



FAO Uzbekistan Newsletter

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Inauguration ceremony of the Uzbekistan Lounge in the FAO Headquarters in Rome



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Dear readers,

Welcome to the fifth issue of the FAO Uzbekistan newsletter, which brings you news from the second quarter of 2022.

An important event of this period is the recent inauguration of the Uzbekistan lounge, which officially launched inside the FAO Headquarters building in Rome with the participation of the Director-General Qu Dongyu.

The past period was also marked by the thirty-third session of the FAO Regional Conference for Europe (ERC), during which ministerial discussions focused

on priority issues for the Europe and Central Asia region to harmonize the needs of agri-food systems, the environment and the consumption of natural resources.

Another important event of the second quarter of 2022 was the official launch of the new project “Shared prosperity through cooperation in border regions of Kyrgyzstan and Uzbekistan”, which aims to expand cross-border environmental and socio-economic cooperation between the two countries.

The newsletter also includes information on other significant milestones achieved throughout the implementation of FAO projects in Uzbekistan in the areas of sustainable forest management, response to drought and salinity, livestock development, smart farming, locust control and much more. With the introduction of a new format in the previous issue, the newsletter brings special attention to the analysis of challenges in the agriculture sector of Uzbekistan.

We hope you enjoy reading this newsletter.

Sherzod Umarov,
Assistant FAO Representative in Uzbekistan



Map of Uzbekistan made entirely of ceramics. FAO Headquarters, Rome

The official inauguration of the Uzbekistan Lounge in Rome

The Uzbekistan lounge, located on the eighth floor of FAO's building in Rome, has been designed as a place for business lunches, meetings, and informal meetups between FAO staff and external guests. The Ministry of Agriculture of Uzbekistan, having initiated the creation of the national area, has provided support in setting up the space for the new lounge.

The interior is decorated with ceramics and textiles in the traditional rich Uzbekistani patterns – mainly in a bright blue hue – integrating them into a sober environment, creating a modern, bright, and welcoming space. FAO staff and guests were impressed by the window photo gallery - displaying images depicting the beauty of Uzbekistan's regions. The photographs were provided by the media center of the Ministry of Agriculture. All these illustrations are printed on a translucent fabric so as not to block the view of one of the central historical parts of Rome, represent the close connection between agriculture, traditional craftsmanship and national cuisine through the images of earth and hardworking people. The lounge features a display of a clay tandoor with baked Uzbek national bread, fruits and vegetables, painted ceramic dishes, offering many other cultural experiences for the visitors.

The map of Uzbekistan, made entirely of ceramics, and which was designed exclusively for this project, reveals the country's creative heritage through fragments of ornaments and paintings, showcasing the unique features of each region, and contains rock art of the mysterious Sarmyhsay gorge.

The Uzbekistan Lounge hosts a traditional "tea house" corner as a photo zone: a carved national trestle bed, cut in half as if "encrusted into the wall."

Its continuation, already in the form of a rendered trestle bed, is combined with a stylized "Tea House" painting by A. Isupov.

Uzbekistan takes part in the 33rd FAO Regional Conference for Europe

From 10 to 13 May 2022, more than 50 FAO Member countries gathered at the 33rd Session of the Regional Conference for Europe (ERC) in Łódź, Poland. The conference facilitated discussions of the possibilities and approaches for achieving sustainable and inclusive agriculture and food systems, while tackling nutrition and food security issues in the region and around the globe.

The Chairperson of the previous (32nd) session of the Regional Conference was Jamshid Khodjaev, the Minister of Agriculture of Uzbekistan in the mentioned period, who has served as the Minister for 2 years. The Minister presented a report reflecting Uzbekistan's efforts in ensuring food security and sustainability of agri-food systems since 2020. The chairmanship of the Minister was highly recognized by the participants of the 33rd FAO Regional Conference. Nabil Gangi, FAO Deputy Regional Representative for Europe and Central Asia, praised Jamshid Khodjaev's work as a chairman, with the following statement:



Participants of the 33rd FAO Regional Conference for Europe

"I would like to thank the Minister of Agriculture of Uzbekistan Jamshid Khodjaev for the excellent presentation he made at the conference. At the same time, the newly elected Chairperson of the 33rd session of the ERC, Minister of Foreign Affairs of Poland Zbigniew Rau, after hearing the speech of Minister Khodjaev, also stressed that great and significant results had been achieved during this time, noting that from now on he will have to try hard to meet set pace".

Some thoughts on the liberalization of the wheat market in Uzbekistan



Khurshid Norov, National GEF Portfolio Support and Monitoring Specialist

At a meeting on May 11, Shavkat Mirziyoyev, President of Uzbekistan, announced reforms in wheat production, including the liberalization of wheat prices.

According to the decision of the Government, from June 1 2022, the state began to purchase wheat at market prices. Opportunities are being created for farmers and clusters to sell their wheat on the commodity exchange.

The purchase price of wheat increased from 1.55 million soums (USD 142.66) to 3 million soums (USD 276) per ton. At the same time, farmers will be paid a positive difference based on the average prices formed on the stock exchange in July-August 2022.

The “Uzdonmakhsulot” company and its 43 enterprises will start working in market conditions. If now they buy wheat at 1 550 soums (equivalent of USD 0.14) per 1 kg and sell flour at 2 485 soums (USD 0.23) per 1 kg, both “Uzdonmakhsulot” company (the state monopolist in the field of grain production and sale) and private enterprises will purchase wheat for flour production at market prices through the exchange.

To understand the reason for such decision, one should look back at times after gaining independence in the early 1990s, when Uzbekistan faced the problem of providing food and wheat as well. Wheat at that time was mainly imported from neighboring republics, including Kazakhstan, Russia and Ukraine.

Later it was decided that it was necessary to develop its own production of food crops, including wheat. In particular, the mechanism of the state order for

wheat was formed in the mid-1990s, when former collective farms, transformed into agricultural cooperatives called *shirkats*, became the main producers of this agricultural crop. This approach made it possible to ensure the production of the necessary volumes of products in the conditions of the transition period and the food crisis at a time when basic products such as, among others, bread, butter, meat, sugar and other people could purchase mainly with cards issued at work or at the place of residence (in mahallas).

It so happened that state regulation of the wheat sub-sector was expressed through mandatory public procurement, i.e., production planning through the state order and purchase prices, i.e., fixed prices set annually by the government, at which agricultural producers were obliged to deliver products to the government.



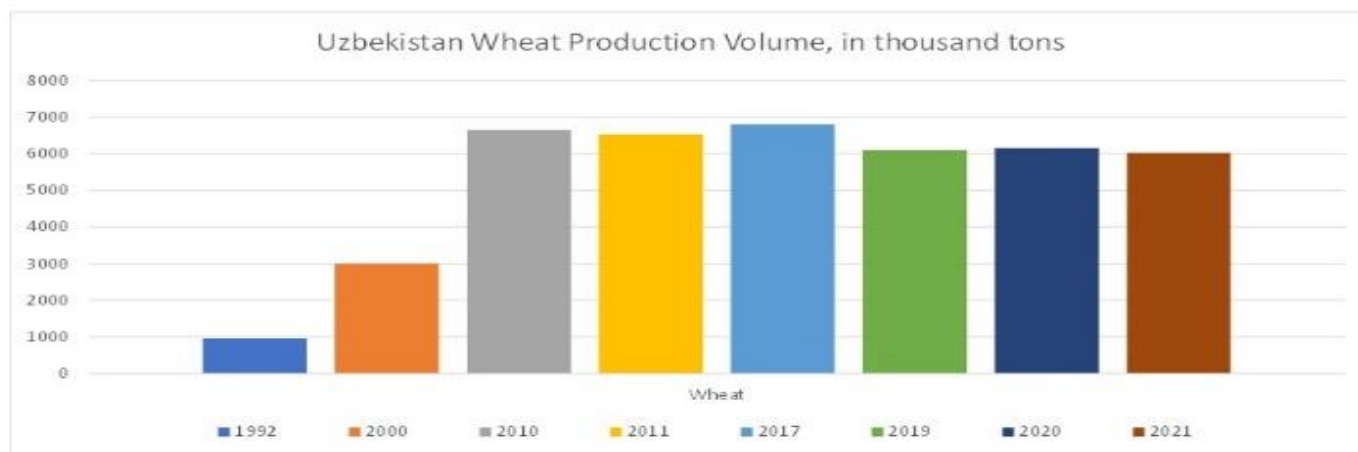
Wheat field in Kashkadarya region

Despite a significant increase in the production of wheat since 1992, which was due to both the expansion of the sown areas and a significant increase in the yield of this crop (from 1.3 to 4.7 ton/ha), the established mechanisms for the formation of state orders and the pricing system make the cultivation of wheat unprofitable for most farmers. The difference between government purchases and domestic market prices for wheat in some years exceeded 3 times.

Moreover, artificially low wheat prices limited the financial capacity of wheat producers and did not allow them to work on improving its quality. All these constrained the opportunities for the development of the sector, improving the well-being of both rural residents and the country's population as a whole.

in thousand tons

Year	1992	2000	2010	2011	2017	2019	2020	2021	Growth in times, 2021/1992
Wheat	964	3002	6657	6527	6802	6093	6158	6026	6.3



Source: the Ministry of Agriculture of the Republic of Uzbekistan

By now, the existing system of state order on wheat has not allowed the formation of a free market, which was also emphasized during the 11th May meeting by stating that the existing old system of operation of state-owned grain enterprises does not benefit either grain producers or processors. It was noted that the time has come to take the next important step towards the long-awaited decision by the people and farmers of Uzbekistan - the gradual abolition of the state order for harvesting and the creation of a real grain market.



The issue of the need to liberalize the wheat market did not arise momentarily, though it was somewhat enhanced due to the impact of the ongoing Russian-Ukrainian crisis. The concept of abolishing state regulation of prices for agriculture products, as well as the introduction of a mechanism for their purchase on the basis of market prices was already introduced

in the Priority 3 of the Strategy for the Development of Agriculture of the Republic of Uzbekistan for 2020-2030.

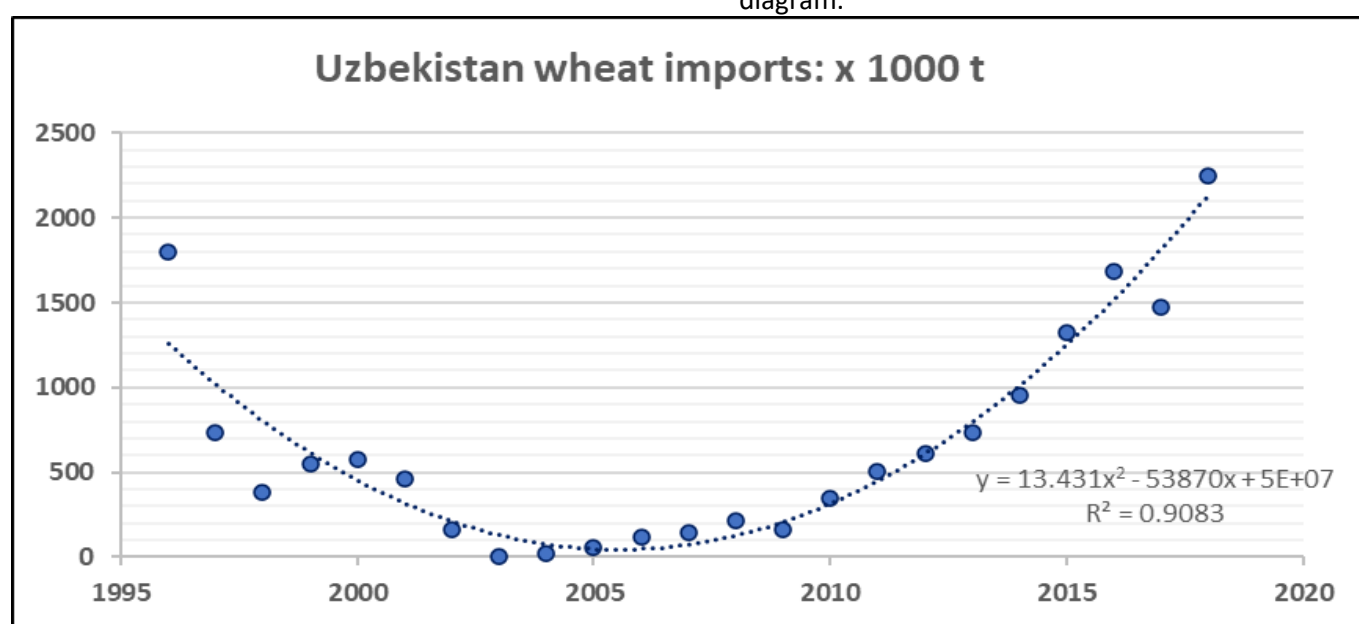
As part of the implementation of the Strategy for the Development of Agriculture, in 2020 for liberalization of the wheat market there was issued the Decree of the President of the Republic of Uzbekistan "On measures for the widespread introduction of market principles in the production, purchase and sale of wheat" dated March 6, 2020 No. 4634, where it was emphasized that commencing from the 2020 harvest, the practice of producing cereals on the basis of the state order is being phased out and starting from the harvest of 2021, the practice of setting procurement prices for wheat by the state is completely abolished and state purchases are completely cancelled, and wheat is sold through exchange auctions or on the basis of direct contracts at free prices. Though, the implementation of the Decree was postponed due to the pandemic which caused overall lockdown in production and chain supply of wheat by farmers and processing enterprises.

Nevertheless, coupled with the issues of climate change that causes water shortage and drought in agriculture areas and the flow of reverse migration of Uzbek citizen mainly from the Russian Federation (according to the Agency for External Labor Migration under the Ministry of Employment and Labor Relations of the Republic of Uzbekistan as of 01.01.2022, there were over 1 million migrant workers from Uzbekistan in Russia) back to their

permanent rural places in Uzbekistan, the situation with sustainable food supply, where the bread is a staple food for most of the population of the country, has been exacerbated aftermath of the military crisis in Ukraine.

At the moment, since the main volume of wheat is intended to be sold through the platform of the Uzbek Republican Commodity and Raw Materials Exchange, training seminars on exchange trading and brokerage are now being conducted by the exchange for farmers and clusters. According to the Ministry of Agriculture, 1.27 million hectares have been sown with wheat in Uzbekistan.

Harvest in the country is scheduled for June-July 2022. It is expected that the total harvest will be about 7.67 million tons, i.e., 1 million tons more than last year's crop. However, the crop harvested from the fields is not enough to consistently provide citizens with bakery products, pasta and ordinary bread, as well as the feed needs of livestock, poultry and fish farms. The rest of the demand for the wheat is covered by import, mainly from Kazakhstan. By the end of 2021, the main import of wheat into the country came from Kazakhstan - 2.77 million tons (about 94 percent of the total imported volume of wheat). These growing dynamics of wheat import can be observed since 2006 as per the following diagram.



Source: USAID, 2019

There is hope that the measures taken to liberalize wheat prices and reform of the agricultural sector in the coming years would eventually lead the country to the desired results in its endeavour to achieve a sustainable food security.

Khurshid Norov
National GEF Portfolio Support
and Monitoring Specialist

Official launch of the project for the development of cooperation and peacebuilding between Kyrgyzstan and Uzbekistan

On June 1 2022, an inception workshop was held in Andijan and Bishkek in the format of teleconference, marking the official launch of the peacebuilding project “Shared prosperity through cooperation in border regions of Kyrgyzstan and Uzbekistan”, which aims to develop cross-border environmental and socio-economic cooperation between two neighbouring countries.



UN Resident Coordinator in Uzbekistan Roli Astkhana speaks at the inception workshop of the project

The project is funded by the UN Secretary-General's Peacebuilding Fund and implemented as a Joint UN Program between the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Population Fund (UNFPA). The main national partners in Uzbekistan are the Ministry of Agriculture and the Committee for Women and Family Affairs. The inception workshop held in a hybrid format provided a platform for UN agencies, international experts, representatives of relevant ministries and departments of Kyrgyzstan and Uzbekistan, local administrations of border areas and civil society institutions for discussing the goals and objectives of the project.

“The new UN Joint Programme aims to complement the existing reforms in bringing these countries closer. The main goal of the Programme is enhancing cross-border environmental and socio-economic cooperation between Uzbekistan and Kyrgyzstan”, - said Roli Astkhana, the UN Resident Coordinator in Uzbekistan.



Women doing needlework in a traditional Kyrgyz yurt

As noted at the event, the longest portion of the border between Kyrgyzstan and Uzbekistan stretches through the Ferghana Valley. The region is of crucial importance for the economies of both countries, not only in terms of the size and composition of the population, but also in terms of the productive capacity of the agricultural sector.

In this regard, the project aims to develop cross-border cooperation in local trade, in the development of climate-smart agriculture, innovative approaches, employment and economy, which will contribute to achieving more sustainable results in peacebuilding.

The event emphasized the significance of the roles of women and youth in the project implementation as they are key driving peacebuilding agents.

During the inception workshop Philip Priestly, Emergency and Rehabilitation Officer at FAO Headquarters, presented the aims and objectives of the project, elaborating on the key findings and recommendations for integrating conflict-sensitive strategies for the project implementation. The event included presentations on the activities of the UN Peacebuilding Fund and the role of youth in peacebuilding processes.

The inception workshop concluded with participants discussing the planned activities within the framework of the project and thus laying the foundation for future joint efforts to strengthen peace and mutually beneficial cooperation.

The activities of the Central Asian Desert Initiative

The CADI (Central Asian Desert Initiative) project, funded by the German government, is being implemented since 2016 by the University of Greifswald, the Michael Succow Foundation and the FAO. In addition to Uzbekistan, CADI's target countries include Kazakhstan and Turkmenistan, which are also known for their unique landscapes and vast deserts rich in wildlife.



Karakum Desert

Within the framework of the project, large-scale work is being carried out to preserve desert biodiversity, expand saxaul plantations and create transboundary protected areas, and most importantly, to support the local communities engaged in agriculture in the harsh conditions of temperate deserts. Project activities included the provision of equipment for wool processing, sewing, milk processing, beekeeping, and the distribution of seeds and seedlings. Furthermore, the CADI project executed a series of extensive training programs on crop cultivation, developing craftsmanship among women, establishing greenhouse nurseries, and supporting beekeeping development.

In May 2022, in the Karakul district of the Bukhara region and in the Nurata district of the Navoi region, FAO together with the Association "Agrarian Women" of Uzbekistan organized workshops for women and girls engaged in the livestock sector, in particular dairy production.

During the workshops, participants were provided with recommendations on keeping cattle and on the technologies for the production, processing and storage of dairy products that comply with the requirements of sanitation and hygiene. The training programme also covered marketing and business

essentials, aimed at supporting income generation opportunities of the project pilot areas. In total, 60 local women took part in the classes.

In May-June 2022, 71 greenhouses were handed over to project beneficiaries from the Bukhara and Navoi regions, as well as equipment for processing dairy products - 26 milk separators, 26 pasteurizers and 48 freezers. In addition, women from the project areas received equipment for needlework - 53 sewing machines, 2 embroidery machines and 2 overlockers.

The CADI project engages women in alternative income-generating activities to improve their families' livelihoods, which in turn will reduce their dependence on grazing and other agricultural activities in cold winter deserts. Special attention is paid to the revival of traditional crafts, since there is a high market demand for such products.



Workshop on livestock for women in Nurata district of Navoi region

On June 9 2022, the Regional CADI Secretariat held a regional workshop in Tashkent to discuss the Secretariat's workplan. Representatives of international organizations, development agencies, national partner ministries and members of the National CADI Secretariats from Kazakhstan, Turkmenistan and Uzbekistan participated in this event.

The Regional CADI Secretariat is expected to be a successor of all activities implemented by the CADI project in Central Asia. The regional workshop discussed the Secretariat's status as an NGO, its organizational structure and statutory document; finetuning its Program of Work; and exploring resource mobilization opportunities for the Regional CADI Secretariat.

Uzbekistan celebrates World Day to Combat Desertification and Drought

The FAO together with the State Forestry Committee of the Republic of Uzbekistan organized a conference dedicated to the World Day to Combat Desertification and Drought. This year, the theme of the International Day Against Desertification and Drought "Rising up from drought together". The number and duration of droughts has increased by 29 percent since 2000, as compared to the two previous decades. More and more of us will be living in areas with extreme water shortages, including an estimated one in four children by 2040 (UNICEF). No country is immune to drought (UN-Water 2021).



The conference brought together officials from the ministries, international and public organizations and research institutes, who reported on the joint efforts made for the implementation of the National Action Plan to Combat Dust and Sand Storms and Reduce Their Negative Impact, as well as the UN Convention to Combat Desertification. It was emphasized that in 2023 Uzbekistan will be one of the first among the CIS countries to host a meeting of the Executive Committee of the UN Convention to Combat Desertification and Drought. At the same time, the event summarized the results of the work completed in 2017-2022 under the Central Asian Desert Initiative (CADI) project. In addition, the training on the economic valuation of desert ecosystems was held for stakeholders.

International meeting on sustainable livestock development hosted in Tashkent

On June 21-23, 2022, the 2nd Regional Multi-Stakeholder Partnership Meeting for Eastern Europe

and Central Asia was held in Tashkent in a hybrid format as part of the Global Agenda for Sustainable Livestock. The meeting was organized by the Food and Agriculture Organization of the United Nations (FAO) and the State committee of veterinary and livestock development of the Republic of Uzbekistan under the slogan "Livestock for sustainable food systems". About 140 people participated in the meeting offline, including 25 foreign guests. 100 people registered to participate online, 75 of which were foreign representatives. Sustainable and inclusive livestock development that meets the demand of the population for safe and affordable food while protecting the environment makes a significant contribution to the achievement of the Sustainable Development Goals. The 2nd Regional Multi-Stakeholder Partnership Meeting for Eastern Europe and Central Asia of the Global Agenda for Sustainable Livestock aims to share scientific knowledge, foster consensus, align interventions and formulate joint actions towards more sustainable livestock systems in the countries of the region.



Participants of the meeting

At the meeting, experts from Azerbaijan, Armenia, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Mongolia, Tajikistan, Türkiye, Uzbekistan, and Ukraine informed about the measures taken in their countries for the further development of livestock industry, highlighting achievements and priorities in this area. Participants of the meeting also reviewed commitments to future actions that are essential for livestock contributions to sustainable, resilient, and inclusive food systems. Participants agreed to create and develop a regional office of the Global Agenda for Sustainable Livestock and chose two organizations that will contribute to the development of the network in the region. Also, they elected members of the delegation that will represent the interests of the region at the global meeting in Ireland in October 2022.

New achievements of the CACILM-2

The regional project CACILM-2 supported establishment of a new laboratory of geographic information systems (GIS) at the Research Institute of Soil Science and Agrochemistry of Uzbekistan. The new GIS laboratory is equipped with modern computers, a server, a data center, a plotter and GPS equipment. The opening ceremony took place in May 2022.



FAO experts at the opening of a new GIS laboratory at the Research Institute of Soil Science and Agrochemistry of Uzbekistan

“Geoinformation technologies make it possible to map land degradation processes, create efficient and operational information systems for soil analysis, obtain fast and high-quality information about the study area, open up a number of opportunities for conducting research on long-term monitoring, and also contribute to the implementation of projects to neutralize land degradation. The new GIS laboratory will improve the work in this area“, - said Muhammadjon Kosimov, national project manager.

It is important to note that the CACILM-2 project contributed to the implementation of the "Million Fruit Trees" initiative by handing over 2 000 pieces of grape seedlings, as well as 10 000 pieces of apple rootstocks "MM 106" to the branch of the Academician Mahmud Mirzayev Research Institute of Horticulture, Viticulture and Winemaking, located in the Kegeli district of Karakalpakstan. The CACILM-2 project also supports farmers by providing them with seeds of drought-resistant and salt-setting crops. Over the past period, farmers of the Kamashi district of Kashkadarya region received 2 000 kg of chickpea seeds, 6 900 kg of safflower seeds, 5 800 kg of flax seeds, as well as seedlings of grape varieties "Sogdiana" – 2 000 pieces, "Rizamat-ota" – 2 000 pieces, "Toifi" – 2 500 pieces, "Kishmish" – 5 000 pieces.

In May-June 2022, training courses titled “Improve the small greenhouse efficiency and ways to increase revenue” were organized for project beneficiaries in the Bukhara and Kashkadarya regions. The participants of the trainings were rural residents (54 people in total), who, over the past two years, received greenhouses from FAO within the framework of the CACILM-2 project. The main objective of the training was to improve the knowledge and skills of the beneficiaries on effective greenhouse management.

Earlier the workshop “On the presentation of national strategy on conservation agriculture in Uzbekistan” was conducted in Samarkand with participation of farmers, scientists, researchers as well as FAO experts. The event highlighted the benefits of conservation agriculture practices that enable farmers to minimize soil erosion, restore degraded land, and reduce the use of expensive machinery and fertilizers. The participants studied technologies and experience of resource-saving agriculture, discussed issues of crop rotation, pest and weed control and other important issues.

Other important events were the workshops held for the project beneficiaries in Bukhara and Kashkadarya regions on the “Importance of no-till farming in growing agricultural crops”. The participants of the event were informed about the advantages of zero tillage - a farming technology in which soils are not processed mechanically, and the surface is covered with crushed plant residues. Thus, a protective ground cover layer is formed on the surface, which is able to withstand water and wind erosion, perfectly retains soil moisture and prevents weeds from germinating. It was emphasized that no-till farming is recommended in dry areas, including in the CACILM-2 project areas.



An example of no-till farming in the Kashkadarya region

Further work on sustainable forest management is discussed in Tashkent

The State Forestry Committee of the Republic of Uzbekistan and FAO organized a regular meeting of the Steering Committee for the "Sustainable Forest Management in Mountain and Valley Areas of Uzbekistan" project.

At the regular meeting of the Project Steering Committee, the reports of representatives of the Syrdarya, Dehkanabad, Kitab and Pap state forest organizations were presented, and the work plans along with project budgets for 2022 approved.



Meeting of the Steering Committee for the "Sustainable Forest Management in Mountain and Valley Areas of Uzbekistan" project

"This year, we plan to implement several large-scale events covering all pilot sites of the project and 92 forestry organizations across the republic. In addition, it is planned to host 4 conferences dedicated to the issues of gender equality in the work of forestry organizations of the republic. And, of course, one of the most important events is the opening of the Regional Training Center in the Kitab Forest Organization. It will serve as platform for farmers, entrepreneurs and other interested persons from the southern regions of Uzbekistan to participate in classes with foreign forestry experts", - said Olimjon Kakhkharov, the project's technical coordinator.

The Steering Committee highly assessed the project activities, and, considering the wide range of issues for the implementation of activities, the extension of the project for 2 years was supported. The work plan and project budget for 2022 have been approved.



Luca Molinas talks with specialists at a project site in the Kamashi district of Kashkadarya region

FAO projects are monitored in Uzbekistan

From May 16th to 23rd, Regional Evaluation Specialist, Luca Molinas, from the FAO Regional Office for Europe and Central Asia visited Uzbekistan with the mission of conducting monitoring assessment of the activities of the FAO in Uzbekistan.

A big proportion of the current portfolio of FAO Country Office in Uzbekistan consist of Global Environment Facility (GEF) funded projects, such as the national project on "Sustainable management of forests in Mountain and valley Areas of Uzbekistan" and the regional project on "Integrated Natural Resources Management in Drought-prone and Salt-affected Agricultural Production Landscapes in Central Asia and Turkey" (CACILM-2). The purpose of the mission was to assess the effectiveness of project implementation in line with corporate guidelines, policies and requirements of GEF.

In Tashkent, Luca held meetings at the Ministry of Agriculture, the State Forestry Committee and with the GEF Focal Point at State Committee for Ecology and Environmental Protection, subsequently visiting the FAO Uzbekistan Country Office. Next, the mission visited Kashkadarya region, where several pilot plots of the two projects are located - Dekhkanabad, Kitab, Kamashi and Guzar districts.

"I was very surprised and impressed by the progress made in the implementation of both projects of the Global Environment Facility. I observed that district administrations, state committees and local communities are satisfied with the project results" said Luca Molinas, Regional Evaluation Specialist.



Project beneficiary Mahsudakhon Bakhramova is harvesting in her optimized greenhouse. Mahalla "Jakhonobod", Andijan region

Smart Farming: the FAO's experience in Uzbekistan

The project "Smart Farming for the Future Generation" implemented by the Food and Agriculture Organization of the United Nations (FAO) in cooperation with the Ministry of Agriculture of Uzbekistan is essentially changing the way we think a modern greenhouse should be by adapting technologies to be efficient and affordable for small and medium scale farmers. Through modifying greenhouses and optimizing production by five interrelated factors - climate, pest and disease control, cultural practices, water management, and plant nutrition - greenhouse farming is turning into a successful business, benefiting rural people with higher incomes, increased employment opportunities, and diversified diets through affordable and safe food available all year round. All because the project improves the methods of greenhouse management based on a scientific approach and advanced technologies.

"First of all, we recommend using new covering materials for greenhouses - PE plastic films that are 180-200 microns thick with special additives that make the item very durable, absorb ultraviolet radiation, and most importantly, prevent the formation of condensate in the form of drops on the inner surface of the greenhouse. We use shade nets for cooling the greenhouse instead of the traditional spraying of mud on the greenhouse's surface. To control pests and diseases, we introduce special sticky traps and anti-insect nets not previously used in these areas. The anti-insect nets improve air circulation while protecting from harmful insects. Another strong response to the threat of viruses and bacteria is footbath (disinfection mats) and a double door system, while the ground around the

greenhouse is cleared of weeds", - explains Khayrulla Esonov, national consultant of the FAO project, agronomist.

In order to increase the yield of vegetable crops, the project introduces certain cultural practices. For example, pollination of plants is carried out by buff-tailed bumblebees (lat. *Bombus Terrestris*); the distance between plants is recommended to be 40 cm, and between rows - 50 cm, installation of clips to tie up plants with chords without damaging stems; record-keeping of temperature and humidity inside the greenhouse, and the like.

These and other methods raise greenhouse management to a qualitatively new level, as already seen by members of 20 rural households in Andijan, Namangan, and Fergana regions, whom FAO supported in modernizing and optimizing their greenhouses according to the above methods. The beneficiaries were selected among rural households with low and irregular income, and households headed by women were prioritized for ensuring new employment opportunities for women and youth.



Mahsudakhon Bahramova with her son. Mahalla "Jakhonobod", Andijan region

One of the beneficiaries is 33-year-old Mahsudahon Bahramova from the Jakhonobod mahalla of the Andijan region. Mahsudahon became the main breadwinner in the family because her husband has a disability and is unable to work at full capacity. He makes his feasible contribution to the household by baking traditional Uzbek bread for sale. However, still, the main burden of the household including taking care of three little sons falls on Mahsudahon, and support provided by FAO in improving their greenhouse opened up new prospects for increasing the household's income and solving welfare issues.

“I really liked the new FAO approach to pest control! Last year, for example, harmful insects destroyed almost half of the cucumber crop. I had suffered huge losses. Previously, I used pesticides heavily, but now there are no pests and diseases in the greenhouse at all! In addition, the new approach to the use of fertilizers has a very good impact on yields - we can already observe this on the first shoots of tomatoes. I think we could receive about 30 million sums (about 3 000 USD) of income this time, and I am very grateful. My parents are also very glad - this is a big and significant help for our family”, - says Mahsudahon.

Mahsudahon has 5-year experience in greenhouse farming, mostly acquired when she was helping her uncle in managing his greenhouse. After taking part in the workshops organized by FAO, she realized that she had not paid attention to many details before. It is not enough just to cover the structure with plastic film so that it is called a greenhouse, as she thought before. There is a complex process involving many factors. During the course, Mahsudahon learned a lot about the importance of luminosity, proper irrigation, and how to deal with diseases and pests.

All her neighbors are very surprised to see her success because they did not believe that her household would really be supported for free and that new methods would bring a better harvest. Having received a first larger profit, the Bahramov's family plans to purchase new household appliances for the kitchen - a refrigerator, a stove, a microwave and many more.



New approaches enhance the increasing yield of vegetable crops. Mahalla "Beshkapa", Namangan region

All 20 greenhouses have been optimized by installing drip irrigation systems consisting of electric water pumps, filters, water tanks, and drip lines through which soluble nutrients are applied more efficiently,

reaching the root system of plants directly. In addition, each beneficiary was provided with pH/EC meters to measure the salinity and acidity of the water. According to the latest tests, it was found that the water used for irrigation in all three regions has high levels of salinity and acidity, and now the project beneficiaries are adjusting these parameters, reducing levels by adding special acids to the water before irrigation.

HIGHLIGHTS

Research work carried out within the framework of the project showed that vegetable growing is one of the main sources of income for the rural population of the Ferghana Valley. Local farmers grow vegetables and herbs in their gardens and greenhouses from early March to the end of November.

Of the 206 mahallas in Ferghana (77), Andijan (76) and Namangan (53) districts of the same-named regions of Uzbekistan, 15 mahallas were selected as target areas for the project, where, in accordance with the work plan for 2021, the selection of direct beneficiaries was carried out.

By the beginning of 2022, 20 low-income households (owners of greenhouses) have been selected. The goals and objectives of the project were explained in detail to the beneficiaries

The FAO project “Smart Farming for the Future Generation” was launched in 2021 with the financial support of the Ministry of Agriculture, Food and Rural Affairs of the Republic of Korea. To date, greenhouses have been modernized and optimized in 20 households in Andijan, Namangan, and Ferghana regions. Successes have been attributed to providing farmers with weekly technical assistance as well as new knowledge and skills through workshops organized by FAO in February 2022. 75 people took part in the workshops, including beneficiaries, their family members, and other stakeholders from the project's target areas. The FAO experts - Melvin Medina Navarro, Agricultural Officer, and Khayrulla Esonov, Agronomist, led the workshop by providing the best foreign practices on sanitation and exclusion measures, water resources, plant nutrition management, soil management, integrated pest and disease management, and much more. Additionally, the project's other components include improved post-harvest, food safety control, and marketing practices, and they will be implemented in parallel this year.

Locust cross-border survey was held between Tajikistan and Uzbekistan

A cross-border survey (CBS), the first one since several years, was organized between Tajikistan and Uzbekistan on 28 March-2 April 2022 in border areas of Districts of Republican Subordination and Khatlon region of Tajikistan and Surkhandarya region of Uzbekistan.

The survey was organized under FAO regional “Programme to improve national and regional locust management in Caucasus and Central Asia” and more specifically within the JICA/Japan funded project “Improvement of locust management in Central Asia” (Phase 2).

Moroccan Locust or DMA is indeed considered one of the serious pests harming agriculture in Central Asia and swarm movements across borders make control more difficult. The cross-border survey was thus held with the aim of the joining efforts of locust control agencies of both countries towards reducing the threats from locusts and strengthening bilateral and regional cooperation.



A specialist conducts anti-locust treatment in the Khatlon region of Tajikistan

The working group consisted of 12 specialists including managers of locust control services from both countries, Mr Bakhtiyor Khudaykulov, Head of the Locust and Mulberry Pyralid Control Department, Agency of Plant Protection and Quarantine of Uzbekistan and Mr Nusratullo Nozaninzoda, Head of the State Entity “Locust Control Expedition” Ministry of Agriculture of Tajikistan. Mr Alexandre Latchininsky, Agricultural Officer, member of the FAO “Locusts and Transboundary Plant Pests and Diseases” Team, visited Tajikistan and Uzbekistan for the cross-border survey; Mr Bahromiddin Husenov, FAO Agricultural Officer, also participated in the CBS.



DMA hopper bands

Overall, 75,000 hectares were surveyed on both sides of the border, including pasture lands and agricultural crops in Termez district of Uzbekistan. At the time of the survey, DMA already hatched in most of the visited areas in both countries and was in the nymphal first instar, with the maximum density of 250-300 individuals per sq. m. Delegates of the two countries praised efforts of locust control services in Uzbekistan and Tajikistan to prevent damages to agricultural lands by locusts.

Field data were incorporated into the FAO’s Automated System of Data Collection (ASDC) by the specialists. At the end of the mission representatives of the two countries signed a joint protocol covering the current status of the locust situation and agreed to continue close cooperation in preventing risks of high locust infestations on both sides of their joint border.

After the survey, Mr Alexandre Latchininsky visited the main office and facilities of the Agency of Plant Protection and Quarantine of Uzbekistan. The meeting was also attended by Mr Sherzod Umarov, Assistant FAO Representative in Uzbekistan. It is important to note that in 2021 within the framework of the project “Improvement of locust management in Central Asia” (Phase 2), FAO handed over locust survey and control equipment, personal protective equipment, as well as publications and information materials, both in Russian and Uzbek languages, to the Agency for improving pest control processes.

FAO opens up new prospects for rural people of the Aral Sea region

Konisboy Khabibullaev from the Bozatau region of Karakalpakstan has high hopes for a new fruit tree nursery built on his personal plot. In a few years, trees will grow and bring high yield of cherries, apples and mulberries, and Konisboy will be able to make a good profit increasing his livelihood.



Konisboy Khabibullaev with his wife in front of a fruit tree nursery supported by FAO

The fruit tree nursery was established by the FAO as part of a Joint Programme implemented in cooperation with UNDP and UNFPA and aimed at strengthening adaptive capacity of vulnerable citizens of the Aral Sea region to address the difficulties of economic and food insecurity. The Joint Programme is funded by the UN Multi-Partner Human Security Trust Fund for the Aral Sea Region in Uzbekistan (UN MPHSTF).

In total FAO built three fruit tree nurseries in three households in the Muynak, Kungrad and Bozatau regions of Karakalpakstan, with more than 3 000 seedlings planted. FAO provided the beneficiaries with necessary equipment for horticulture and most importantly, with new knowledge and skills during a series of trainings organized for rural population of the project areas.

A series of trainings launched in December last year, since then, 31 trainings have been organized with the participation of 816 people, including 552 women. The participants of the trainings studied the advanced foreign experience in livestock, horticulture, water-saving technologies in agriculture, conservation agriculture and fish farming. The trainings were conducted in partnership with the Research Institute of Fisheries of Uzbekistan, the International Center

for Biosaline Agriculture (ICBA) and the Association of Rural Women of Uzbekistan.

In particular, from May 10 to 14, 2022, trainings on conservation agriculture were held in Muynak and Kungrad districts, and from May 16 to 20, similar trainings were held on fish farming.

Furthermore, the project intends to supply the pilot sites with the necessary equipment for establishing fish ponds. One of the beneficiaries, Sadyk Duisenbaev, from the Bozatau district of Karakalpakstan built a reservoir on his personal plot in order to breed fish for sale. FAO provided the farmer with all necessary aid, including the transfer and installation of an aerator, an automatic feeder and other equipment, as well as a food base and fish for breeding in the amount of 3 000.

"I am going to breed fish for sale because it is a profitable business. During the trainings organized by FAO, I learned a lot about the organization of fish farming, studied issues such as amelioration and fertilization of ponds, fish feeding, hydro chemical regime of ponds and pools, and much more. The knowledge gained will help me realize a commercial idea and thereby increase my income", - said Sadyk Duisenbaev.



One of the fish ponds installed with FAO support in the Bozatau district of Karakalpakstan

As part of the project, two more fishponds are being established in Muynak and Kungrad regions, respectively. All this will contribute to increasing the incomes of rural communities, promoting innovative agricultural practices and piloting new initiatives.

Improving the efficiency of digital agriculture

Geographic information systems (GIS) are also known as the tools for digital revolution in agriculture. Advanced computer technology for mapping and analyzing real world objects, ongoing and predicted events allows to monitor, plan and analyze agrotechnical operations with high accuracy.

In recent years, GIS technologies have been intensively introduced into the agriculture of Uzbekistan, and FAO plays an important role in this, which is currently implementing the project “Application of GIS tools and spatial data for more productive and smart farming”.

“The use of information systems based on geographic information technologies is one of the most promising areas for improving the efficiency of agricultural production management. In this regard, our project aims to increase the capacity and knowledge of local specialists and farmers in the field of working with spatial data for the further development of smart farming,” said Sherzod Umarov, Assistant FAO Representative in Uzbekistan.



Training at the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers

FAO experts in cooperation with national partners organize trainings demonstrating the capabilities of GIS tools for smart agriculture. One of them was hosted by FAO at the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers in collaboration with the Ministry of Agriculture of Uzbekistan and the Innovations and Scientific Research Cluster on Sustainable Development. Trainings were held for specialists from 13 regional departments of the ministry, who are engaged in the

introduction and further development of GIS-technologies in the regions of Uzbekistan.

New knowledge and skills on geodatabases will help the ministry's representatives to improve their practice of using digital technologies in agricultural production, even in the most remote regions of the country.



Device for automatic ground water monitoring in Mirzachul district of Jizzakh region

The above-mentioned project has already made some progress in this area. For example, the use of GIS technologies made it possible to improve the methods of using groundwater in the Mirzachul district of the Jizzakh region. In particular, after a series of studies, specialists from the FAO and the Scientific Research Cluster on Sustainable Development installed special devices (divers) in 6 measuring wells of the Mirzachul district to ensure more detailed monitoring of groundwater.

Divers allow not only measuring the water level in natural underground reservoirs, but also remotely transmit this data, as they are connected to the centralized system of the Ministry of Water Resources of Uzbekistan. The new instruments are used to monitor and visualize information about groundwater reserves, to control the ingress of pollutants into water, and to prevent overuse of water resources.

This is how the project opens new opportunities through introducing innovative technologies in agriculture and capacity building of engineers and other relevant workers.

FAO aims to reduce food losses in Uzbekistan

About a third of all the food produced for human consumption each year is lost or wasted. In developing countries, 40 percent of food is wasted at the harvest or processing stage (food loss). In developed countries, the same percentage is lost at the stage of consumption or retail sale (food waste). At the same time, more than three billion people are malnourished or cannot afford healthy food. Everyone can contribute to change this situation.



Food losses on the example of the tomato crop

These issues were discussed at the national validation workshop on “Formulation of a Strategic roadmap for Food Loss and Waste Reduction in Uzbekistan”, organized on June 30 in Tashkent by the FAO in cooperation with the Ministry of Agriculture of the Republic of Uzbekistan.

The agenda of the workshop included analysis of legislation and policies related to FLW management in Uzbekistan and presentation of the results of the inception and field missions. Key issues and recommendations for food loss and waste prevention and reduction were presented.

The participants reviewed the first draft Strategy for food loss and waste prevention and reduction in Uzbekistan.



Seminar on reducing food losses and waste in Uzbekistan

As stated by participants, reducing food loss and waste is an important target of the Sustainable Development Goals (SDGs) under the 2030 Agenda. Target 12.3 calls for “halving per capita global food waste at the retail and consumer levels and reducing food loss along production and supply chains (including post-harvest losses) by 2030”. The workshop participants expressed their hope that the implementation of the project would contribute to the achievement of this.

The workshop was held within the framework of the FAO project “Reduction of Food Loss and Waste in Central Asia, Azerbaijan and Turkey”, implemented as part of the FAO-Turkey Partnership Programme on Food and Agriculture (FTPP II). The project aims to assist Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Turkmenistan, and Uzbekistan in developing measures to reduce food loss and waste, covering all sub-sectors of the food system from farmers to consumers.

The main beneficiaries of the project are agricultural extension workers, national institutions, non-governmental organizations, as well as representatives of various farmers' organizations and other participants of the value chain.

