DEVELOPMENT OF FARM ADVISORY SERVICE IN UZBEKISTAN IN FRAMEWORK OF RATES PROJECT

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Abstract

For Uzbek farmers to thrive and transform, access to extension services is essential. Extension services that enable farmers to overcome barriers to improve their productivity, manage their farms as sustainable businesses, connect to input and product markets, and act collectively to improve their livelihoods are the first line of action to increase rural growth in the country. Improving advisory services in Uzbekistan is a vital part of the country's development agenda, as reflected in the Agri-Food Sector Development Strategy (2020-2030). The strategy recognizes the importance of improving public sector services, opening up new markets for farmers and agribusinesses and introducing new technologies to the sector. In this endeavor, the RATEC project can play a decisive role, contributing directly to the achievement of many of the 2030 goals. However, ensuring equal access to extension services for Uzbek farmers remains a challenge that the government must address to improve the situation in rural livelihoods and overcome rural poverty in the country. To address this challenge, we tried to answer the following questions during the second year of the project: What are the local realities and challenges faced by farmers? What services do farmers need to overcome these constraints and gain better livelihood opportunities? What type of advisory and training support is available and how effective are they in reaching farmers and agribusinesses? What gaps exist in service support and how can the private and public sectors and other actors work together to fill them? These questions formed the basis for the second year of the RATEC project in the Tashkent region as part of the methodology for identifying advisory positions needed at the district advisory level.

As part of the project, capacity-building trainings were organized for extension specialists and farmers in the Tashkent region, which includes 18 districts. Capacity building training for extension workers focused on improving agricultural practices.

Introduction

The RATES project is a 3-year grant from the South Korean government and is financed by RDA - AFASI. The project executor is the National Center for Knowledge and Innovation in Agriculture under the Ministry of Agriculture of the Republic of Uzbekistan. The RATES project in Uzbekistan is primarily focusing on training of trainers of AKIS based on innovative technologies; increasing farmers' competitiveness and production through providing training, promoting diversified on-farm skills, knowledge transfer; and facilitating the integration with AKIS system in rural regions through synchronized location-based trainings. The project's specific objectives are as follows:

1. To facilitate the dissemination of high-yielding varieties alfalfa, strawberries, sweet maize, garlic, tomato in Tashkent region through AKIS regional office.

2. To study the causes of yield gap between research and farmer fields

3. To enhance extension professionals and farmers' knowledge and skills in seed production.

4. To reinforce the linkage between research enhancement of existing extension system in Uzbekistan.

2. Methodology

The methodology in appraising the demand and provision of advisory services involved, initially a review of the Agri-food Value Chain Profile for Tashkent region followed by the collection of background information on the farming and agribusiness context in each of the districts. Group discussions with a range of different farmer groups and individual one-on-one meetings with key informant farmers were organized by the district Hokymats. This was followed by a series of meetings with agribusinesses – processors, traders, input suppliers, and other service providers.

The approach determined which advisory services were needed to address the underlying causes of the constraints identified through the value chain analyses. The service analysis identified the services which are being provided and where weaknesses lie in the current provision, in particular those related to the underlying causes of the problems identified by farmers and agribusinesses.

3.Results

The project is implemented by the National Center of Knowledge, Innovation in Agriculture (NCKIA) and the Tashkent Regional AKIS Office. Tashkent region is located in the northeast of Uzbekistan, with a population of approximately three million. The main crops cultivated in the region were vegetables, fruit, cotton, and wheat. The PI form NCKIA Sanjar Adilov and Co-Pls from AKIS Sunnatillo Isakulov are tasked with implementing this project. **49 household plots** with a total area of **3.1 hectares** were selected to implement the project for 2024. High-yielding new varieties of alfalfa, strawberries, sweet maize, garlic, tomato are being demonstrated. Farmers Training will be conducted by Tashkent region AKIS Office as part of the RATES initiative.

High-yielding new varieties of alfalfa (variety - Toshkent 3091, number of household plots 9, area - 1.23 hectares), strawberries (variety - Tong Ifori, number of household plots 10, area - 0.33 hectares), sweet maize (variety - Future 100, number of household plots 10, area - 1 hectare), garlic (variety - Feruza, number of household plots - 10, area – 0,33 hectare), tomato (variety - Winning, number of household plots 10, area - 0.23 ha) were chosen.

Farmers Group Meetings were organized by Tashkent region AKIS Office supported by Rates project

Technology manuals have been already published in assistance with the AKIS components.

The new varieties of these crops, developed and cultivated in the research institutes, are expected to produce higher yields and enhanced returns from farming. Trainings have been provided to farmers for their cultivation, and the fields are set to be organized soon. The training materials and facilities were prepared, and **49 household fields** were selected for the cultivation of new crops. The capacity building and skill generation for advisory service providers and farmers are underway, with training scheduled throughout the year. Demo days would be held

during the harvest season, and a manual detailing planting procedures and other aspects of the project was in preparation.

4. Project achievements

New varieties of these crops, developed and grown in research institutes, are expected higher yields and greater agricultural profits. Farmers were trained in growing agricultural products, field preparation, cultivation, collection and processing (drying) of agricultural products. Training materials and equipment have been prepared, and 49 household fields have been selected for growing new crops. Capacity building and upskilling of extension service providers and farmers is currently underway, with training planned throughout the year. Demonstration days will be held during the harvest season, and a manual detailing planting procedures and other aspects of the project is in preparation. This year it is planned to train 200 farmers

The following are tables with the characteristics of crops that were selected for pilot farms in Tashkent region.

Selected Crop Variety Characteristics

Name of the selected variety	Characteristics
1. Toshkent 3091 (9)- (alfalfa) 1,23 ha	➢ Yield: 70 – 90 ton/hectare ➢ Field Duration: 45 - 55 days ➢ high yield, increases milk yield and meat mass in cows
2. Tong Ifori (10) – (strawberries) 0,33 ha	➢ Yield: 24 ton/hectare ➢ Field duration: 75-80days ➢ high yield, gives harvest within 7 months
3. Future 100 (10) - (sweet maize) 1 ha	➢ Yield: 10-12 t/ ha (corn cobs) ➢ Field duration: 90-100 days ➢ high yield, large grains, has a large market
4. Feruza (10) – (garlic) 0,33 ha	➢ Yield: 10-11 t ha ➢ Field duration: 135-140 days ➢ Tip burn resistant
5. Winning (10) - (tomato) 0,23 ha	➢ Yield: 30-35 t/ ha ➢ Field duration: 95-110 days ➢ Late blight, fusarium and miner moth resistant

Establishment of Trial plot at household Fields

Sl. No.	Variety	No. of trial Plots	Area (hec.)	Sowing/ planting date	Harvesting Date	Yield (t/ ha)	Note
1.	Toshkent 3091 9- (alfalfa)	9	1.23	Feb 10 to 15, 2024	Oct 15 2024	70 – 90	high yield, increases milk yield and meat mass in cows
2	Tong Ifori – (strawberries)	10	0,33	Aug 14 to 16, 2024	Dec 1 2024	24	high yield, gives harvest within 7 months
3	Future 100 - (sweet maize)	10	1.0	Apr 5 to 10, 2024	July 25 to Aug 5 2024	10-12	Profitable cash crop. All cloves will be stored for cultivation in more area in the next year.
4	Winning - (tomato)	10	0,23	Apr 10 to 15	June 15 – Aug 1	30 - 35	Late blight, fusarium and miner moth resistant
5	Feruza– (garlic)	10	0,33		Will be sown in November 10-20, 2024 Profitable crop. Will be cultivate in the November		Tip burn resistant

. ※ **Quantitative goals**

Indicators	1st year (Dec. 2022-Nov. 2023)			2nd year (Dec. 2023-Nov. 2024)		
	Plan (A)	Output (B)	Rate (%)	Plan (A)	Output (B)	Rate (%)
Analysis of current state of infrastructure in rural extension system	1	1	100	1	1	100
Establishment of action plan for rural extension (an action plan was created for the project for 1,2,3 years together with AKIS specialists)	1	1	100	1	1	100
Education and training for capacity building related to rural extension	50	50	100	200	200	100
Establishment of technology extension manual related to AFACI projects	10	5	50	5	5	100
Development of technology extension manual	1	1	100	1	1	100

4-1 Achievement evidence

More than **200** farmers will trained at Seminar-trainings for using new agriculture technologies as well as water saving technologies in agriculture, drip irrigation and pivot system.

In the end of 2024 we expect the following results for farmer's efficiency on water saving up to **40 %**; energy (fuel) consumption saving up to **30 %**; mineral fertilizers saving up to **35 %**. After new agriculture technologies applied yield increased up to **15-25%** depending on crops. For alfalfa **20%,** sweet corn **20%,** strawberry **15%,** garlic – **20%,** tomato up to **25%**.

5. Conclusion

The RATES/AFACI project has created a platform for scientists, extension workers and small size farmers to interact and collaborate with each other. The interaction between these stakeholders created a space for the exchange of knowledge and information. The researchers shared the latest research results, technological advances and best practices with AKIS specialists through trainingsAKIS specialists provided technical support to farmers in adopting and using improved agricultural technologies. At the same time, farmers provided valuable information and practical knowledge based on their experience in the field. This knowledge sharing has helped all parties stay updated on emerging trends and issues and has also opened up an arena for collaboration to find innovative solutions.

Innovative and improved technologies, such as promising high-yielding, disease-resistant varieties developed in research institutes, need to reach farmers with technical knowledge and training so that they become the majority in the adoption of such agricultural technologies.

6. Future plan and recommendations.

List of planned activities to be performed	(month per project year-2024 to 2025)											
	1	2	3	4	5	6	7	8	9	10	11	12
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1. Selection and engaging of households, developing and preparing training materials, facilities, equipment etc	→→											
2. Establishment of trial plots in household fields (49)			→→									
3. Capacity building and skill generation for advisory service providers of UFAS		→→→→→→→→→→→→→→→→→→→→										
4. Trainings will be provided to farmer during plot selection & cultivation, after cultivation & before harvesting, after harvesting		→→→→→→→→→→→→→→→→→→→→										
5. End of the production season, field day will be organized and demonstration outcomes will be shared										→→		
6. Field Monitoring and field visits will be done by PI and Co-PIs.	→→											
7. Any project related Manual/information will be published		→→→→→→→→→→→→→→→→→→→→										
8. Annual Report will be prepared and submitted to AFACI										→→		

Project activities for the third year.

Consultation meeting will be held among stakeholders (scientists of the National center for knowledge and innovation in agriculture, AKIS extension specialists and farmers) to discuss issues related to improving the agricultural extension system in Uzbekistan. Such meetings will be held monthly.

Data related to production, farm income, technology used, ICT use, marketing information, problems and their solutions through surveys of farming households in the study areas.

Periodic monitoring of the project will be carried out by the head and staff of the National Center for Knowledge and Innovation in Agriculture, together with AKIS specialists. In addition, participatory monitoring will be carried out by key stakeholders (researchers, consultants, farmers) in farmers' fields for smooth operation of the project.

NCKIA has been validating the technologies including different genotypes of alfalfa, strawberries, sweet maize, garlic, tomato; Varieties and agronomic practices in their search fields. AKIS demonstrates different demonstration plots of these crops along with their related technologies in the farmers' field using extension services. The knowledge and skills of farmers' and extension specialists will be improved for cultivating these crops through training by this project. Different causes of yield gap of above mentioned crops between research and farmers' field will be identified through RATES project and thereby sustainable agriculture will be enhanced. Research (NCKIA) and extension (AKIS) linkage will be strengthened by the coordination of using the support of RATES project.