, Garcia 2006) and USA (Hathaway 1960) show the following positive impacts of rural labour flow on agriculture development and urbanization.

- In the rural areas labour force migration enables the recombination of factors of production among households and regions. It can create a system of land transfer which enables some farmers to benefit from scale operation. The acceleration of labour emigration and floating population increases the level of mechanisation of agriculture and application of new technologies.

- In the urban areas labour emigration lowers the costs of urban development and facilitates the reform of labour and wage institutes. The negative influences of labour emigration on urban development, such as the pressure on infrastructure and housing, can be solved through changes in the management system of the public services in urban areas. It is not prevention of labour emigration, but institutional innovation which can resolve the supposed negative influences of labour emigration.

- Labour emigration accelerates fertility decline through delayed marriage and acquisition of new urban life concepts.

- Rural labour emigration accelerates poverty alleviation for various reasons: the number of poor people decreases as most of people start to acquire employment opportunities in urban areas. Remittance can contribute to the farm household budget and some returning labourers may start up enterprise in their villages. In the long run farmers’ income growth can be sustainable by relying on labour emigration and reducing of the rural population through urbanization.

The idea of labour emigration led urbanization captures the on-going choices of livelihood strategies of rural households. Since 1995/96 there is a dramatic growth in enrolments in primary schools throughout the rural areas of Ethiopia. Population pressure, resource scarcity, changes in farmers’ occupational value, preference and attitude towards education are considered important determinants for the explosive expansion of mass education in rural Ethiopia (Tegenu and Malmberg 2008 forthcoming). Currently most parents are sending their children to school in order to prepare them for the unavoidable migration to urban areas.

There is also an institutional capacity to start with policy of labour emigration-led urbanization. The system of decentralization in the country facilitates the development of township and village enterprise provided that the decentralization system improves its institutional performance (Tegenu 2006).

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