 

**Farmer to Farmer East Africa**

**Volunteer Assignment Scope of Work**

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| **Assignment Summary** |
| **Assignment Code** | ET52 |
| Country | Ethiopia |
| Country Projects | Grains and Horticulture  |
| Host Organization | None – Administrative assignment  |
| Assignment Title | Pesticide issues and safety assessment for Ethiopia F2F country projects |
| Assignment objectives | * Conduct an assessment of pesticide safety along pesticide life cycle i.e. (policy, purchase, transport, use and disposal)
* Identify and document the major constraints to safe use of pesticides in selected F2F country projects
* Make recommendations of possible solutions to the constraints identified
* Update country specific list of approved active ingredients (AIs) for selected country projects
* Upgrade and/or document recommended integrated pest management practices in F2F project areas in Ethiopia
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| Desired skills | Agronomist/Toxicologist with expertise in conducting assessments in safe use of crop protection products |
| Preferred Assignment dates (flexible) | August – September 2015 |

1. **Background**

Over 85 percent of Ethiopia’s population; currently estimated at 96.6 million[[1]](#footnote-1), live in the rural areas and depend on agriculture for food and other basic necessities. The country’s population is estimated to reach 130 million by 2030. This has a serious implication on the sustainability of the natural resource base and the efforts to attain national food security, given that nearly half of the current population is classified as undernourished. Population growth and land degradation contribute most to the increasing risk of food insecurity and famine in Ethiopia. On top of these obvious factors, the average crop loss due to pests was estimated to reach between 30 and 40% annually.

Although chemical pesticide use in Ethiopia has been historically low, recent developments in increased food production and expansion of the floriculture industry have resulted in higher consumption of chemical pesticides. It was estimated that there were 402 stores at 250 sites containing 1, 500 tons of obsolete pesticides, rendering Ethiopia as having the largest accumulations of obsolete pesticides in the whole of Africa (MOARD, 2007[[2]](#footnote-2)). The reason for this is that many pesticides remain unutilized by their expiration dates. These pesticides have since been removed under the Ethiopian Obsolete Pesticides Disposal Project. It should however be noted that as these were disposed, other chemical pesticides have continued to be imported. While pesticides have increased agricultural production, evidence in the last few decades has shown that they could also be detrimental to human health and the ecosystems. The impacts of pesticides in Ethiopia are likely to be aggravated by the limited knowledge among users on toxicological and chemical properties of these substances. And the fact that labels on pesticide containers are usually in a language which is not readily understood and sometimes missing altogether. Little is known about the long term and indirect effects of pesticides on rural and urban communities as well as on local and national food production systems.

The F2F program is currently implementing two country projects in Ethiopia; Grains and horticulture country projects;

Horticulture:

Despite ecological and socioeconomic potentials, horticulture is relatively small scale and under developed. The horticulture country project areas of focus are fruits, vegetables and coffee. Production of fruits, vegetables and coffee is scattered throughout the country on patches of smallholder farms. The smallholder production system is usually a mixed crop-livestock farming system. Cultivation is predominantly done manually or draft animals. Ethiopia has a variety of fruits, leafy vegetables, roots, tubers, and several cultivars of Arabica coffee, adaptable to diverse locations and altitudes. Major production systems are mainly rain fed with some irrigation for fruit and vegetables. All coffee farms are rain fed.

Among the four farming systems of coffee in Ethiopia, about 70% is produced as garden coffee, 25% as forest and semi-forest and only 5% is plantation coffee[[3]](#footnote-3). In all instances, about 98% of the coffee in Ethiopia is produced by the smallholder farmers[[4]](#footnote-4). Coffee is Ethiopia's most important industry, accounting for more than 60% of export earnings and providing the primary source of income for many thousands of small farmers. Coffee has a long and revered history in Ethiopia and is an important component of Ethiopian culture and society. The Ministry of Agriculture is encouraging farmers to continue growing coffee organically and promoting this quality on the world market. Most of Ethiopia's coffee at present is grown organically; that is, without the use of inorganic inputs (pesticides and fertilizers). However, fertilizers and even sometimes fungicides are occasionally applied to coffee trees under plantation coffee farming system.

F2F currently targets the four Feed the Future (FTF) and AGP regions of Ethiopia, which are Oromia, SNNP, Amhara and Tigray regions. These are also the major horticultural growing regions of the country with the most potential for growth and development.

1. **Issue Description**

The need to feed the increasing population of Ethiopia and to produce export quality horticulture produces in large volumes and access the global markets entailed an ever increasing pressure in intensifying agriculture and introducing chemical pesticides. The push for such agricultural intensification has often resulted in a rush to use chemical inputs, with little concern on the negative impacts in the long run. The need to reduce risks from chemical inputs has never been more important in Ethiopia. In recent years, the negative impacts accruing from improper use of pesticides have become evident, and have led to stakeholders taking note. Apart from environmental risk and human health, the improper use of chemical pesticides to control pest infestations and outbreaks can result in reducing food quality and market values.

Improper application of pesticide chemicals in Ethiopia has several forms, which among others, includes improper selection, over application, wrong timing of application, non-targeted application, lack of monitoring of pests, poor storage and improper disposal among others. Improper and over application of pesticides can also result in a buildup of pesticide residues in the final product which in turn makes it unhealthy for consumption. This results in export produce being denied access to export markets to high residues. Poor management of pesticides also has adverse impacts on pesticide farm workers and their families. Poor pesticide storage causes pesticides leaking into the environment, which leads to harming soil quality and reducing productivity. A further consequence of poor storage is the spread of contamination to scarce ground water resources endangering the principal source of drinking water and irrigation. When it comes to water quality and soil fertility, the adverse effect of pesticide residue contamination is diverse to all life forms. The need for careful management and control of pesticide usage in the country is therefore very important.

1. **Objectives of the Assignment**

CRS Ethiopia F2F Country program is undertaking this pesticide safety assessment to gain a better understanding of key constraints to safe use of pesticides and possible solutions, which the F2F program shall address through future volunteer assignments. The F2F volunteer pesticide expert shall conduct the assessment of pesticide safety in Ethiopia, with the following objectives;

* Conduct an assessment of pesticide safety using pesticide life cycle i.e. (policy, purchase, transport, use and disposal)
* Identify and document the major constraints to safe use of pesticides in grain and horticulture project description areas
* Make recommendations of possible solutions to the constraints identified
* Update country specific list of approved active ingredients (AIs) for both F2F grains and horticulture country projects
* Upgrade and/or document integrated pest management practices for F2F in Ethiopia

The assessment shall be conducted through literature review, interviews with knowledgeable sources e.g. the Federal Environmental Protection Agency, Ministry of Agriculture and Rural development, USAID and Feed the Future Implementing partners, Pesticide manufacturer(s), Agro-input importers, distributors and retailers, etc. This information will further be collaborated and verified by going to the field to gather data using observations, individual interviews and focused group discussions.

This assessment shall discuss and analyze the following topics/issues:

1. **Pesticide Governance**
* How are pesticides registered/approved for use in Ethiopia?
* How often is the list of registered pesticides updated?
* Does government conduct compliance checks at supply dealers and markets?
* Does government train extension officers, applicators, or farmers in safe pesticide use and IPM?
* Does government produce and distribute information on IPM?
* Does the private sector provide information on safe use and IPM (do pesticide dealers provide support to applicators/farmers?)
* Does government adequately regulate import, distribution, use, and disposal of pesticides?
* How are obsolete pesticides dealt with in Ethiopia?
1. **Sources of Pesticides in the Country**
* Pesticide importation (governance issues, cross border trade and control, etc.)
* Legal v. illegal sources
* Main countries and companies importing pesticides into Ethiopia
* Local manufacture of pesticides
1. **Local Pesticide Trade**
* Main pesticide dealers in the country
* Types of locations where pesticides are bought/sold (large agro-input supply dealers, local markets, etc.)
* Availability of pesticides (low toxicity, different classes)
* Pesticide dealers/agro-input supply dealers and their knowledge of pesticides; are they trained, and do they receive continuous training?
* Sale of counterfeit pesticides, pesticides that are repackaged, pesticides without labels
* Do agro-input suppliers carry Personal Protective Equipment (PPE)? If not, why not?
* Do agro-input suppliers carry replacement parts for application equipment and are they knowledgeable about using the equipment, including calibration?
* Are pesticides repackaged before sale to small holders
1. **Pesticide Use**
* Accessibility of PPE: Do applicators/farmers use PPE? If not, why not?
* Does the country have a program to certify applicators?
* Do farmers apply pesticides on their fields or do they use trained applicators?
* Are pesticides generally used for the recommended purposes?
* Do applicators use recommended equipment?
* Are applicators knowledgeable about calibration maintenance of application equipment?
* Range of coverage and knowledge of extension officers
* What is the level of farmer knowledge about selecting, applying, storing, mixing, monitoring, and disposing of pesticides? Where do they get their information about pesticides?
* Is this knowledge expressed in safe use and handling behaviors

Are farmers familiar with and use IPM? Where do they get their information about IPM? Also do they know importance of scouting for pests and diseases to minimize use of pesticides?

* How do farmers/applicators typically dispose of unused pesticides and containers?
* How do farmers/applicators clean and store application equipment?
* How do farmers/applicators store unused pesticides?
1. **Findings and Conclusions**
* Analyze the situation for pesticide use and safety in the country and identify key findings.
1. **Recommendations**
* Based on findings and conclusions, provide recommendations to the F2F Program, including recommendations that F2F could implement using volunteers; recommendations that F2F could suggest to the USAID Mission; and recommendations directed at government, private sector, and others
* Recommend change to recommended pesticides list in Ethiopia PERSUAP report
1. **Anticipated Results from the Assignment**
* Improved understanding of country level pesticide policy and governance in Ethiopia
* Recommended list of pesticides active ingredients in the project consistent with Ethiopia and PERSUAP regulations
* Improved understanding of the status of safe use and handling of pesticide in project area with regards to trade, on farm handling, use and disposal
* Recommended safe use and handling practices of pesticides
* Options for IPM to reduce pesticide use in the project
* Recommended future volunteer assignments consistent with PERSUAP guidelines
1. **Schedule of Volunteer Activity in Ethiopia**
* To be developed with country team
1. **Desirable Volunteer Skills**
* Agronomist/Toxicologist with expertise in conducting assessments in safe use of crop protection products
* Good writing and communication skills
* Prior experience in conducting such assessment is desirable
* Can easily and readily adopt to challenging environments
1. **Accommodation and Other in-Country Logistics**

Before travelling to the host partner at the assignment site, the volunteer will stay in Addis Ababa at one of the CRS’s client hotels, Sor-Amba hotel ([www.sorambahoteladdis](http://www.sorambahoteladdis)) or other hotels that will be booked before arrival dates. In Addis Ababa, the hotel usually has rooms paid together with services such as airport pick and drop, breakfast, wireless internet, etc. The hotel or CRS will arrange a vehicle for short travel from the hotel to CRS and vice versa in Addis Ababa. All required materials will be prepared ahead of time and will be provided to the volunteer.

During the assignment period, the volunteer will be travelling in the country where F2F is implementing the horticulture and grains country projects. The accommodation details will be confirmed prior to the volunteer arrival in country. CRS Ethiopia will pay for guesthouse/hotel accommodations and CRS HQ will provide the volunteer with per diem advance to cater for meals and incidentals. The volunteer will liquidate all advances received in Ethiopia before departure

The nature of this assignment requires that the project director or his designate accompanies the volunteer throughout this assignment.

1. **Recommended Assignment Preparation**

CRS-F2F designs assignments with the assumption of some pre-departure preparation by the volunteer. Actual preparation time will vary based on the experience of the volunteer, as well as informational or training resources the volunteer has readily available. CRS relies on the volunteer to assess the tasks outlined in this SOW and to make his or her own judgment about how much and what kind of preparation is needed prior to arriving in Ethiopia

For this specific assignment, the following documents shall be provided to the volunteer prior to arrival in the country;

* Initial environment evaluation and programmatic pesticide evaluation report and safer use action plan (PERSUAP) – July 2014 (or a modern version)
* Ethiopia grains country project
* Ethiopia horticulture country project
* Any other materials as may be deemed necessary for the assignment preparation. The F2F project director in Ethiopia will work closely with the volunteer during the assignment preparation stage.
1. **Key Contacts**

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1. *Ethiopian airlines magazine 2014* [↑](#footnote-ref-1)
2. FAO. 2004. Ethiopia Terminal Report: Ethiopia Phase 1; Reflecting Safeguarding and Disposal of Obsolete Pesticide Stocks. FAO and Government Cooperative Programme for Prevention and Disposal of Obsolete Pesticide Stocks in Ethiopia – Phase I. January 2004, Rome. [↑](#footnote-ref-2)
3. *Tadesse Woldemarieam, et al (2008) In-situ conservation of genetic Resources of wild Arabica Coffee in montane rainforest of Ethiopia. In: - Girma Adugna, et al (eds.), 2008. Coffee Diversity & Knowledge. Proceeding of National Workshop, Four Decades of Coffee Research and development in Ethiopia, 14-17 August 2007, Addis Ababa (Ghion Hotel), Ethiopia, pp 6-10* [↑](#footnote-ref-3)
4. [*Cousin, Tracey L. (1997). Ethiopia Coffee and Trade.*](http://www.american.edu/TED/ethcoff.htm) [↑](#footnote-ref-4)