Food and Agriculture Organization of the United Nations

©FAO/Azizbek Sattorov

EMERGENCY PREPAREDNESS AND RESPONSE TO MULTIPLE CRISES IN TAJIKISTAN

May 2022

SDGs:	
Country:	Tajikistan
Project Code:	TCP/TAJ/3806
FAO Contribution:	USD 400 000
Duration:	28 September 2020 – 31 December 2021
Contact Info:	FAO Representation in Tajikistan FAO-TJ@fao.org

Implementing Partner

Ministry of Agriculture (MoA).

Beneficiaries

State Enterprise Locust Control Expedition (SE-LCE) of the Ministry of Agriculture; smallholder farming households affected by locust outbreaks and extreme weather events.

Country Programming Framework (CPF) Outputs

Priority Area B: Sustainable management of natural resources and improved resilience to climate change.

Background

In Tajikistan, locusts destroy vast areas of crop and rangelands, resulting in estimated losses of USD 10-15 million annually. The damage they cause gravely threatens the livelihoods and food security of vulnerable communities in rural areas.

A locust outbreak occurred in the Khatlon region of the country in June 2020. Nearly 114 000 ha of land were chemically treated by the State Enterprise Locust Control Expedition (SE-LCE), and, thanks to this campaign, millions of dollars' worth of crops and pastures were saved. Prompt follow-up actions to survey, identify and manage the pest were required to prevent future outbreaks and to stop it from spreading to other regions and countries.

To carry out these actions, the SE-LCE needed equipment and other inputs for control operations, as well as further training on locust management. This project was therefore designed to provide the necessary technical assistance to support the SE-LCE in mitigating locust outbreaks and preventing their spread.

The implementation of the project began, and then, in March of 2021, several extreme weather events occurred, including a severe dry spell, sharp fluctuations in temperature that caused full and partial losses of early vegetable crops and fruit trees, and a series of floods and landslides. The coronavirus disease 2019 (COVID-19) pandemic also hit the country hard, with half a million labour migrants either remaining in or returning to Tajikistan, placing further demands on the food supply, particularly in rural areas.

To respond swiftly and effectively to these crises, the project budget was increased, and a fourth Output was added to support vulnerable, disaster-affected farmers through the provision of inputs and training material.

Impact

The results of the project are expected to boost livelihoods and increase feed and food security in the areas of Tajikistan affected by locust outbreaks, dry spells, heavy rains and landslides.

Through its efforts to increase food security and promote sustainable agriculture, the project supported the achievement of SDGs 1 (No poverty), 2 (Zero hunger), 3 (Good health and well being), 13 (Climate action), 15 (Life on land) and 17 (Partnerships for the goals). The project also worked towards the achievement of SDG 5 (Gender equality) by designing and implementing the project with the needs and priorities of women in mind, according to the FAO Regional Gender Equality Strategy and Action Plan for Europe and Central Asia (2019-2022).

Achievement of results

The project design adequately supported the achievement of its objectives. Locust-control measures and capacity-development activities were implemented to reduce crop, livestock feed and food losses, and rural farmers affected by the above-mentioned natural disasters were supported.

Output 1 supported the implementation of survey and control operations for an effective and timely response to the locust outbreak. The activities under this Output led to the surveying of 154 749 ha of land, and the implementation of locust control measures on 131 864 ha.

The focus of Output 2 was the building of national capacities for locust surveillance and control. Under this Output, a refresher course on tools and techniques for locust monitoring and information management, including the Automated System for Data Collection (ASDC) and the Caucasus and Central Asia Locust Management System (CCALM), and on pesticide risk reduction was conducted remotely by FAO and a Geographical Information System (GIS) Expert for four Master Trainers from the SE-LCE. Technical and operational support was provided to the Master Trainers so that they could carry out four national sessions that reached a total of 50 technicians and locust specialists who were responsible for carrying out survey and control operations. Particular attention was paid to pesticide risk reduction in these sessions.

Staff of the SE-LCE, farmers and seasonal workers received practical training on locust control, including the Ultra-low Volume (ULV) spraying technique, and four briefing sessions on spraying operations were carried out by Master Trainers for 70 sprayers just before the operations were carried out. According to the information provided by the SE-LCE in 2021, 45 240 ha were treated with ULV pesticides in Tajikistan (roughly 34.35 percent of the country's total area). Eight one-day information sessions for farmers were delivered on observation and reporting on the presence of locusts in infested areas.

Educational material and visibility tools were developed and disseminated for knowledge and awareness on the threat posed by locusts and on locust management under Output 3. Practical guidelines and posters on locust biology, ecology and control were printed and delivered to the SE-LCE and farmers.

Under the final Output, which, as mentioned above, was added to the project owing to a series of extreme weather events, including a dry spell, heavy rains and a landslide, support was provided to vulnerable farmers affected by these disasters. A needs assessment was carried out, and it determined that inputs were required, so a total of 24 710 kg of high-quality seeds were purchased and delivered to the disaster-affected farming households. FAO also developed three booklets on technologies for growing different crops (maize, cucumber and carrots) and printed 8 700 copies. The booklets were distributed, and training on the topics covered in the booklets was provided for 845 farmers in three districts. Several monitoring missions were organized, and project staff provided technical advice on technologies for fertilizing, watering and crop growing, as well as on integrated pest management (IPM)..

Implementation of work plan and budget

The project activities were implemented successfully. Owing to the extreme weather events, more financial resources were required, so a component was added to the project, the budget was increased, and an extension was requested and approved. The activities were implemented within the new budget in a timely manner and in accordance with the revised work plan, with two exceptions. Activity 1.3 foresaw human health and environmental monitoring missions, but they could not be carried out owing to a lack of planning, organization and required inputs. Activity 3.2, which included the organization of a media tour, was also not fully carried out because of delays in hiring staff for the tour.

The project was classified as low risk for environmental and social factors overall, with only two risks being identified in the revised Project Document.

The first was that travel restrictions due to the COVID-19 pandemic could cause activities to be delayed. This risk did not prove to be an issue, because no international travel was foreseen in the work plan, and permission could be obtained for domestic travel. The second risk was the potential for delays in the procurement of equipment owing to the pandemic and the urgency of the locust situation, which required swift action; however, the risk was mitigated through the provision of technical specifications formulated by incorporating experience gained in other locust campaigns in Central Asia and through the preparation of local tenders as well as international ones.

Follow-up for government attention

Additional capacity development for locust surveillance and control, especially for Master Trainers, is required.

Sustainability

1. Capacity development

The project provided technical assistance and built the capacities of staff of the SE-LCE, which is expected to ensure the sustainability of the results.

2. Gender equality

The needs and priorities of women were taken into account during the project design and implementation stages according to the FAO Regional Gender Equality Strategy and Action Plan for Europe and Central Asia (2019-2022).

3. Environmental sustainability

Pesticide risk reduction was emphasized during the training sessions held under the project. In addition, high-quality seeds were purchased to boost yields.

©FAO/Azizbek Sattorov

4. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

The project contributed to the creation of seasonal jobs for 1 000 rural youth. A total of 24 710 kg of seeds were procured and delivered to 312 farms and 787 farmer households to increase agricultural production, contributing to the food security of the population

5. Technological sustainability

A number of technologies introduced under the project are modern and have a low impact on the environment. Through training, capacity-development activities and information products, the project contributed to the enhancement of local knowledge and good practices.

6. Economic sustainability

During the implementation of the project, in-kind contributions were provided by local authorities and farmers. Local authorities also mobilized assistance for 500 farmers to work temporarily on locust control. All of the products and services developed were delivered in a timely manner and were affordable for beneficiaries and stakeholders.

Documents and outreach products

- **Ahmadov, I., Saidova, D., & Eshbadalov, M.** 2021. *Technology of growing maize for corn and silage as second crop* (booklet). Dushanbe.
- **Ahmadov, I., Saidova, D., & Eshbadalov, M.** 2021. *Technology of growing cucumber as second crop* (booklet). Dushanbe.
- **Ahmadov, I., Saidova, D., & Eshbadalov, M.** 2021. *Technology of growing carrot as second crop* (booklet). Dushanbe.
- **Latchininsky, A.** 2021. *Italian locust (Calliptamus italicus, Linnaeus) in Tajikistan - biology, ecology, monitoring and observation* (poster). Dushanbe, FAO. https://bit.ly/3Nkl405.
- **Latchininsky, A.** 2021. *Moroccan locust (Dociostraurus maroccanus, Thunberg) in Tajikistan - biology, ecology, monitoring and observation* (poster). Dushanbe, FAO. https://bit.ly/3wBqbSR.
- **Latchininsky, A.** 2021. *Practical Guideline on the three locust pests in Caucasus and Central Asia (CCA)* (in Russian). Dushanbe, FAO. https://bit.ly/3GaCIkV.
- **Latchininsky, A.** 2021. *Practical Guideline on the three locust pests in Caucasus and Central Asia (CCA)* (in Tajik). Dushanbe, FAO. https://bit.ly/3yKlgBV.


©FAO/Akmal Haitov


©FAO/Azizbek Sattorov


©FAO/Ibrohim Ahmadov


©FAO/Mukhammadzhon Eshbadalov

ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	**Secure livelihoods, feed and food security of the populations living in areas affected by locust, dry spell, heavy rains and landslides in Tajikistan**		
Outcome	Prevention of crops, livestock feeds, and food losses due to locust and recovery from effects of dry spell, heavy rains and landslides		
	Indicator	– Estimated potential loss by locust averted (%). – Level of recovery from effects of dry spell, heavy rains and landslides (%).	
	Baseline	– 0 – 0	
	End Target	– 75 percent. – 75 percent.	
	Comments and follow-up action to be taken	Output Indicator 2 (Level of recovery from effects of dry spell, heavy rains and landslides [%]) was only 25 percent achieved; however, the objectives outlined in the Project Document were achieved overall.	
Output 1	Survey and control operations supported for an effective and timely response to the locust outbreak		
	Indicators	Target	Achieved
	Area of land subjected to survey and control measures (ha).	150 000 ha	Yes
Baseline	0 ha		
Comments	The project supported the SE-LCE of the Ministry of Agriculture in organizing and conducting locust surveys on an area of 154 749 ha (out of 418 083 ha) and locust control on an area of 2 250 ha (out of 131 864 ha). The expected result was achieved.		
Activity 1.1	Purchase and distribute equipment and supplies		
	Achieved	Yes	
	Comments	With some adjustments made to the initial plan to better fit needs, the following equipment was purchased and delivered to the SE-LCE: – 148 tractor tires (for MTZ-82 – front and rear); – 46 vehicle tires (Toyota Hilux); – 54 motorbike tires (IRBIS – front and rear); – 13 tablets; – 4 tonnes fuel (petrol and diesel) for SE-LCE; – 6 sprayers (OVX-600); – 9 sprayers (TAS-600); and – 9 boom sprayers.	
Activity 1.2	Conduct locust field survey and ground treatment		
	Achieved	Yes	
	Comments	A locust field survey was conducted on 154 749 ha (out of 418 083 ha) and 2 250 ha (out of 131 864 ha) of ground were treated.	
Activity 1.3	Ensure human health and environment monitoring missions on the impact of locust control		
	Achieved	No	
	Comments	The planned human health and environmental monitoring missions were not adequately planned or organized. In addition, no reagents were available for cholinesterase, which was required for a part of the field mission.	

<table>
<tr><td rowspan="3">Output 2</td><td colspan="3">National capacities for locust surveillance and control strengthened</td></tr>
<tr><td>Indicators</td><td>Target</td><td>Achieved</td></tr>
<tr><td>– Number of refreshing course conducted.
– Number of National Sessions conducted.
– Number of briefing sessions conducted in the project areas.
– Number of information sessions provided to farmers.
– Number of SE-LCE staff members trained during National Sessions.
– Number of staff/local manpower trained during Briefing Sessions.
– Number of farmers informed/sensitized.</td><td>– 1
– 4
– 4
– 8
– 50
– 70
– 100</td><td>Yes</td></tr>
<tr><td>Baseline</td><td colspan="3">– 0
– 0
– 0
– 0
– 0
– 0
– 0</td></tr>
<tr><td>Comments</td><td colspan="3">All of the targets under this Output were reached.</td></tr>
<tr><td rowspan="3">Activity 2.1</td><td colspan="3">Refreshing course for SE-LCE Master-Trainers on locust biology and monitoring as well as on pesticide risk reduction</td></tr>
<tr><td>Achieved</td><td colspan="2">Yes</td></tr>
<tr><td>Comments</td><td colspan="2">A refresher course on locust monitoring and information management, including the ASDC and CCALM, and on pesticide risk reduction was conducted remotely by the FAO Agricultural Officer (Locust Management) and an International Consultant (GIS Expert), for four SE-LCE Master Trainers from 26-28 February 2021. The meeting was postponed at the last minute by SE-LCE and was shorter than planned (three days instead of five). It was conducted in Russian (with no interpretation into Tajik).
Follow-up actions include the delivery of more in-depth training, especially for Master Trainers.</td></tr>
<tr><td rowspan="3">Activity 2.2</td><td colspan="3">National sessions for staff on survey and control operations</td></tr>
<tr><td>Achieved</td><td colspan="2">Yes</td></tr>
<tr><td>Comments</td><td colspan="2">Technical and operational support was provided to the Master Trainers, who conducted four national sessions for a total 50 technicians/locust specialists responsible for carrying out survey and control operations, with particular attention paid to pesticide risk reduction.</td></tr>
<tr><td rowspan="3">Activity 2.3</td><td colspan="3">Briefing sessions to spraying staff/local manpower on spraying operations and pesticide risk reduction</td></tr>
<tr><td>Achieved</td><td colspan="2">Yes</td></tr>
<tr><td>Comments</td><td colspan="2">Four briefing sessions on spraying operations as well as pesticide risk reduction were delivered in the field by Master Trainers to a total of about 70 spraying staff and members of the local workforce, immediately prior to control operations.</td></tr>
<tr><td rowspan="3">Activity 2.4</td><td colspan="3">Information session to farmers in locust-affected areas</td></tr>
<tr><td>Achieved</td><td colspan="2">Yes</td></tr>
<tr><td>Comments</td><td colspan="2">Eight one-day information sessions were delivered to more than 100 farmers on observation and reporting on the presence of locusts in infested areas.</td></tr>
</table>

Output 3	Educational material and visibility tools developed and disseminated for knowledge and awareness on locust management and threat			
	Indicators		Target	Achieved
	– Number of Practical Guidelines and posters available. – Monthly bulletins produced and distributed to relevant offices.		– 1 100 – 6	Yes
Baseline	– 0 – 6			
Comments	Practical guidelines and posters on locust biology, ecology and control were printed and delivered to the SE-LCE. The monthly bulletins were distributed after lengthy negotiations with SE-LCE management. There were delays in the preparation of the first bulletin.			
Activity 3.1	Issue and dispatch Practical Guidelines and posters on locust pests and pesticides risk reduction			
	Achieved	Yes		
	Comments	Practical Guidelines on the three locust pests in Caucasus and Central Asia (CCA) were printed and dispatched in Russian and Tajik (300 copies in total), which were written using a United Nations (UN) toolkit on gender sensitivity. This was completed through the preparation, printing and dissemination of two posters, one on the Moroccan Locust and the other on the Italian Locust (400 copies each), for the benefit of SE-LCE staff.		
Activity 3.2	Organize a photo/video media tour to document locust infestations and response			
	Achieved	Partially		
	Comments	During the season, SE-LCE staff shot pictures of locust infestations, locust monitoring, chemical treatment against locusts, and during training sessions and seminars. The media tour was not implemented owing to a delay in hiring a photographer and producer, which meant that the tour could not be carried out at the proper stage of the locusts' life cycle.		
Activity 3.3	Monthly bulletins issued and meetings conducted as necessary by SE-LCE at national level			
	Achieved	Yes		
	Comments	The SE-LCE prepared and shared six monthly bulletins on the locust situation. Meetings were organized by SE-LCE with relevant Ministries and beneficiaries at national level.		

<table>
<tr><td rowspan="3">Output 4</td><td colspan="3">Post dry spell, heavy rains and landslide recovery of the most vulnerable affected farmers supported</td></tr>
<tr><td colspan="2">Indicators</td><td>Target</td><td>Achieved</td></tr>
<tr><td colspan="2">– Number of affected farmer households supported/targeted.
– Types and quantities of inputs provided to target households.</td><td>– 400 farmer households.
– 34 tons of assorted seeds.</td><td>Yes</td></tr>
<tr><td>Baseline</td><td colspan="4">– 0
– 0</td></tr>
<tr><td>Comments</td><td colspan="4">Achieved</td></tr>
<tr><td rowspan="3">Activity 4.1</td><td colspan="4">Purchase of agricultural inputs based on damage and need assessment results</td></tr>
<tr><td>Achieved</td><td colspan="3">Yes</td></tr>
<tr><td>Comments</td><td colspan="3">Based on need assessment results, 24 710 kg of high-quality seeds were purchased, including: 14 750 kg of maize seed for grain and silage, 6 800 kg white bean seeds, 2 550 mung bean seeds, 600 kg carrots seeds and 10 kg cucumber seeds.</td></tr>
<tr><td rowspan="3">Activity 4.2</td><td colspan="4">Distribution of inputs packages to vulnerable farmers in the affected areas</td></tr>
<tr><td>Achieved</td><td colspan="3">Yes</td></tr>
<tr><td>Comments</td><td colspan="3">In July 2021, 24 710 kg of maize seed for grain and silage, white bean seeds, mung bean seeds, carrot and cucumber seeds were delivered and distributed to disaster-affected 312 Dehkan Farms (DF) and 787 farmer households in the districts of Kulob, Vakhsh and Jomi.</td></tr>
<tr><td rowspan="3">Activity 4.3</td><td colspan="4">Development and dissemination of technical information material</td></tr>
<tr><td>Achieved</td><td colspan="3">Yes</td></tr>
<tr><td>Comments</td><td colspan="3">FAO developed three booklets for three crops (see below) and printed 8 700 copies. All materials were distributed to disaster-affected DFs and farmer households in Kulob, Vakhsh and Jomi. The topics of the booklets are:
– technology for growing maize for corn and silage as a second crop;
– technology for growing cucumbers as a second crop; and
– technology for growing carrots as a second crop.</td></tr>
<tr><td rowspan="3">Activity 4.4</td><td colspan="4">Organize monitoring and agronomic advice missions in the field (for each affected area)</td></tr>
<tr><td>Achieved</td><td colspan="3">Yes</td></tr>
<tr><td>Comments</td><td colspan="3">Several monitoring missions were organized and project staff provided technical advice on crop growing technologies, IPM, fertilizing and watering technologies for farmers.</td></tr>
<tr><td rowspan="3">Activity 4.5</td><td colspan="4">Conduct training sessions to farmers on agriculture production and new technologies in affected areas</td></tr>
<tr><td>Achieved</td><td colspan="3">Yes</td></tr>
<tr><td>Comments</td><td colspan="3">The project staff conducted training sessions with service providers for affected farmers in Kulob, Vakhsh and Jomi districts on:
– technology for growing maize for corn and silage as a second crop;
– technology for growing cucumbers as a second crop; and
– technology for growing carrots as a second crop.</td></tr>
</table>

Partnerships and Outreach
For more information, please contact: Reporting@fao.org

Food and Agriculture Organization of the United Nations
Viale delle Terme di Caracalla
00153 Rome, Italy

CC1531EN/1/08.22