



FAO SUDAN



Issue 17 | Aug/Sept 2013

FAO FOR A WORLD WITHOUT HUNGER

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Protecting Sudan's Tomato Harvest

FAO in the Field

A joint FAO-UNIDO project in Kassala state has helped identify a promising solution to pest attacks on Sudan's tomato crops. The pest, a moth known as tomato leafminer or *tuta absoluta*, has caused severe economic losses to farmers and increased the cost of tomato production across Sudan in recent years. It can cause total crop loss and has developed resistance to pesticides.

An on-farm study carried out in tomato crops established under the Canada-funded Integrated Food Security Project (IFSP) tested various means of biological and chemical pest control. The research was undertaken by the Kassala and Gash Research Station in partnership with IFSP, and was prompted after the project's tomato crops became infested with the moth.

The researchers discovered that a small insect, *nesidiocoris tenuis*, attacks the moth while causing little

or no damage to the crops or surrounding environment. The findings mirror similar studies carried out in South America, and were outlined at a recent meeting of the Kassala Ministry of Agriculture, Forestry, Irrigation and Livestock (MAFIL)'s Pests and Diseases Committee.

FAO's Senior Project Coordinator for the IFSP Anton Glaeser says he's pleased with the early success. "When the tomato pests were first discovered



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LEFT: Some of the tomato harvest was able to be saved and given to poor households in the project's villages or sold in the local markets.

Protecting Sudan's Tomato Harvest

we immediately set about working with the Research Station to try to fix the problem, and we're happy that the trials have been able to identify a potential natural solution that works here in Sudan". IFSP and the Research Station will now work towards identifying how best to deploy the natural predator while protecting the current environmental bio-diversity.

The project's tomato crops are part of a broader investment in strengthening irrigated horticulture value chains in Kassala state. Through IFSP, farmers are adopting improved practices in their fields under the guidance of experienced farmer-trainers and FAO-supported agricultural extension services. As well as tomatoes, other cash crops being cultivated include cucumbers, green peppers, pigeon peas and fodder.

IFSP is a rural development project funded by the Canadian International Development Agency (CIDA) and is implemented by FAO in close cooperation with UNIDO and in collaboration with Kassala state's Ministry of Agriculture, Forestry, Irrigation and Livestock.



ABOVE: The adult stage of the nesidiocoris tenuis. New research has found it could be an effective natural weapon in Sudan to fight a moth that destroys tomato crops.



LEFT: FAO is supporting 2,300 permanent returnees to Kujulung village in West Darfur's Habillah locality to re-establish their farming livelihoods this season.

Sowing the Seeds of Food Security

Agricultural Season Update

The Sudan Meteorological Authority has forecast that rains in most parts of Sudan will be sufficient for a successful main crop season. The SMA gave a briefing to the recent Food Security and Livelihoods sector meeting in Khartoum and reported that the rainfall in most states is predicted to be normal to near above normal until September. In parts of Darfur, however, the Authority expects normal to below normal rains.

Planting of staple and cash crops is now underway. FAO and its implementing partners have completed distribution of improved seeds and quality hand tools to vulnerable farmers in Darfur, South Kordofan, Blue Nile and eastern Sudan including IDPs and returnees. Improved seeds are those that are high-yielding and have been bred for local soils, pest and disease conditions, rainfall and market demand. Among the vulnerable or displaced households supported by FAO this season are 27,000 in North Darfur, 55,000 in South Kordofan and 40,000 in Blue Nile.

FAO Food Facts: Seed Security

What is seed security?

Seed security means ready access by farmers to adequate quantities of quality seeds that are adapted to their

agro-ecological conditions and socioeconomic needs at planting time, under normal and abnormal weather conditions.

Why is seed security important?

When emergency situations force farmers from their land they often lose their seed stores which means they lose their capacity for food production. By having local access to good quality seeds they can resume and increase agricultural production and reduce or eliminate their dependence on food aid after the next harvest.

How is FAO building seed security in Sudan?

FAO is helping strengthen Sudan's local seed system by encouraging agricultural productivity so that harvest surplus can be stored for use as seeds for next season. Farmers who receive seeds from FAO commit to saving the equivalent quantity of seeds from their harvest for themselves and their neighbours to propagate next year. In North Darfur, for example, FAO's team reports high rates of keeping okra and pigeon seeds from last season to plant this season. FAO also supports community seed banks to ensure shared resilience, and adopting a market-based approach to seed distribution, such as through seed vouchers, which helps reduce the need for direct seed aid.

FAO Feature

Fighting Mesquite & Malnutrition in Eastern Sudan

Almost 100 years ago the mesquite tree (*prosopis juliflora*) was introduced to Sudan as a way to fight the encroaching desert sands. In some areas seeds were broadcast from planes and seedlings were distributed to communities for free. But by the 1990s what was once an environmental solution had become a devastating environmental problem. The livelihoods of many rural communities in Sudan, particularly in the east, are being strangled by the thorny, invasive tree. It spreads quickly, taking over arable land and pasture replacing local trees and grasses, chokes water sources and can cause animals to become sick if they eat too much of the tree's seed pods. The seeds can germinate in hard conditions and are easily spread by wind, water and animals.

Many farming families in potentially-fertile areas only manage to clear mesquite from a small plot of less than two feddan each season to grow cereals and vegetables which is not enough land to meet both the family's food needs and to ensure seeds production. Livestock rearing can't be relied on to fill a family's productivity gap because pasture is often infested with mesquite and therefore can't support a sufficient number of productive animals. The result is extreme rural poverty, persistent hunger and malnutrition. To cope, some people are choosing to leave their farms to find poorly-paid seasonal work or turning to charcoal production which is less economically-rewarding than farming or herding and which has harmful environmental consequences.

Cutting down or pulling out mesquite isn't an easy fix. The tree's powerful root system can become deeply entrenched in the soil for up to 20 metres and any remaining root can quickly reestablish. Able-bodied workers who could tackle the tough job are often away taking part in seasonal paid labour. For those remaining, only rudimentary tools are available to remove the trees, and widespread malnutrition means many people are often simply too weak. The latest published data shows Red Sea state has the highest rate of malnutrition in Sudan, at 28 per cent. Globally, malnutrition rates of 10 percent are considered critical. The 28 percent is an average that includes the prosperous state capital, so rates in poor rural areas are thought to be even higher. Poor rains during the 2011/12 growing season in Red Sea state and parts of Kassala have compounded the malnutrition problem, and UNICEF is currently working to update the statistical data.

In response to this complex context, FAO is currently



TOP:
Mesquite is found all over Sudan.



MIDDLE:
The tree can be used for firewood and charcoal.



BELOW:
It can quickly take over farming and grazing land.

developing a new project aimed at sustainable use and management of land, water and natural vegetation in watershed areas. The project includes supporting communities to reduce mesquite cover, reforest with valuable local tree species, rehabilitate pastures, adopt simple water-harvesting techniques and apply more-sustainable agriculture and livestock production practices. It will mean land can be returned once again to grow nutritious food and raise livestock to durably eradicate malnutrition and build the resilience of farming and herding communities. For more information about the project contact Sabine.Schenk@FAO.org

EU-funded food security project gains more ground



Food Security Policy & Strategy

Inception workshops have been held in each of the participating states of FAO's new European Union-funded Food Security Policy and Strategy (FSPS) Capacity Building Programme. The €8.6 million (\$US11.2 million) programme is being implemented in Red Sea, Kassala, Gedaref and Blue Nile states. It aims to support the state governments in addressing capacity gaps related to food security institutional coordination, policy, planning, information systems and monitoring.

The Deputy Governors of Gedaref and Blue Nile states and the Minister of Agriculture in each of Kassala and Red Sea states officially opened their respective state's workshop. After the launch, project partners were given an intensive briefing on the programme's scope and implementation strategy. At the end of each workshop, a state work plan was produced for the next six months based on the findings of capacity needs assessments.



ABOVE: The EU-funded Food Security Policy & Strategy Capacity Building Programme's inception workshop in Kassala.

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Desert Locust Summer Campaign

Protecting Crops and Pastures

A delivery of eight vehicles has arrived in Sudan to help the federal Ministry of Agriculture and Irrigation's Plant Protection Directorate carry out extensive desert locust monitoring operations during the current summer breeding season. Pesticide sprayers will be mounted in each car for control operations as required. The cars were funded by Saudi Arabia as part of a project being implemented by FAO in partnership with the Government of Sudan.

Sudan plays a vital role in the global fight against the desert locust because it is one of the few countries where locusts are present for most of the year – during summer in the vast breeding areas of the interior and along the Red Sea coast in winter. Desert locusts pose a serious threat to crops and grazing in Sudan and across the region because they can quickly consume vegetation and trigger a food security and livelihoods emergency. For this reason, FAO adopts a preventative control strategy that relies on effective surveillance to provide early warnings and which strives to reduce the need for pesticides.



LEFT: Desert Locust monitoring is vital to protect Sudan's agriculture and pastures.