Food and Agriculture Organization
of the United Nations

STRENGTHENING CAPACITIES OF FARMERS AND RURAL POPULATION ON GREENHOUSE – PHASE II OF TCP/TAJ/3603

April 2022

SDGs:

Country:	Tajikistan
Project Code:	TCP/TAJ/3603 and TCP/TAJ/3801
FAO Contribution:	USD 445 000 (TCP/TAJ/3603) USD 105 000 (TCP/TAJ/3801)
Duration:	10 July 2017 – 31 December 2019 (TCP/TAJ/3603) 1 May 2020 – 31 December 2021 (TCP/TAJ/3801)
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Implementing Partner

Ministry of Agriculture (MoA).

Beneficiaries

The MoA; farmers, researchers and agriculture and extension specialists; and rural households and communities.

Country Programming Framework (CPF) Outputs

Output 2.2 – Innovative and multisectoral approaches and practices for sustainable and integrated natural resource management and improved resilience to climate change (land, water, forestry and wildlife) promoted amongst key stakeholders (government institutions, water user associations, small-scale entrepreneurs and communities) and their application facilitated, with FAO's support.

Output 3.2 – Selected policies, strategies and/or regulations in the area of plant production and protection, reviewed or developed with FAO's assistance and related modern and gender-responsive approaches and techniques identified, and capacities of extension workers and communities built for their development.

BACKGROUND

This project was designed to harness the potential of agriculture in Tajikistan to create jobs, generate income and reduce undernourishment in rural areas through the establishment of greenhouses for vegetable cultivation in seven districts. Greenhouses provide a protected environment for the growth of vegetables and the production of seedlings, which can then be sold or consumed by project beneficiaries, boosting their incomes and strengthening food and nutrition security in the targeted areas. The project design included capacity-development interventions, the construction of locally adapted small-scale greenhouses, and the creation of a national strategy for the sustainable production of greenhouse vegetables. The project was implemented in two phases after delays during the first phase caused the need for a second.

IMPACT

The results of this project are expected to contribute to improved diets, strengthened food security, and an increase in incomes for smallholder farmers and rural people in Tajikistan through the sustainable development of greenhouse vegetable production.

ACHIEVEMENT OF RESULTS

The expected outcome of the project was fully achieved: The project established pilot small-scale greenhouses and trained local researchers, farmers and agriculture and extension specialists on the sustainable production of greenhouse vegetables.

The project outputs were also fully achieved. They contributed to an increase in greenhouse vegetable production in Tajikistan through the application of good agronomic practices, the planting of high-yielding and disease-resistant hybrids and improved greenhouse design for efficient pest, water and heat management.

The average beneficiary produced up to 3 600 kg of tomatoes and up to 2 600 kg of cucumbers, which they sold or consumed. The off-season production of vegetables generated additional income for farmers' families, contributing to improved diets, livelihoods and food security. Thanks to these positive results, the beneficiary farmers were very interested in continuing greenhouse vegetable production. In addition, the project was gender mainstreamed and gender focused, allowing for attention to be paid to the participation of women at activities and to the strengthening of their capacities. The project therefore contributed towards the achievement of SDGs 1 (No poverty), 2 (Zero hunger) and 5 (Gender equality).

The project team developed different designs for locally adapted small-scale greenhouses, constructed seven pilot greenhouses in different agroecological zones of Tajikistan, and tested and validated their efficiency. In parallel, local researchers, farmers, rural communities, and extension and agriculture specialists benefitted from official workshops and on-the-job training. A sustainable approach to greenhouse vegetable production was promoted; training modules, guidelines and posters were developed and published; and a national strategy for the sustainable development of greenhouse crop production in Tajikistan was drafted.

Implementation of work plan and budget

The project design was effective for ensuring the achievement of tangible results. The activities were planned in detail, which facilitated their implementation and achievement.

Some challenges to implementation were encountered. The signing of the project document was delayed, causing the initiation of project activities to begin late. This ultimately led to Phase II of the project being opened. There were some other delays with the procurement of goods and services, owing to the time it took for the approval of the sites for establishing the pilot greenhouses. In addition, the procurement of a model greenhouse was cancelled due to its high cost. Otherwise, the project activities were carried out according to the revised work plan, and the budget was sufficient for the implementation of activities.

The potential risks to implementation were considered, and mitigation measures were developed during the formulation of the project document. A few of the risks were encountered, including the above-mentioned delays in procurement and the delivery of inputs, tools and equipment, as well as adverse climatic conditions. To mitigate the climatic risks, off-season vegetable production in the greenhouses was split into two periods: August-December and February-June. During the winter, farmers established tunnel-type constructions inside the greenhouses for the production of seedlings.

Follow-up for government attention

The potential to expand sustainable greenhouse vegetable cultivation in Tajikistan should be explored. Resources should be mobilized for the implementation of larger-scale projects in this area.

Sustainability

1. Capacity development

The training materials developed and the researchers, farmers, and agriculture and extension specialists that were trained are an asset to promoting the sustainable production of vegetables and other crops in the greenhouses. The draft national strategy for the sustainable development of greenhouse crop production will serve as a strategic document and road map in Tajikistan. The national legislation, rules and procedures are favourable for the adoption and implementation of the national strategy.

The project did not have any objectives regarding the development of organizational structures; however, the design of the greenhouses could serve as an example for greenhouse crop production in Tajikistan.

The partnership on sustainable greenhouse vegetable production among FAO and the Ministry of Agriculture (MoA), Tajik Academy of Agricultural Sciences and its research institutes, Tajik Agrarian University, non-governmental organizations (NGOs), governments, farmers and rural communities in the pilot districts was established and strengthened within the framework of the project. This is a solid foundation that should be built upon through the development of larger-scale projects and synergies with other projects and programmes.

The exit strategy of the project was the development of the national strategy for the sustainable development of greenhouse crop production. The adoption and implementation of the strategy should ensure the sustainability of the project outputs and the further promotion of greenhouse crop production in Tajikistan.

2. Gender equality

The project was gender mainstreamed. A gender study was conducted to define women's priorities and interests in the area of greenhouse vegetable production. Women's interests and priorities were also considered during the formulation of the training materials and the draft national strategy. Following the study, training modules and materials were developed. Moreover, a special training session was conducted on empowering women entrepreneurs for the production of vegetables in the greenhouses.

Women and men actively attended the capacity-building activities. On average, 35-40 percent of the participants in training sessions, field days and exchange visits were women.

3. Environmental sustainability

The project aimed to reduce the negative impact of agriculture on the environment and its contribution to climate change. The project promoted drip irrigation to save water and integrated pest management (IPM) for vegetable production. The design of the greenhouses also prevented pest infestations inside the greenhouses.

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

The project did not have a direct focus on the HRBA, but, in general, the project activities and outputs aimed to provide equal opportunities for men and women, reduce manual work and ease work burdens.

5. Technological sustainability

The project demonstrated the possibility for the local construction of small-scale energy-efficient greenhouses and the application of good agronomic practices for sustainable vegetable production in the greenhouses. The interest of local beneficiaries will serve as a driving force for the further promotion of the concept and a sustainable increase in vegetable production under the protected conditions.

A significant contribution to improving national capacities to design suitable greenhouses and to promote the sustainable management of vegetable crops in the greenhouses was also made by the project. Over 500 researchers, farmers, extension and agriculture specialists were trained, and training modules and guidelines that can be used for further training were developed and published.

The primary Service Provider (SP), the Seed Association of Tajikistan (SAT) was a strong project partner. The activities allowed for the strengthening of capacities of SAT as an agriculture-focused NGO and improved the technical capacity of experts on sustainable greenhouse crop production. The project also contributed to strengthening the capacities of specialists at the MoA and its departments in the pilot districts. This is a valuable contribution of the project towards the development of agriculture in the country.

6. Economic sustainability

The project ensured that the off-season production of vegetables in the greenhouses was a profitable business. At the time of reporting, the beneficiaries expressed interest in continuing and possibly growing other and more diverse crops in the greenhouses.

The construction of the greenhouses requires investment at the initial stage. The national strategy considers the provision of loans and incentives to the farmers and rural communities for the construction of greenhouses and the development of vegetable crop production.

DOCUMENTS AND OUTREACH PRODUCTS

- **FAO.** 2018. *TCP/TAJ/3603: Strengthening the capacities of farmers and rural population on greenhouse vegetable production* (project leaflet). Dushanbe. 4 pp.
- **FAO.** 2021. *Integrated pest management of vegetable crops from the pests and diseases under the controlled environment*. Dushanbe. 15 pp.
- **FAO.** 2021. *National Strategy on growing plants under the greenhouse conditions* (draft). Dushanbe. 14 pp.
- **FAO.** 2021. *Production of vegetables under the controlled environment. Dushanbe*. 48 pp.
- **FAO.** 2021. *Seedling production of vegetable crops*. Dushanbe. 14 pp.
- **FAO.** *Integrated management of vegetable crops from the diseases under the controlled environment*. (poster). Dushanbe.
- **FAO.** *Integrated management of vegetable crops from pests under the controlled environment*. (poster). Dushanbe.

ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	**Improved daily balanced diets, strengthened food security and increased income of smallholder farmers and rural population through development of greenhouse vegetable production.**	
Outcome	Increased production of vegetables, especially off-season varieties, in energy-efficient greenhouses best adapted to local conditions, application of good farming practices and improved access to quality seeds and planting material	
	Indicator	– Number of small-scale locally adapted greenhouses designed and constructed/improved. – Availability of a national programme on greenhouse vegetable production. – Number of farmers establishing seedling facilities. – Number of new vegetable species/varieties introduced for greenhouse conditions. – Number of extension service staff acquiring knowledge and new skills in design and sustainable greenhouse vegetable and seedling production. – Number of farmers acquiring knowledge and new skills in design and sustainable vegetable and seedling production. – Number of farmers adopting sustainable greenhouse vegetable production. – Number of brochures and posters disseminated.
	Baseline	– 1 locally designed soil-based greenhouse; 1 greenhouse designed for substrate/hydroponic culture; in total 2 greenhouses constructed/improved. – A National programme on greenhouse vegetable production does not exist. – 1 farmer established a seedling facility. – 5 new vegetable species/varieties introduced. – 15 extension specialists trained. – 15 farmers trained. – 3 farmers adopting sustainable greenhouse production. – 3 brochures and posters are printed in 150 copies each and distributed.
	End Target	– 3 locally designed greenhouses and 6 greenhouses constructed/improved. – National programme on greenhouse vegetable production with action plan and road map is formulated and presented to the Government. – 4 farmers (2 male and 2 female) established a seedling facility. – 8 new vegetable species/varieties introduced. – 45 extension specialists trained. – 50 farmers (at least 50 percent female) trained. – 15 farmers (at least 50 percent female) adopted sustainable greenhouse production. – 6 brochures and posters are printed in 600 copies each and distributed.
	Comments and follow-up action to be taken	The implementation of the project started with a study on the status of greenhouse crop production in Tajikistan and a review of the greenhouses' designs. Based on the outputs of the study, three different designs for small-scale energy-efficient greenhouses were developed for valleys, piedmont and mountainous agroclimatic regions. Following the criteria developed and agreed upon by the MoA and FAO, seven beneficiaries were selected in Hissor, Danghara, Kulob, Jomi, Nurobod, Ayni and Bobojon Ghafurov districts, and seven pilot greenhouses were constructed. SAT was selected as a service provider, and a Letter of Agreement (LOA) was signed for technical support on the establishment of demonstration plots; the carrying out of field activities, training sessions and field days; and the development and publishing of guidelines, etc. International consultants and FAO officers conducted official training workshops on greenhouse crop management, seedling production, pest management, greenhouse models, construction and management. In total, more than 500 farmers, researchers and agriculture and extension specialists attended and benefitted from the training and workshop. On average, about 35 percent of participants at the capacity-development events were women. The beneficiary farmers were very interested in the vegetables in the greenhouses. During the season, each beneficiary produced an average of up to 3 600 kg of tomatoes and up to 2 600 kg of cucumbers from a 0.02 ha area of greenhouse. This produce was sold and partly consumed by the beneficiaries. The off-season production of vegetables generated additional income for the farmers' families, which contributed to improving livelihoods and increasing food security. Between 18 and 24 November 2019, a study tour was conducted in Izmir, Turkey for three agriculture specialists on greenhouse vegetable production and commercial seedling production. The project also supported the formulation of a draft strategy on the promotion of greenhouse crop production. The document was presented and discussed at technical meetings and workshops. The draft strategy was submitted to the MoA, which is expected to follow up on its adoption and implementation. The project outputs and recent developments in Tajikistan demonstrate the potential for the further development of protected cultivation in the country. In this regard, resources could be mobilized for larger-scale projects. Potential resource partners have been identified.

Output 1	Locally adapted small-scale greenhouses designed, developed, tested and validated.		
	Indicators	Target	Achieved
	– Number of small-scale locally adapted greenhouses designed and constructed/improved. – Number of farmers establishing seedling facilities.	– 3 locally designed greenhouses and in total, 6 greenhouses constructed/improved. – At least 4 farmers (2 male and 2 female) established a seedling facility.	Yes
Baseline	– In the project sites, 1 locally designed soil-based greenhouse is available; 1 greenhouse designed for substrate/hydroponic culture; in total 2 greenhouses constructed/improved. – 1 farmer established a seedling facility.		
Comments	With the support of the project, three different designs of small-scale and energy-efficient greenhouses for different agroecologies were developed and, based on the designs, seven greenhouses were constructed. Six farmers (three men and three women) established facilities for seedling production.		
Activity 1.1	Organize an inception workshop to discuss and finalize the project work plan and results framework.		
	Achieved	Yes	
	Comments	An inception workshop was organized on 7 August 2017. The project objectives were presented and discussed, and a detailed project work plan was developed.	
Activity 1.2	Agree on the selection of counterparts (including both public institutions and private stakeholders) who will support the implementation of the project.		
	Achieved	Yes	
	Comments	It was foreseen in the project document that two SPs would be selected and contracted for the provision of services and technical assistance. Based on a competitive selection process, the Cooperative of Agricultural Consultants (Sarob) was selected as an SP for developing the different greenhouse designs and constructing them, as well as the seedling production facilities. In addition, SAT, a local NGO, was selected as an SP for the provision of services in capacity-development activities, and LOAs were signed with both organizations. SAT efficiently supported the implementation of activities under both phases of the project, including the establishment of the demonstration sites, on-the-job training sessions, field days, exchange visits, and developing and publishing farmer-oriented brochures and guidelines.	
Activity 1.3	Carry out an analysis of existing greenhouses in selected areas and prepare a report summarizing requirements for improvement in each region.		
	Achieved	Yes	
	Comments	The status of crop production in the greenhouses constructed under the project and existing greenhouses in different agroclimatic regions of Tajikistan was assessed, and a report summarizing the findings was prepared.	
Activity 1.4	Identify suitable greenhouse designs, energy sources and production systems best adapted to each target area.		
	Achieved	Yes	
	Comments	Suitable low-cost and energy-saving greenhouse designs best adapted to each targeted area were defined and developed. Seven beneficiaries were identified as beneficiaries for the greenhouses, based on criteria developed by FAO and MoA, and the greenhouses were constructed. The winter of 2020-21 was harsh and challenging to most of the greenhouse farmers. Therefore, it was proposed to divide the cycle of growing vegetables in the greenhouses into two parts – from August to December and from February to June. This coping strategy allowed for resources to be saved and good yields to be produced to gain sufficient profit through sales during the off-season. The pilot farms grew seedlings in December-January in a tunnel system established in the greenhouses.	
Activity 1.5	Conduct a rapid gender analysis in selected areas and prepare a report summarizing gender mainstreaming requirements and training needs for rural women.		
	Achieved	Yes	
	Comments	A gender analysis in selected pilot areas was conducted, and a report summarizing gender mainstreaming requirements and training needs for rural women was prepared. The outputs of the study were used for the preparation and conducting of women-focused training and other activities.	

<table>
<tr><td rowspan="3">Activity 1.6</td><td colspan="3">Assist in the design, develop, test and validate locally adapted small-scale soil, hydroponic and other soil-less vegetable production systems in the greenhouses.</td></tr>
<tr><td>Achieved</td><td colspan="2">Yes</td></tr>
<tr><td>Comments</td><td colspan="2">Sarob prepared three designs for locally adapted small-scale soil vegetable production systems in the greenhouses. Based on the selected pilot districts, the FAO technical officers and international consultant recommended two of the designs for construction in seven pilot sites.</td></tr>
<tr><td rowspan="3">Activity 1.7</td><td colspan="3">Establish small-scale soil, hydroponic and other soil-less pilot systems for greenhouses on farm at household level adapted to local climatic conditions for demonstration and training purposes.</td></tr>
<tr><td>Achieved</td><td colspan="2">Yes</td></tr>
<tr><td>Comments</td><td colspan="2">All constructed greenhouses are based on soil production. There was a plan to procure a model greenhouse with a soilless system, but owing to the high cost offered by the vendors, procurement was cancelled. The local construction of the soilless, hydroponic greenhouses was not supported either, also because of the high cost of inputs, as well as a lack of infrastructure, etc.</td></tr>
<tr><td rowspan="3">Activity 1.8</td><td colspan="3">Develop a seedling production facility for demonstration and training purposes.</td></tr>
<tr><td>Achieved</td><td colspan="2">Yes</td></tr>
<tr><td>Comments</td><td colspan="2">Those working on the pilot farms were interested in seedling production. Therefore, in six of the sites, seedling production facilities were established, and the beneficiaries were trained accordingly.</td></tr>
<tr><td rowspan="3">Output 2</td><td colspan="3">National capabilities on small-scale greenhouse production of vegetables and application of good farming practices are enhanced.</td></tr>
<tr><td>Indicators</td><td>Target</td><td>Achieved</td></tr>
<tr><td>– Number of extension service staff acquiring knowledge and new skills in design and sustainable greenhouse vegetable and seedling production.
– Number of farmers acquiring knowledge and new skills in design and sustainable vegetable and seedling production.
– Number of new vegetable species/varieties introduced for greenhouse conditions.
– Number of brochures and posters disseminated.</td><td>– 45 extension specialists trained.
– 50 farmers (at least 50 percent female) trained.
– 8 new vegetable species/varieties introduced.
– 6 brochures and posters are printed in 600 copies each and distributed.</td><td>Yes</td></tr>
<tr><td>Baseline</td><td colspan="3">– 15 extension specialists trained.
– 15 farmers trained.
– 5 new vegetable species/varieties introduced.
– 3 brochures and posters are printed in 150 copies each and distributed.</td></tr>
<tr><td>Comments</td><td colspan="3">In the framework of the project, 20 researchers, 136 agriculture and extension specialists and 286 farmers (about 40 percent female) were trained. Moreover, several new varieties/hybrids of tomatoes (Buran, Elpida) cucumbers (Picalino, Kadior), sweet pepper (Verdana, Iren), chilli pepper (Shacira, Lobna), eggplant (Black Pearl, Mabel), green herbs (Green Slivz, Marino) and radishes (Celecta, Khelena) were introduced and promoted among the farmers and rural households in the pilot districts. In agreement with project beneficiaries and greenhouse owners, the Elpida F1 tomato and Melen F1 cucumber were to be grown.
Three brochures and two posters on the sustainable production of vegetables in the greenhouses were printed, and 600 copies of each were distributed. As a result, 359 farmers (about 30 percent female) adopted sustainable greenhouse production practices.</td></tr>
<tr><td rowspan="3">Activity 2.1</td><td colspan="3">Organize technical training at trainer and farmer (men and women) levels on seedling production, selection of resistant rootstocks and grafting.</td></tr>
<tr><td>Achieved</td><td colspan="2">Yes</td></tr>
<tr><td>Comments</td><td colspan="2">FAO technical officers, international consultants on greenhouse design and construction and on growing vegetables in greenhouses visited the country and the project sites, met with counterparts, conducted training and provided advice on greenhouse designs and the improvement of vegetable crop management. In addition, a plant pathology expert from Israel conducted a three-day online training on IPM for greenhouse crops in December 2020. In total, over 200 local experts and trainers benefitted from the training workshops conducted.</td></tr>
</table>

Activity 2.2	Develop a management plan for integrated crop management (fertilization, irrigation, fertigation, plant protection, trellising and pruning) of selected vegetable species/varieties under greenhouse conditions.	
	Achieved	Yes
	Comments	The project team supported the development of a management plan for integrated crop management with the active participation of farmers, researchers and agriculture and extension specialists for the production of cucumbers, tomatoes and peppers in the greenhouses. The project introduced new hybrids of vegetables that are high yielding and resistant to diseases; reduced the application of pesticides through the introduction of mosquito nets and the establishment of special entrances to the greenhouses; constructed small-scale drip irrigation systems; and trained the farmers and rural community on sustainable crop management in the greenhouses.
Activity 2.3	Carry out a series of season-long official and on-the-job training for farmers, agriculture and extension specialists in greenhouse vegetable production, comprising soil, substrates and hydroponic systems, and demonstration of modern varieties and hybrids.	
	Achieved	Yes
	Comments	Due to the limited time for constructing the greenhouses during Phase I, four locally available and active greenhouses were selected in different districts of the country (Kulob, Kushoniyon, Hissor and Bobojon Ghafurov) for conducting the capacity-development activities. In Phase II, seven pilot greenhouses were constructed, the demonstration plots for producing seedlings were established, and training and field days were conducted with the purpose of strengthening the potential of farmers, rural communities and agricultural extension specialists in growing vegetables in the greenhouses. In total, 286 farmers, 20 researchers and 136 agriculture and extension specialists attended the training activities conducted by the project.
Activity 2.4	Organize short training courses to promote women's entrepreneurship based upon needs identified in the gender analysis.	
	Achieved	Yes
	Comments	A total of 38.3 percent of participants in training sessions, field days and exchange visits were women. In addition, a group of 42 women farmers and agriculture and extension specialists was established for training on vegetable production in greenhouses and developing entrepreneurship. Collaboration with this women's group is expected to continue in the future.
Activity 2.5	Conduct a mid-term workshop towards the end of the first year to present and review the project's progress and share best practices.	
	Achieved	Yes
	Comments	After Phase I, the project team reviewed the outputs and discussed them with the budget holder. Then, a decision was made to open Phase II of the project to finalize the planned activities and achieve the expected outputs.
Activity 2.6	Organize field days and exchange visits for both men and women farmers to demonstrate greenhouse vegetable and seedling production.	
	Achieved	Yes
	Comments	During the implementation of the project, six field days and four exchange visits were conducted at the pilot greenhouses. During these activities, the basics of vegetable production in a controlled environment were discussed with the participants. Participants actively took part in the events; they were particularly interested in the use of polyethylene covers and nets for greenhouses. The participants were also very interested in the design and construction of the greenhouses, seedling production and maintenance techniques, soil and substrates, heating systems and other production methods.

Activity 2.7	Prepare and publish farmer-oriented brochures, posters and guidelines on construction, improvement, management and marketing of greenhouse vegetable production.	
	Achieved	Yes
	Comments	With the support of the international experts, the following six training modules, three sets of farmer-oriented guidelines and two posters were prepared: <u>Training modules</u> 1. Advances in plant nutrition. 2. Pest and disease management. 3. Irrigation. 4. Fertigation. 5. Cucumber production. 6. Tomato production. <u>Manuals</u> 1. Seedling production of vegetable crops, 14 pages; 2. Production of vegetables under the controlled environment, 48 pages; and 3. Integrated pest management of vegetable crops from the pests and diseases under the controlled environment, 15 pages. <u>Posters</u> 1. Integrated management of vegetable crops from the diseases under the controlled environment; and 2. Integrated management of vegetable crops from pests under the controlled environment. The above-mentioned training materials were published and distributed to the beneficiaries that attended the trainings and field days. Copies of the printed materials were also provided to the agricultural departments of project districts, libraries in the project districts, and the MoA.
Activity 2.8	Conduct a study tour for three agriculture specialists on greenhouse vegetable production and commercial seedling production.	
	Achieved	Yes
	Comments	From 18-24 November 2019, a study tour was conducted in Izmir, Turkey for three agriculture specialists on greenhouse vegetable production and commercial seedling production.
Output 3	National programme, action plan and road map on greenhouse vegetable production drafted, discussed and presented for adoption.	
	Indicators	Target / Achieved
	– Availability of a national programme on greenhouse vegetable production. – Number of farmers adopting sustainable greenhouse vegetable production.	– National programme on greenhouse vegetable production with action plan and road map is formulated and presented to the Government. – 15 farmers (at least 50 percent female) adopted sustainable greenhouse production. Achieved: Yes
Baseline	– National programme on greenhouse vegetable production is non-existent. – 3 farmers adopting sustainable greenhouse production.	
Comments	This output was fully achieved.	
Activity 3.1	Draft a national programme and action plan for developing and implementing greenhouse vegetable production.	
	Achieved	Yes
	Comments	A national strategy/programme on greenhouse vegetable production with an action plan and road map was formulated in close cooperation with national institutions and experts.
Activity 3.2	Organize an expert group meeting to discuss the national programme and action plan drafted and formulate the road map for adoption.	
	Achieved	Yes
	Comments	The draft national programme was shared with the MoA, Tajik Academy of Agricultural Sciences, Tajik Agrarian University, NGOs and the beneficiaries in the pilot districts. It was also discussed at the technical group meetings held on 12 December 2020 and 6 December 2021. Based on the discussions and proposed suggestions, the strategy was revised. After the introduction of changes and amendments, it was submitted to the MoA for adoption and implementation.
Activity 3.3	Organize a final workshop to discuss and finalize the programme, action plan and road map.	
	Achieved	Yes
	Comments	The final workshop of the project was held on 13 December 2021 with a variety of stakeholders. The project team presented the outputs, shared the lessons learned and the draft strategy, which serves as a road map for developing a protected cultivation system in Tajikistan.

Partnerships and Outreach
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