**Ethiopia Country Profile 2015**

**Produced by the ASHC delivery team**

**OVERVIEW**

Compared to other African countries, Ethiopia has a large and relatively well functioning extension service but relatively poorly developed private sector, although the latter is developing fast: it has more than 10-times as many government extension agents as neighbouring Kenya. The country therefore offers the opportunity to compare a situation where the public sector will be the main partners for developing and disseminating ISFM communication materials with other countries where the state extension service is much weaker and the private sector will be the main partner.

Engaging with Ethiopia in this area, through the Ethiopian Institute of Agricultural Research (EIAR) and other stakeholders, should give ASHC an opportunity to contribute to demand-responsive approaches in dissemination of agricultural information and knowledge.N2Africa as a partner provides the opportunity to learn lessons on knowledge and information sharing that is tied to ongoing legume production research.

The Agricultural Transformation Agency (ATA) also supports a number of soil fertility improvement interventions in which the EAIR and other actors are involved and this provides an important policy level connection to the partnership in Ethiopia. ATA's work is briefly highlighted in the partners section. Other important actors in the agricultural information supply chain in Ethiopia include Digital Green, a newer entrant into Ethiopia which has a focus on strengthening the participatory training capacity of national extension agents through video-based approaches. Digital Green’s outreach work will contribute both scale but importantly knowledge products innovation for ASHC initiatives. A broad based partnership will ensure that scale is achieved in a cost-effective manner.Hawasa University is one of the most active partners in number of agricultural research projects and initiatives, especially working with EIAR and the N2Africa projects.

**BACKGROUND**

Population, total (million people) [[1]](#footnote-1) (2014) 96.6

Population density (people per km2) [[2]](#footnote-2) (2013) 94.1

Annual population growth (%) 1 (2014) 2.9

Rural population (%) [[3]](#footnote-3) (2014) 82.2

GDP (USD/per capita) x (2013 est.)1 1,300

Agriculture GDP (% of total GDP) 1 (2013) 47.0

Agricultural Land (thousand ha) 3 (2011) 35,683

Agricultural Land (%) 3 (2011) 35.7

Female employment in agriculture (%)3(2005-2012) 74.8

Male employment in agriculture (%) 3 (2005-2012) 83.2

Median age of population (years) 1(2014) 17.6

**The role of agriculture in national economy**

Agriculture is the most important source of livelihood employing about 85% of the total workforce. The sector accounts for 47% of GDP. Coffee is the most important export crop1.

In 2012 Ethiopia had around 12.7 million hectares of arable, 15.3% of total land3.

Land tenure systems are dictated by the government land policy in which the state owns all land. In rural areas, farmers and pastoralists do, however, receive lifetime holding rights. This gives them all rights associated with the land except sale and mortgage (Ambaye 2012)[[4]](#footnote-4).

The agricultural sector like many in sub-Saharan Africa, suffers from poor cultivation practices and frequent drought, but recent joint efforts by the Government of Ethiopia and donors have strengthened Ethiopia's agricultural resilience, contributing to a reduction in the number of Ethiopians threatened with starvation1.

These renewed efforts are reflected in the establishment of the Agricultural Transformation Agency (ATA). This agency supports the Ministry of Agriculture in implementing the national Growth and Transformation Plan (GTP), a policy framework that guides Ethiopia's economic development in the medium term. ATA has made significant investment in Ethiopia's soil test-based fertilizer recommendations efforts through the Ethiosis project (soil fertility maps). The efforts are complemented by AGRA support to develop fertilizer blending capacity and facilities that will be based on the major agro-ecological zones of Ethiopia: the country’s first ever fertilizer blending factory open in June 2014 – prior to that, Ethiopian farmers only had access to DAP and urea[[5]](#footnote-5).

Other institutions directly involved in agricultural sector improvement include the Ethiopia Institute for Agricultural Research (EIAR), the National Soil Testing Laboratory, and Universities’ agricultural departments including Hawasa University. Private sector participation in agriculture is only now gaining policy support, in most sectors.

Implementation of agricultural policy in Ethiopia is also informed by the federal and state structure of the devolved system. Regional governments use the Woreda (ward level) as the unit of intervention for development programming in the country. Interventions are introduced to farmers at this level with the support of the national extension system that operates the Development Agent (DA) network (refer to national extension structure below). A recent IFPRI study concluded that the reach of the state was ‘extraordinary deep’[[6]](#footnote-6).

**The importance of B&MGF priority crops**

Of the top 10 agricultural commodities produced, by value, the top 2 are livestock products – milk and cattle meat, respectively. Of the remaining 7 crops, 4 are B&MGF priority crops for Africa: maize (ranked 5th), sorghum (6), wheat (7) and beans (10). The cereal teff, ranked third by value, is unique to Ethiopia. Ethiopia has the largest ruminant livestock population in Africa, offering the potential for large amounts of organic matter in the form of manure.

**Table 1: Top 10 agricultural commodities by value, Ethiopia, 2012[[7]](#footnote-7)**

|  |  |  |
| --- | --- | --- |
| **Rank** | **Crop** | **International $ millions** |
| **1** | Milk, whole fresh cow | 1187 |
| **2** | Meat indigenous, cattle | 998 |
| **3** | Cereals, not elsewhere specified | 898 |
| **4** | Roots and tubers, not elsewhere specified | 889 |
| **5** | **Maize** | 780 |
| **6** | **Sorghum** | 549 |
| **7** | **Wheat** | 524 |
| **8** | Broad beans, horse beans, dry | 319 |
| **9** | Coffee, green | 296 |
| **10** | **Beans, dry** | 267 |

Significant efforts have in the recent past been directed at developing and strengthening pulse crop production with the use of such technologies as rhizobial inoculant.

**ISFM relevant policies**

Ethiopia's Growth and Transformation Project (GTP) goals include ambitious targets for scaled-up use of mineral fertilizer. This has seen support and movement towards the Agricultural Ecological Zone specific fertilizer recommendations as a way of increasing productivity. This initiative receives support from AGRA's Soil Health Programme and the ATA and brought into play a number of actors including the National Soil Testing Lab, the EIAR and the AfSIS project.

Fertilizer use is estimated to be 23.8 kg per hectare cultivated land, which is less than half the regional African Union target of 50 kg per hectare[[8]](#footnote-8): for comparison, in the US the comparable figure is 131 kg.

Other policy interventions include the significant focus on the potential of pulse crops in the economy. This has seen encouragement for pulse-relevant ISFM support such as research into inoculants production for key pulse crops including soybean, faba bean and chickpea. Inoculants production, although in its early days, is now benefiting from private sector participation. Players such as Manegesha Biotech plc are involved in commercialization of inoculants for key pulse crops in Ethiopia and are increasingly receiving government attention and support. The IITA-led N2Africa and other players have invested significant research time and resources to support biological nitrogen fixation work in Ethiopia. The COMPROII project supported the strengthened of regulatory and quality screening for soil fertility related commercial products such as inoculant and mycorriza technologies, among others.

The government also recognizes the prevalence of soil fertility challenges, especially water logged and acidic soils. Instances of P deficiency are also of concern. Government-supported liming programmes have been implemented in parts of the country alongside increased support to increase availability of mineral fertilizer and roll out of soil water management approaches to improve performance of waterlogged soils.

By 2003 it was estimated that around 2900 km2was under irrigation: for comparison, India, though 3-times larger in land area has over 190-times as much land under irrigation. Within the new GTP goals, the development of the renaissance dam project will significantly increase the area under irrigation in Ethiopia1.

**The importance of private sector**

Fertilizer consumption (kg per ha of arable land) (%)[[9]](#footnote-9) (2012)23.8

By comparison, the private sector is weaker in Ethiopia than many other African countries: one indicator of this is the private sector’s share in total investment for the period 1996-2008 - this was 40% for Ethiopia and 73% for Kenya[[10]](#footnote-10).

Private sector participation in the agricultural sector remains sub-optimal, with various analyses indicating the need for greater facilitation and encouragement by the state to incentivise investment[[11]](#footnote-11). None the less, there is growing interest by private sector actors in such areas as soil amendment and soil fertility management product manufacturing and other sectors along the value chain in Ethiopia: for example, Manegesha Biotech plc involvement in commercialization of inoculants.

**KNOWLEDGE SHARING ECOSYSTEMS**

**The structure of national extension services**

Extension staff: farming families 1:257

Number of extension staff in country [[12]](#footnote-12) 63,000

In many respects Ethiopia's agricultural extension service is the envy of other African countries. In total, Ethiopia has nearly 12-times more public sector extension workers than neighbouring Kenya: adjusted for the relative size of the agricultural workforce in the two countries, Ethiopia has more than 4-times the number of extension workers per person working in agriculture.

A 2009 study by IFPRI[[13]](#footnote-13) found that in Ethiopia almost all extension is provided by the public sector: neither NGOs nor the private sector featured in the survey as providers of extension services. The study also found that 20% of women and 27% of men had received visits from extension workers; amongst these recipients of extension visits, satisfaction with the service was very high. Despite this, only 8% of the farmers in the study has adopted any new practice in the past 2 years. The study characterised the extension service in Ethiopia as having a favourable extension agent to farmer ration, strong discipline amongst agents and high prioritisation placed on the service by the country’s political leadership. On the downside it suggested the approach was top-down and overly focused on adoption of technology packages.

Ethiopia's national extension system is directly informed by the decentralised national governance structure that includes a national-level sector leadership role by the Ministry of Agriculture. The national extension directorate operates under the ministry and is responsible for rolling out of key interventions at sub-national level.

The unit of implementation for extension is the Woreda-level (ward)structures in which a cadre of extension staff called Development Agents (DAs) operates. Each Woreda has a number of Farmer Training Centres (FTCs) that are manned by 3 DAs (agriculture, livestock and water). There are an estimated 8500 FTCs in the country with a total number of more than 63,000 Development Agents trained since 2008 involved in grassroots advisory services. This is more than ten times higher than in Kenya although the population only around twice. The training of DAs is the responsibility of the ministry through the extension directorate. A number of partners have actively supported DA capacity building activities including ATA and newer entrants like Digital Green with support from B&MGF.

Development Agents (DAs) and Woreda staff have strong technical skills, and are generally trained as specialists. The challenges faced by extension are similar to other countries although, admittedly, Ethiopia remains ahead of other countries in ensuring the functioning this system. Some challenges include infrastructure and resources at Farmer Training Centers and Woreda-level, operating funds: the vast majority of Farmer Training Centers and kebeles do not have operating equipment or inputs to pursue typical extension activities on the demonstration farm.

Among the key considerations for improving performance of the extension system are strengthening farmer-driven orientation across all levels of extension – to better serve farmers; greater use of broadcast media to meet needs of farmers, pastoralists, agro-pastoralists, women and youth of Ethiopia; provision of adequate resources for Farmer Training Centres for farmer impact and sustainability (both capital resources such as adequate buildings and demonstration plots as well as operating capacity). Improving the DAs knowledge and capabilities, such as strengthening the DA education system and providing in-service training courses is another approach. There is commitment to strengthen linkages between extension and research. Agricultural input supply has in the past been implemented through the Woreda Agriculture and Rural Development Office (WARDO)[[14]](#footnote-14).

**Media penetration**

Literacy rates (% of population)(2007)[[15]](#footnote-15)

Literacy Rate 39

Male Adult 49.1

Female Adult 28.9

Male Youth (15-24 years) (2011)15 75

Female Youth (15-24 years)15 56.9

Mobile phone subscription (per 100 people)[[16]](#footnote-16) 27

Internet users (per 100 people)(2013) 16 1.9

Households with a radio (%)(2011-2012)[[17]](#footnote-17) 41

Households with a TV (%)(2011-2012)17 10

**Telephone**: In 2012 there were an estimated 21 million mobile phones in use in Ethiopia. The number of fixed lines and mobile telephones is increasing from a small base. In 2013, the number of mobile cellular subscriptions per 100 people was 27, which is amongst the lowest in the world – for comparison, Kenya has7116. The telephone and mobile phone services are currently a monopoly of EthioTelecom which provides the bulk of phone connectivity and communications in the country.

Ethio Telecom, working with the Ministry of Agriculture, recently launched a mobile phone based agricultural information and advisory services. Though still in infancy this promises to achieve transformative levels in terms of scale. In the first six month, and in the pilot phase, more than three million farmers in the regions of Amhara, Oromia, Tigray and the Southern Nations, Nationalities, and Peoples' Region (SNNPR) have punched 8028 on their mobiles to access the system, which uses both interactive voice response (IVR) and SMS technology.[[18]](#footnote-18)

**Broadcast media**: Broadcast media is defined by one public TV station broadcasting nationally and one public radio (Radio Fana) broadcaster with stations in each of the 13 administrative districts. In 2009 a few commercial radio stations and roughly a dozen community radio stations were identified.

There are a number of languages that are officially recognised and used in Ethiopia. Oromifa accounts for about 34% and Amharic 29%, although the latteris the most dominant official government language. Tigrinya is the official working language for the Tigray state. There are other language groups in Ethiopia including, Sidano, Wolaytta and Hadiyya. Regional broadcasting media use the three largest language groups in their programming but increasingly FM stations adapt to use of other languages.

**Internet usage:** In 2014, just 1.7% of the population has internet access – for comparison in Kenya this figure is 36.7%[[19]](#footnote-19).

Literacy figures in Ethiopia compare unfavourably with other countries in the region with average male adults rates at 49% and females at 28.9%. Youth literacy figures appear to be better at 75% for males and 56.9% for females. Literacy figures have a direct impact in the knowledge sharing mechanisms that the extension systems can effectively use to reach larger numbers of small holder farmers15.

**Youth initiatives**

Population aged between 15-24 years (%)(2014)1 19.9

In 2013, youth unemployment for 15-24 year olds was estimated at 8%[[20]](#footnote-20).

Recent surveys in Ethiopia indicate a predictable pattern of low participation and interest in agriculture among the youth, even though majority of the youth in Ethiopia live in rural areas where farming has been traditionally the main source of livelihood. A survey conducted in the southern part of Ethiopia[[21]](#footnote-21) indicated that access to agricultural land is a factor that keeps youth away from farming. Land tenure issues compounded by land scarcity and land market dynamics are key factors. Youth are thus forced to look for alternative livelihoods outside of the on-farm activities.Studies show that only 9% of youth in the south plan to pursue agriculture as a livelihood option21. The situation does not vary much across the country and even between urban and rural settings.

The IFAD-supported Participatory Small Scale Irrigation Development Programme (PASIDP)21in the northern region of Tigray is one initiative that is actively courting youth to get back into agricultural production as a livelihood option. The new drive to get the youth involved seems to be partly informed by the government new policy onland-registration whichtargets the landless. Upto 88% of thehouseholds in the PASIDPtarget areascommunities are now getting full access and cultivation rights for the first time. Some of these beneficiaries are youth and female-headed households.

**PARTNERS**

**Potential delivery partners**

**Ethiopian Institute of Agricultural Research (EIAR)**

The Ethiopian Institute of Agricultural Research (EIAR) is the national research agency mandated to initiate, develop and conduct research across the agricultural sector. EIAR has very strong linkages with all partners across the agricultural value chain, including, universities, MOA, ATA, the NTSA and some private sector actors and NGOs, including N2Africa and IITA. The point of entry for soil fertility research and dissemination at the EIAR is the Directorate of Land and Water Research (recently re-designated from Soil& Water Research). In 2014, ASHC, through the COMPROII project, developed an extension support manual on use of rhizobial inoculants for target legumes in Ethiopia and a manual on vermi-composting. A dissemination plan, developed alongside the manuals, indicates EIAR anticipates support to translate, print and distribute the manual to Development Agents in target pulse growing areas. EIAR works closely with the Directorate of Extension in the Ministry of Agriculture in technology dissemination to farmers.

**N2Africa**

**Funder of program:** B&GMF

**Crop/ technology:** Promotion of legume productivity improvement with soil fertility management principles

**Project duration:** to 2018



N2Africa is a largescale, science-based research-in-development project focused on putting nitrogen fixation to work for smallholder farmers growing legume crops in Africa. N2Africas vision is to build sustainable, long-term partnerships to enable African smallholder farmers to benefit from symbiotic N2-fixation by grain legumes through effective production technologies, including inoculants and fertilizers.  N2Africa is funded by B&MGF and is implemented in Ghana, Nigeria, Ethiopia, Tanzania and Uganda (core countries), and in DR Congo, Rwanda, Kenya, Mozambique, Malawi and Zimbabwe (Tier 1 countries). Key implementing partners in the project include Wageningen University, International Institute of Tropical Agriculture ([IITA](http://www.iita.org/)) and International Livestock Research Institute ([ILRI](http://www.ilri.org/)).

In Ethiopia, N2Africa works with a very wide range of partners to implement legume production research and promotion. For 2014-2015, N2Africa-Ethiopia planned to reach more than 5000 farmers in 24 Woredas (districts) through its research and development partners, which includes the Federal and Regional Agricultural Research Institutes and Hawassa University. The 24 Woredas have been identified as potential pulse growing areas earlier and located at four regions in Ethiopia (Amhara, Benishangul-Gumuz, Oromia and Southern Region).

The priority legume crops include common bean, soyabean, faba bean and chickpea. N2Africa is actively promoting improved seeds and inoculants technologies in these regions. Active linkages exist with some private sector actors including Menagesha Biotechnology Industry plc, which is Ethiopia's only private manufacturer of Rhizobium inoculant. Other agencies working with N2Africa include, Holeta Agricultural Research Center and National Soil Testing Center.

In 2013-2014, ASHC collaborated with N2Africa, to produce some extension materials on common bean and soyabean. The dissemination plans for these materials anticipate further support from partners, including ASHC, to roll out the materials in the target areas.

N2Africa is also working with AGRA- Scaling Seeds and Technologies Partnership in Africa (AGRA-SSTP) to promote the commercialization, distribution and adoption of improved chickpea seeds, inoculants and other key technologies.

**COMPRO-II**

**Funder of program:** B&MGF

**Crop/ technology**: Promotion of Rhizobium inoculation for legume crops.

**Project duration:** to 2016

COMPRO II (Commercial Products II) is managed by the International Institute of Tropical Agriculture (IITA). The project also gets significant support from the regulatory authorities, the national agricultural research systems (NARS), educational institutes, non-governmental organizations in the project countries. ASHC is a delivery partner. The project is active in 6 countries including Ethiopia.

This project seeks to support the decisions of at least 2 million smallholder farmers in sub-Saharan Africa (SSA) on the use of effective commercial products to achieve food security and increase incomes through increase of farm yield by at least 15-30%.

**Digital Green**

Digital Green is an NGO that is actively involved in promotion of participatory video approaches to support agricultural extension. Originally established in India, Digital Green has recently begun operations in Africa with the first target countries being Ethiopia and Ghana. Some of the key approaches include participatory content production, video database, mediated instruction and structured sequencing. At the centre of Digital Green approach is the question 'How can the speed and effectiveness of agriculture extension be improved at a reasonable cost? A number of strategies are employed in the video training approaches including storyboarding, reduction of top-down perception of teaching approaches and promoting local 'stars' in the images and filming. Digital Green's approaches encourage village farmers to share appropriate how-to videos to their communities using cheap, portable pico projectors.

Digital Greens current focus in Ethiopia is working directly with extension systems at Woreda level to strengthening the training capacity of development agents in the use of video approaches in extension. The spectrum of activities covers, participatory, planning storyboarding, community mobilization and engagement. Working in partnership iDE Ethiopia, government development agents and/or community-level intermediaries the approach aims to ensure that each woreda will serve as a hub to produce and share locally relevant videos within identified kebeles. At each Woreda, iDE Ethiopia staff members will be trained to produce relevant videos with members of the local community based on iDE Ethiopia’s existing agricultural development interventions, including access to affordable irrigation technologies, agronomic practices related to high-value cash crops and creating connections to markets. These community video production teams will produce at least two videos each month by identifying topics of interest, modularizing relevant agricultural production improvement information in storyboard form, shooting videos with local farmers, and editing videos.

**African Fertilizer and Agribusiness Partnership (AFAP)**

The African Fertilizer and Agribusiness Partnership (AFAP) is an AGRA-supported initiative that works with the public and private sectors to invest in fertilizer markets for the benefit of African smallholder farmers. AFAP works to make fertilizer accessible and affordable for African smallholder farmers; bolster capacity and incentive for fertilizer use; and fosters responsible fertilizer use to increase crop yields and decrease food insecurity. AFAPs overarching goal is to increase the number of fertilizer users by 15% and at least double total fertilizer use in the countries where it works.

**Potential knowledge partners**

**Agricultural Transformation Agency (ATA)**

The Agricultural Transformation Agency is an institution set up by the government of Ethiopia in 2010 to act as a catalyst for positive, transformational and sustainable change. ATA was established with the support of BMGF. The primary aim of the Agency is to promote agricultural sector transformation by supporting existing structures of government, private sector and other non-governmental partners to address systemic bottlenecks in delivering on a priority national agenda for achieving growth and food security. ATA’s primary focus areas include value chains, systems and special initiatives. ATA supports the implementation of Ethiopia's Growth and Transformation Plan (GTP) which targets enhancing productivity and production of smallholder farmers and pastoralists, strengthening market systems, improving participation and engagement of the private sector, expanding the amount of land under irrigation and reducing the number of chronically food insecure households. ATA does this by collaborating with a strategic array of related partners. ATA is also in charge of Ethiopia's most ambitious, soil mapping initiative known as Ethiosis (implemented alongside the continental Afsis project.

**Indicative scale-up campaign**

**New fertilizer blends and organic inputs**

The reformulation of fertilizers in Ethiopia will create a need for new information for extensionists, input suppliers and farmers. Digital soil maps developed by Ethiosis point to the potential for new blends – but also a depletion of soil fertility in many parts of the country. So, in addressing the fertilizer issues it is essential to address the issue of soil organic matter. Ethiopia is keen to develop compost technologies (traditional and vermicompost). ATA supported nation-wide initiatives to improve soil fertility management using compost and fertilizer.

In addition to creating farmer level and training tool kits for extension workers, we would anticipate creating training materials in collaboration with Digital Green and producing media production guides on making training materials.

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