

Script of Episode 1: Agricultural machinery and farm mechanization

Aziz Gafarov, GEFF Tajikistan Marketing Expert:

Welcome to the first episode of the GEFF Tajikistan biweekly podcast! I'm Aziz Gafarov, the GEFF Tajikistan Marketing Expert. GEFF Tajikistan Podcast - an agri-business and agricultural value chains development podcast, features conversations with local experts as well as agronomists and engineers. The series features different topics, introducing different innovative technologies, resources efficient measures into specific regions and industries business as well as climate challenges aspects. Also you can listen to the real-life story of the GEFF Tajikistan client from different parts of Tajikistan who received GEFF financing support.

The Green Economy Financing Facility Tajikistan, a product of the European Bank for Reconstruction and Development, working in cooperation with the European Union, the Green Climate Fund and the Republic of Korea.

“Green Investments” make business sense by minimizing the impact on the environment. Together with the donors and financing partners, GEFF Tajikistan is helping the local market to transition to a “Green” economy.

Today we are going to be talking about the energy efficient agricultural machinery, the important elements of modernization of agriculture. Our agricultural machinery expert, **Mr. Parvin Jabborov**, will share about the challenges, faced by local farmers, and solutions that can enhance competitiveness of the agricultural value chains and improve climate resilience in Tajikistan.

Parvin, could you please share with us, how farm mechanization improves farming productivity?

Parvin Jabborov, Agricultural Machinery Expert:

Thank you. Firstly, adequate mechanization is the main engine for productivity and competitiveness in agriculture and the agri-industry. It allows the transition from subsistence farming to commercial farming. Proper tools and machinery can help to reduce farmers' workload while maintaining agricultural production.

Also, it is important to mention some benefits for farmers: increased labour efficiency and output per worker, increased crop production due to farm mechanization, additional income through the provision of services to other farmers, overall increased production and farmer income. Many farmers faced some challenges in the agricultural mechanization since it is a key factor in increasing harvest.

Aziz Gafarov, GEFF Tajikistan Marketing Expert:

That's quite interesting, and are there any common issues or a hardship that our farmers face with?

Parvin Jabborov, Agricultural Machinery Expert:

Yes, sure. I can name a few of them. The high cost of machinery service provision by tractor drivers, for example, the soil ploughing price is about 500 TJS per hectare, sowing 350 TJS per one hectare, planting 200 TJS per hectare, inter-row cultivation 150 TJS per one hectare and etc. Due to the lack of tractors in regions, farmers sometimes fail to comply with the agro-technical deadlines for performing field work (soil preparation, sowing seeds, caring for crops, pest and disease control, harvesting, etc.), which all lead to a decreased amount and quality of the harvest.

Also, the qualification of the local tractor drivers who are hired for tillage, sowing and harvesting, are not always sufficient for effective carrying out of field works on the tractors

Aziz Gafarov, GEFF Tajikistan Marketing Expert:

Thank you for sharing the relevant costs associated with the various activities. That helps our listeners understand the financial effects of their decisions. As we know, old agri-machinery consumes a lot of fuel and have a negative impact on the environment, can you please share your opinion on it?

Parvin Jabborov, Agricultural Machinery Expert:

Yes, it is recommended to gradually introduce innovative and green technologies in the agricultural value chain, to increase the efficiency of cultivating crops. This can be achieved by purchasing modern tractors with low fuel consumption and reduced CO2 emissions. Also it is recommended to use energy-efficient pumps, modern refrigeration units, solar panels, greenhouses, which would reduce environmental impact and increase climate resilience.

Aziz Gafarov, GEFF Tajikistan Marketing Expert:

Parvin, what are some tips to assess the efficiency of your current tractor. How do I know if it is efficient or not?

Parvin Jabborov, Agricultural Machinery Expert:

Yes, of course. In engineering science, methods for energy estimation and forecasting the effectiveness of mobile agricultural units, including tractors, have been developed and justified long time ago.

The most effective and simplest method for determining effectiveness is the method of comparative analysis according to 3 main indicators:

- ✓ The first and most important factor is the agro technical indicator - indicators of the quality of the field work in comparison with the same tractor analogue, that is, the traction characteristics of the tractor, its productivity, the quality of tillage and others;
- ✓ The second is fuel and economic indicator - determination of the cost of diesel fuel per unit of area treated by a tractor for the different types of field work (ploughing the soil, cutting irrigation furrows, cultivation, etc.);
- ✓ The last is the environmental indicator - here we are talking about the level of engine exhaust emissions into the atmosphere. In recent years, the newly produced tractors are equipped with modern diesel engines that meet the requirements of international environmental standards named Euro Tier, which mainly differ from their old counterparts in low emissions of harmful gases into the atmosphere.

That is, using the method of comparative analysis, you can quickly determine the effectiveness and advantages of your tractor by comparing it with an existing analog.

Aziz Gafarov, GEFF Tajikistan Marketing Expert:

Very useful tips for farmers who are right now looking for tractors, thank you, and is there any advice you can give to farmers, who are growing industrial crops for example?

Parvin Jabborov, Agricultural Machinery Expert:

If farmer grows industrial crops like cotton, corn, soybeans or beans, the tractor that could carry out all the field work should be considered the most effective tractor. Therefore, the farmer should choose a 3-wheel tractor, which is designed to perform work between rows of crops, the interval between which is 60-70 centimetres.

Aziz Gafarov, GEFF Tajikistan Marketing Expert:

Parvin, who can consult us on tractor models? Where can we find this information easily?

Parvin Jabborov, Agricultural Machinery Expert:

Regarding the choice of model of the tractor, you can always contact the suppliers of these tractors, which are actively working throughout the country. For example, in Tajikistan, many companies import

and assemble tractors and minitractors, such as Tajikagroleasing State Unitary Enterprise, Agrotekhservice AOZ, Madadi Tursunzoda OJSC, Agralis Tajikistan LLC, Uzagrotechsanoatholding JSC, Sarob Cooperative, LLC Madad-Agro and others.

These companies have their consultations centres and showrooms, service points and spare parts warehouses, they always have active call centres.

Aziz Gafarov, GEFF Tajikistan Marketing Expert:

In addition, farmers can reach these suppliers through the Agricultural Departments of the districts where they live. It is worth noting, that GEFF project experts together with local financial institutions, during the project framework, also held Technology Workshops, met with Jamoats members and helped farmers to choose the right suppliers, ensuring that we work with quality vendors who accompany tractor after-sales services and can provide their customers with the necessary spare parts at discounts.

Parvin Jabborov, Agricultural Machinery Expert:

And I would like to mention that farmers regularly contact us for advice, on issues such as the right choice of agricultural equipment, its cost, purchase of original spare parts and much more. Some of them also expressed a desire to continue cooperation with GEFF and want to become repeat GEFF clients for the acquisition of various technologies. And if any person has any question, needs assessment of his project or any tips regarding energy efficiency technologies, we are always available to help him out.

Aziz Gafarov, GEFF Tajikistan Marketing Expert:

What can we do from home, in light of the current Covid-19 outbreak? Any suggestion?

Parvin Jabborov, Agricultural Machinery Expert:

The farmer belongs to the categories of people who are directly involved in the production of crops. The farmer cannot just sit at home, he is a man of the field, the fate of the food security of every country depends on him. Since the harvesting season for grain crops has begun in Tajikistan, in all regions of the country, the rural population is busy harvesting grain and farmers who are free from previous crops begin the re-sowing in order to obtain two and three crops per year. Therefore, we can only recommend that they go about their business in compliance with personal hygiene and all safety precautions.

Aziz Gafarov, GEFF Tajikistan Marketing Expert:

Many thanks. And now, I would like to talk with my next colleague about a success story of a female farmer invested in a modern tractor and improved productivity. This is the real and very impressive story. A local female farmer Mrs. Shamsikhol Sultonova from Aivoch village, located in the most southern part of Tajikistan. As I know, currently Mrs. Shamsikhol Sultonova managing 20 permanent workers, where more than 50% are female, she owns 15 hectares of land and additionally rents 20 hectares of land for planting cotton and other crops. Zamira, could you please tell us details of the case?

Zamira Homidova, GEFF Tajikistan Marketing Expert:

Hello, yes, everything is correct, but before farm mechanisation, she used to procure external tractor machinery services which are often not energy efficient and reliable. So, to overcome operational challenges, Mrs. Sultonova approached one of the EBRD's partner banks for a GEFF loan and invested in a new fuel-efficient tractor MTZ 80X. The higher fuel efficiency of the tractor will lead to decreasing of diesel fuel consumption at least on 20%. The tractor would be used for the plowing, soil preparation, planting, dissemination of mineral fertilizers, inter-row cultivation. It also reduces the need for manual labour, while saving valuable amount of energy resources and reducing of harmful emissions in atmosphere.

Aziz Gafarov, GEFF Tajikistan Marketing Expert:

And also, Mrs. Sultonova received the European Union investment incentives of 30%, which makes the financing more accessible to farmers.

Zamira Homidova, GEF Tajikistan Marketing Expert:

It is important to mention that now she is planning to hire more female workers in order to provide employment and income opportunities to women in the village. It is good showcase of how GEF Tajikistan positively benefitted female sub-borrowers who adopted technology solutions and enhanced competitiveness. I would like add that GEF Tajikistan supports gender activities that aim to enhance women and men's equal opportunity to access finance for green technologies.

Aziz Gafarov, GEF Tajikistan Marketing Expert:

Yes, GEF Tajikistan invests in high performance technologies to bring down costs, thereby increasing competitiveness. It also provides technical advice, help select technology and verify Green Performance. Eligible investments include energy efficiency, renewable energy, water and material efficiency and climate adaptation technologies such as agri-machinery, drip irrigation systems, greenhouses, intensive orchard, cold storages as well as energy-efficient food processing equipment.

Aziz Gafarov, GEF Tajikistan Marketing Expert:

Thank you, that is really an interesting and inspiring story. Financing green technologies and sustainable energy solutions are becoming increasingly important and we need to understand the different perspectives.

I would like to reiterate that the Green Economy Financing Facility Tajikistan was officially launched in November 2019 as a product of the European Bank for Reconstruction and Development, working in cooperation with the European Union, the Green Climate Fund and the Republic of Korea. The Facility operates through Participating Financial Institutions in Tajikistan, supporting its green economy transition with \$25 million of financing for energy and resource efficiency investments. Since the credit line was activated with first GEF partner, a total of \$1 million has been disbursed to nearly 200 beneficiaries. GEF Tajikistan supports various innovative green technologies. The program supports gender activities that aim to enhance women and men's equal opportunity to access finance for green technologies. For more information, please visit www.ebrdgeff.com/tajikistan or find us on Facebook.

It is the first episode of the GEF Tajikistan podcast series which are held on biweekly basis, thank you to our listeners for your attention and stay tuned for an upcoming podcast on the Greenhouse technology.

Lastly, in this difficult time, we would like to encourage everyone to take care of yourselves and loved ones, to adhere to the social distancing rules and personal hygiene.

Good bye!