

Briefing Note – 3 July 2017

ETHIOPIA

Fall Armyworms infestation in Sidama zone, SNNP



Key findings

Anticipated scope and scale

Fall Armyworms spread rapidly and further damage to crops is to be expected. Two million hectares are at risk of infestation. Three to four million metric tons of grain could be lost due to Fall Armyworms.

Food availability will be reduced throughout the country as a result, aggravating the existing food and nutrition needs in Ethiopia. The next harvest – delayed from June to August due to drought – will indicate the extent of the impact of the armyworm outbreak.

Key priorities

- **Livelihoods:** at least 145,000 hectares of land have already been affected throughout Ethiopia.
- **Food security:** Food prices are expected to increase due to decreased yields from harvest.

Humanitarian constraints

The government has strict control over humanitarian organisations, particularly those who have international funding.

Limitations

- Lack of information on how the Sidama zone is affected compared to other areas.
- Extent of impact of armyworms on food security remains unclear.
- Unclear how the *berg* or the *meher* crop seasons will be affected.

	Not required	Low	Moderate	Significant	Major
Need for international assistance			X		
Expected impact	Very low	Low X	Moderate	Significant	Major

Crisis overview

The Fall Armyworms infestation worsened significantly in June in Ethiopia, with 145,000 hectares of land affected – compared to 53,000 hectares at the end of May. The infestation, which affected at least 16 other African countries and millions of people since late 2016, has spread to at least six states out of 11 in Ethiopia, and is likely to spread further. Three to four million hectares of maize crops are expected to be affected at this rate. The Southern Nations, Nationalities and Peoples' State (SNNPS) is the most affected by livelihoods loss, with about 100,000 people (or 20,000 households) affected. This region was already one of the most affected by drought since 2015, causing food insecurity. As the next *belg* harvests are planned for August, the impact on food security will be clearer then. The impact on *meher* yields will be seen in October, during harvest season.

Crisis impact

100,000 people (representing 20,000 households) of the 15 million living in SNNPS have had their crops affected by armyworms since February. (OCHA 19/06/2017). It has been the most affected of the six states where armyworms were detected in Ethiopia, and is heavily dependent on agriculture for livelihoods (FEWSNET 31/01/2006).

Livelihoods:

145,000 hectares of cropland have been affected by Fall Armyworms in Ethiopia (OCHA 27/06/2017). If the conditions are favourable and the response weak, some farmers could lose all their crops. Three to four million metric tons of crops could be lost nationally. A loss of 30% of the national maize production, the staple food, is expected if the infestation is not contained quickly (WorldVision 25/05/2017). All areas of SNNPS have been affected to different extents by armyworms. If the response is ineffective, some farmers could lose all their harvests.

Loss of crops will have a major negative impact on livelihoods, as 80% of people in Ethiopia rely on agriculture as their main source of revenue – with SNNPS a few percent above national average (FAO 31/10/2014 ; ERSS 07/05/2013). In some areas, there has been a 50-90% decrease in food production (FAO 31/05/2017). As Fall Armyworms eat many crops, the damage could be widespread throughout most productions.

Neighbouring countries could potentially ban imports from Ethiopia until the infestation ends, resulting in loss of revenue for producers (Reuters 30/01/2017).

Food:

The armyworm infestation will worsen food insecurity in Ethiopia. 7.8 million people are already in need of food assistance nationwide (OCHA 16/06/2017).

The infestation of armyworms will likely affect food stocks nationwide. The extent of the impact on food security will be visible from August onwards, during and after the next harvests.

SNNPS is traditionally a surplus area. This will force the government to take from its national grain reserve, in times when there is already a food crisis (OCHA 27/06/2017).

Less people will be able to afford food than usually during and after the August harvest, as maize prices are likely to further increase as a result of a reduction of availability of food. Maize prices are already well above last year's level (OCHA 16/06/2017). In the Shashamane market (in Oromia region, near Sidama zone), the price increased from around USD 200 to USD 250 per ton over a year (FEWSNET 20/06/2017).

Vulnerable groups

Farmers, particularly those dependent on agriculture for revenue, are the most affected by the loss of crops. They may not be able to buy food from external sources. Some have already lost crops due to previous droughts.

Humanitarian and operational constraints

Humanitarian aid provided or allowed by the government might target politically favourable populations rather than the ones most in need. The Ethiopian government has been accused of subsidising agricultural tools on the basis of political favouritism (HRW 09/03/2017).

Government control of humanitarian organisations is strict in Ethiopia. Many organisations have been banned in the past (ICLN 30/01/2016).

Any organisation receiving more than 10% of its funding from international sources is banned from undertaking advocacy activities (ICLN 30/01/2016).

Aggravating factors

Rainy season

The climate during the current rainy season (from mid-June to mid-September) in SNNPS is favourable for the spread of armyworms, as it is warm and humid. Very intense rainfalls are forecast until 6 July (FEWSNET 23/06/2017). Furthermore, the effectiveness of insecticide, including anti-armyworms chemicals, is limited in rain conditions (Mississippi Crop 03/06/2014).

Worsened food insecurity

7.8 million people in Ethiopia are in need of food assistance, and this number could reach 15 million by the end of 2017 (ECHO 26/06/2017). Poor rainfalls in the previous rainy season, prolonged drought, and increased food prices are the main reasons behind the high needs.

The Sidama zone covered in the alert is mostly in Stressed (IPC Phase 2) food insecurity, as are most areas in southeast SNNPS – with some pockets in Emergency (IPC Phase 3) food insecurity (World Vision 31/05/2017). Drought, affecting the country since 2015, is the main driver of food insecurity (ECHO 26/06/2017).

Poor rainfalls in 2017

Severe water and fodder shortages during the first rainy season (known as *belg*) in 2017 have negatively affected food and livelihoods. In the Sidama zone, 10% to 25% of crops were affected by drought (FEWSNET 20/06/2017). As a result, the harvest was already delayed – beginning in August rather than in June (UNICEF 20/06/2017). This is the main agricultural season in SNNP (FEWSNET 31/05/2017).

Prolonged drought

Prior to the recent below average rainfalls, El Niño caused drought in many areas in Ethiopia in 2015 and 2016, including the Sidama zone (see map below). As a result, the harvests in 2016, namely the *Gu* (March to May) and *Deyr* (October to December) seasons, have been well below average (FEWSNET 30/12/2016 ; 07/02/2017).

Food inflation

Inflation is generally high in Ethiopia, affecting food more than other products. Food prices increased by 12.3% between May 2017 and 2016. (Trading Economics 31/05/2017; Reuters 07/06/2017). The price of maize has increased dramatically over a year. In the Shashamane market (in Oromia region, near Sidama zone), the price increased from around USD 200 to USD 250 over a year (FEWSNET 20/06/2017).

Political stability and security

Ethiopia has been in a state of emergency since 9 October, following violent clashes between anti-government protestors and authorities. Under the state of emergency, people can be detained without a warrant, and there are more restrictions on media (al Jazeera 30/03/2017 ; BBC 20/10/2016).

Contextual information

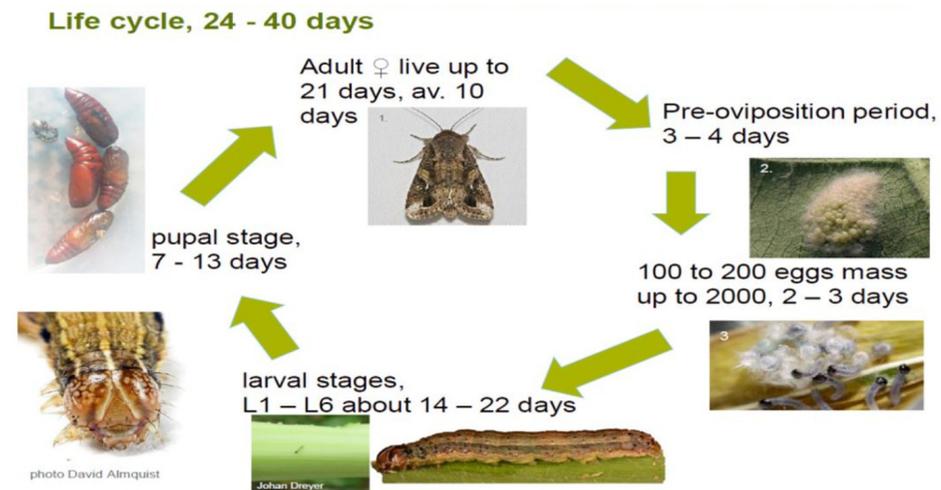
Fall Armyworm

Originating from the Americas, the worm was first detected in Nigeria in 2016, and has spread to many other areas of Sub-Saharan Africa since (Government South Africa 01/02/2017).

It reproduces during the rainy season, during which the moths lay their eggs on grasses and crops. Their hatched larvae march in groups, devouring any food sources they come across. They subsequently pupate to form moths,

each of which can fly up to 1,000km and lay 1,000 eggs in its 10-day lifetime (Nature 2009).

This pest has a wide host range – over 100 different crops from 27 different species, including maize, rice, sorghum, soybeans, groundnuts, and potatoes (Le Monde 20/02/2017; .Government South Africa 01/02/2017).



Source: South African Department of Agriculture, Forestry and Fisheries, 08/03/2017

Previous outbreaks

While no previous armyworms infestations have occurred in Ethiopia, a major armyworms infestation has affected Sub-Saharan Africa since late 2016, impacting food production in at least 17 countries. It has caused significant livelihoods damage and worsened pre-existing food insecurity. It is too early to know the exact extent of the damage (FAO 25/05/2017).

Fall armyworms are known as one of the most devastating pests in terms of loss of livelihoods and economic impact, even in high income countries. Yearly

losses in the United States to armyworms ranges between USD 39 million and USD 297 million (International Maize and Wheat Improvement Center 23/02/2017).

Key characteristics

Demographic profile: 15 million people are living in SNNPR. 90% live in rural areas, 10% in urban areas. Age distribution: 48% of the population is 14 or younger. 43% is aged between 15 and 44. 9% of the population is aged 45 or older. The male-to-female ratio is almost one to one (Census 2007).

Food security Most of the Sidama zone is in Stressed (IPC Phase 2) food insecurity (World Vision 31/05/2017).

Health The under-five mortality rate is 59 deaths per 1,000 live births nationally, higher than other countries in the region (Eritrea is 47, Kenya is 49, and Uganda 55 is deaths per 1,000 live births). (World Bank 2015).

The infant mortality rate is 51 deaths per 1,000 live births nationally (CIA World Factbook 2015).

The maternal mortality rate is 353 deaths per 100,000 live births nationally (CIA World Factbook 2015).

WASH statistics: 57% of the population in Ethiopia (49% in rural areas) has access to improved water sources; 28% of the population have access to improved sanitation facilities (Open Data for Africa 2015).

Cooking sources: In SNNPR, 90% use firewood, 17% use dung, 3% use kerosene, 2% use charcoal (Census 2007).

Literacy: 42% of the population (50% of males and 33% of females) over five is literate in SNNP (Census 2007).

Response capacity

There was no prior contingency plan to combat this particular infestation, as it is the first Fall Armyworm crisis in Ethiopia. However, there is an ongoing response (OCHA 27/06/2017).

International and national food aid organisations are already in Ethiopia to support the wider food and nutritional crisis in Ethiopia. This includes the WFP, the National Disaster Risk Management Commission (NDRMC) and the Catholic Relief Services-led Joint Emergency Operation (CRS/JEOP) (USAID 23/06/2017).

Local and national response capacity

There is a national grain reserve in Ethiopia, which will likely be used to limit further food prices increase (OCHA 27/06/2017).

Almost USD 2 million was allocated by the Ethiopian government for the purchase of anti-Armyworm chemicals – 100,000L has already been distributed. Handpicking of the worms has clear up some of the infested area, (OCHA 27/06/2017).

The government has called upon the public and the army to help combat the infestation through public statements (OCHA 27/06/2017).

International response capacity

The FAO committed USD 600,000 USD for the response (OCHA 27/06/2017).

OCHA estimates USD 3.1 to USD 4.5 million in funds will be needed to contain the crisis in Ethiopia (OCHA 27/06/2017).

Population coping mechanisms

Ongoing negative coping mechanisms as a result of the food crisis in Ethiopia are likely to worsen, due to the impact of armyworms on food availability. Examples include skipping meals, reduction of meal size, a less diverse diet

and the selling of remaining productive assets to purchase food (FAO 31/05/2017).

Dangerous coping mechanisms have been used by farmers in attempts to prevent infestation or their crops in other affected countries. In Zambia, farmers started to produce their own chemicals to supplement what the government already provided them with (FEWSNET 28/02/2017).

Overuse of insecticides has had negative effects on water and air quality in many instances in the past (Science Daily 14/01/2013).

Information gaps and needs

- The extent of the current crop losses on food security are unclear.
- The coping mechanisms used by local populations are unclear.
- As this pest is new in Africa, little is known on the most effective responses and its long-term effects.

Lessons learned

Pesticides used to treat African Armyworms infestations have previously killed cattle in southern Ethiopia. In one single incident, more than 100 cattle died from the poisoning (Infonet-Biovision 07/06/2017). Bio pesticides are better for that reason, as they effectively kill armyworms but are generally safe for other species. However, they are more expensive (The Conversation 12/02/2017).

Insecticides, while effective, should only be used in extreme conditions (where 100% of crops are infested and they are less than 75cm high) (Penn State College of Agricultural Sciences 09/2012). The main drawbacks of insecticide use are:

Cost: Insecticides are expensive and many poor farmers are unable to afford the costs (FAO 24/02/2015).

Strict safety procedures: Spraying large areas of food crops and pastures with insecticides is undesirable, as safety procedures are not well known and

protective clothing is rarely used to avoid risk of exposure to pesticides and pesticide poisoning (FAO 24/02/2015). Animals can be poisoned by drinking water contaminated with insecticide. Many pesticides, even at low concentrations, may have the potential to damage crops (Penn State College of Agricultural Sciences 2017).

Lack of availability: Pesticides are not always available when required, particularly in subsistence cropping systems (FAO 24/02/2015).

Inaccessibility: Insecticides often do not reach the Fall Armyworms because of their tendency to hide in the whorls and reproductive parts of the host plant (The Conversation 12/02/2017).

Some birds, insects and other larvae are predators of armyworms and could be part of the response.

Fall Armyworm infestations have been reduced by 20% to 30% on maize intercropped with beans compared to maize alone (International Maize and Wheat Improvement Center 23/02/2017).

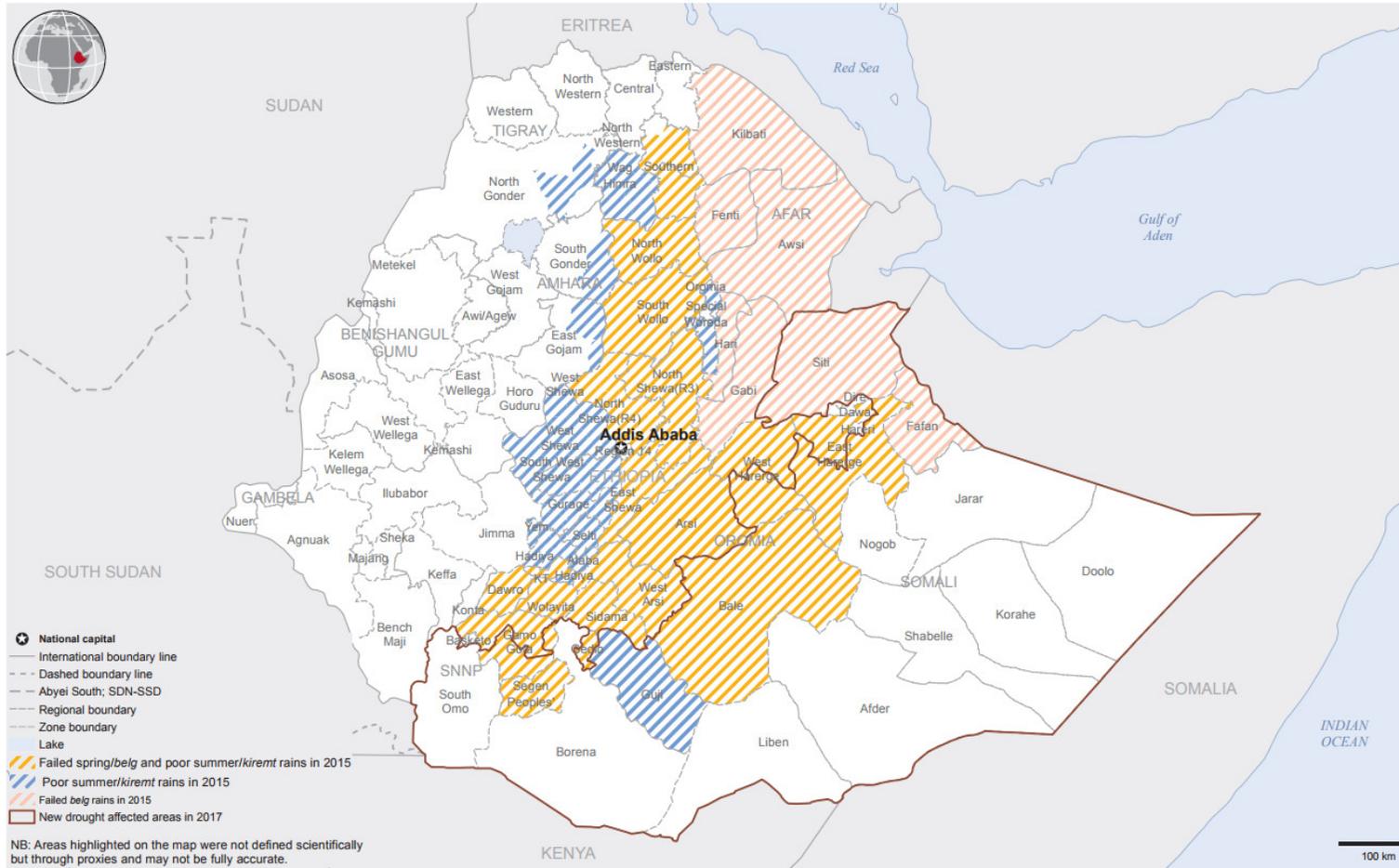
Key characteristics

Key indicators	SNNPS	Ethiopia
Total population	15,000,000	74,000,000
% population in rural areas	90%	84%
Gender and age distribution of population	50% Male 50% Female	50% Male 50% Female
	48% Under 15 43% Between 15-44 9% 45 and over	45% Under 15 43% Between 15-44 12% 45 and over
State capital	Awasa	Addis Ababa
Lighting and cooking	88% firewood, 16% dung, 6% kerosene, 2% charcoal <1% electricity	86% firewood 35% dung 12% kerosene 18% charcoal 2% electricity
Literacy rates	42% total 50% male 33% female	39% total 46% male 33% female

Source: Census 2007

Map

Ethiopia: Areas affected by 2015/2016 El Niño and 2017 IOD induced droughts



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.

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Source: OCHA 16/02/2017