AGRI. BUSINESS SUPPLEMENT

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Planning & Research Department, ZTBL Head Office Islamabad, Phone No. 051-9252024

Technology for Agriculture



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FOG HARVESTING

Mr. Ahmad Hussain Khan
OG-II (Planning and Research Department, ZTBL)



Fogs have the potential to provide an alternative source of fresh water in dry regions and can be harvested through the use of simple and low-cost collection systems. This innovative technology is based on the fact that water can be collected from fogs under favorable climatic conditions. Fogs are defined as a mass of water vapor condensed into small water droplets at, or just above, the Earth's surface. The small water droplets present in the fog precipitate when they come in contact with objects. The frequent fogs that occur in the arid coastal areas of Peru and Chile are traditionally known as camanchacas. These fogs have the potential to provide an alternative source of freshwater in this otherwise dry region if harvested through the use of simple and low-cost collection systems known as fog collectors. Captured water can then be used for agricultural irrigation and domestic use. Present research suggests that fog collectors work best in coastal areas where the water can be harvested as the fog moves inland driven by the wind.

Fog, a cloud that touches the ground, is made of tiny droplets of water each cubic meter of fog contains .05 to .5 grams (half the weight of a paper clip) of water. Fog harvesting technology consists of a single or double layer mesh net supported by two posts rising from the ground. Mesh panels can vary in size. The material used for the mesh is usually nylon, polyethylene or polypropylene netting (also known as 'shade cloth') which can be produced to various densities capable of capturing different quantities of water from the fog that passes through it. When the fog rolls in, the tiny droplets of water cling to the mesh and as more and more cluster together, they drip into a gutter below that channels to a water tank. Fog collectors, which can also harvest rain and drizzle, are best suited to high-elevation arid and rural areas; they would not work in cities because of the space constraints and water needs of an urban environment.

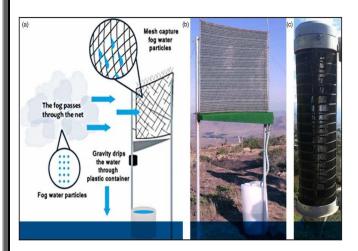
Fog collection projects have used from 2 to 100 fog collectors, and depending on the location, each panel can produce 150 to 750 liters of fresh water a day during the foggy season.

The collectors are positioned on ridgelines perpendicular to prevailing wind and capture and collect water when fog sweeps through. The number and size of meshes chosen will depend on the local topography, demand for water, and availability of financial resources and materials. Optimal allocation is single mesh units with spacing between them of at least 5 m with additional fog collectors placed upstream at a distance of at least ten times higher than the other fog collector.

The collector and conveyance system functions due to gravity. Water droplets that collect on the mesh run downwards and drip into a gutter at the bottom of the net from where they are channeled via pipes to a storage tank or cistern. Typical water production rates from a fog collector range from 200 to 1,000 litres per day, with variability occurring on a daily and seasonal

basis. Efficiency of collection improves with larger fog droplets, higher wind speeds, and narrower collection fibres/mesh width. In addition, the mesh should have good drainage characteristics.

The dimensions of the conveyance system and storage device will depend on the scale of the scheme. Storage facilities should be provided for at least 50 per cent of the expected maximum daily volume of water consumed. For agricultural purposes, water is collected in a regulating tank, transferred to a reservoir and then finally into an irrigation system that farmers can use to water their crops.



Operation and Maintenance

Operation and maintenance are relatively simple processes once the system has been properly installed. Nevertheless, an important factor in the sustainability of this technology is the establishment of a routine quality control programme which should include the following tasks:

 Inspection of mesh nets and cable tensions to prevent loss in water harvesting efficiency and avoid structural damage

- Maintenance of nets, drains and pipelines to include removal of dust, debris and algae
- Maintenance of the storage tank or cistern to prevent accumulation of fungi and bacteria
- Where spare parts are not available locally, it is recommended that a stock of mesh and other components be kept in reserve as local supply might be restricted, especially in remote mountainous regions.

Drought caused by climate change is leading to reductions in the availability of fresh water supplies in some regions. This is having an impact agricultural production by limiting opportunities for planting and irrigation. Fog harvesting provides a way of capturing vital water supplies to support farming in these areas. Furthermore, when used for irrigation to increase forested areas or vegetation coverage, water supplies from fog harvesting can help to counteract the desertification process. If the higher hills in the area are planted with trees, they too will collect fog water and contribute to the aguifers. The forests can then sustain themselves and contribute water to ecosystem helping to build resilience against drier conditions.

Advantages of the Technology

Atmospheric water is generally clean, does not harmful micro-organisms contain and is immediately suitable for irrigation purposes. In a number of cases, water collected with fog harvesting technology has been shown to meet World Health standards. The Organization environmental impact of installing and maintaining the technology is minimal.



Once the component parts and technical supervision have been secured, construction of fog harvesting technology is relatively straightforward and can be undertaken on site. The construction process is not labour intensive, only basic skills are required and, once installed, the system does not require any energy for operation. Given that fog harvesting is particularly suitable for mountainous areas where communities often live in remote condition, capital investment and other costs are generally found to be low in comparison with conventional sources of water supply.

Disadvantages of the Technology

Fog harvesting technologies depend on a water source that is not always reliable, because the occurrence of fogs is uncertain. However, certain areas do have a propensity for fog development, particularly, mountainous coastal areas on the western continental margin of South America. Further, calculation of even an approximate quantity of water that can be obtained at a particular location is difficult. This technology might represent an investment risk unless a pilot project is first carried out to quantify the potential water rate yield that can be anticipated in the area under consideration.

Financial Requirements and Costs

The costs vary depending on the size of the fog catchers, quality of and access to the materials, labour, and location of the site. Small fog collectors cost between Rs.8000 and Rs.21, 000 each to build. Large 40-m² fog collectors cost between Rs.105, 000 and Rs. 157,500 and can last for up to ten years. A village project producing about 2,000 litres of water per day will cost about Rs. 1,575,000. Multiple-unit systems have the advantage of a lower cost per unit of water produced, and the number of panels in use can be changed as climatic conditions and demand for water vary. Community participation will help to reduce the labor cost of building the fog harvesting system.

Note: The costs mentioned above are exclusive of import duties and other taxes.

Potential Areas for Fog Harvesting

Research suggests that fog collectors work best in locations with frequent fog periods, such as coastal areas where water can be harvested as fog moves inland driven by the wind. However, the technology could also potentially supply water in mountainous areas if the water is present in stratocumulus clouds, at altitudes of approximately 400 m to 1,200 m."

In Pakistan fog harvesting can be done in the plain areas of South Punjab such as Lahore, Sargodha, Sahiwal, Multan etc. According to the International Development Research Centre, in addition to Chile, Peru, and Ecuador, the areas with the most potential to benefit include the Atlantic coast of southern Africa (Angola, Namibia), South Africa, Cape Verde, China, Eastern Yemen, Oman, Mexico, Kenya, and Sri Lanka.

Right now, fog collection is still useful in a limited range of places ones with large amounts of fog and few other sources of water but that may not always be the case. Several research groups are working on devising better fog collectors made of new materials and designs, which could collect water more efficiently and expand the regions where fog collection could be useful. Fog collectors could make a significant difference to the water supply of many arid regions. A United Nations report notes that "fog collection technology appears to be an extremely promising and low-cost water harvesting system for irrigation, drinking water, crop beverage, and forest restoration in Dryland Mountains.

Institutional and Organizational Requirements

Community participation helps to remove labor costs and also helps to ensure a sense of ownership by the community and a commitment to maintenance. A community management committee could be set up and consist of trained individuals responsible for repair and maintenance tasks, helping to ensure the long-term sustainability of the technology. In the initial stages, government subsidies may be required to buy raw materials and fund technical expertise.

A range of meteorological and geographic information is required for choosing a site to implement fog harvesting technology, including predominant wind direction and the potential for extracting water from fogs (such as frequency of fog occurrence and fog water content). A feasibility study and pilot-scale assessment should also be carried out to assess the magnitude and reliability of the fog water source. Some of this information can usually be gathered from government meteorological

agencies but may require local meteorological stations and the use of a neblinometer (a device to measure the liquid water content) for collection of localized data.

Key Information Requirements for Assessing Fog Harvesting Suitability

Global wind patterns: Persistent winds from one direction are ideal for fog collection. The high-pressure area in the eastern part of the South Pacific Ocean produces onshore, south-west winds in northern Chile for most of the year and southerly winds along the coast of Peru.

Topography: It is necessary to have sufficient topographic relief to intercept the fogs/clouds. Examples on a continental scale, include the coastal mountains of Chile, Peru, and Ecuador, and, on a local scale, include isolated hills or coastal dunes.

Relief in the surrounding areas: It is important that there are no major obstacles to the wind within a few kilometers upwind of the site. In arid coastal regions, the presence of an inland depression or basin that heats up during the day can be advantageous, as the localized low pressure area thus created can enhance the sea breeze and increase the wind speed at which marine cloud decks flow over the collection devices.

Altitude: The thickness of the stratocumulus clouds and the height of their bases will vary with location. A desirable working altitude is at two-thirds of the cloud thickness above the base. This portion of the cloud will normally have the highest liquid water content. In Chile and Peru, the working altitudes range from 400 m to 1,000 m above sea level.

Orientation of the topographic features: It is important that the longitudinal axis of the mountain range, hills or dune system be approximately perpendicular to the direction of the wind bringing the clouds from the ocean. The clouds will flow over the ridge lines and through passes, with the fog often dissipating on the downwind side.

Distance from the coastline: There are many high-elevation continental locations with frequent fog cover resulting from either the transport of upwind clouds or the formation of orographic clouds. In these cases, the distance to the coastline is irrelevant. However, areas of high relief near the coastline are generally preferred sites for fog harvesting.

Space for collectors: Ridge lines and the upwind edges of flat-topped mountains are good fog harvesting sites. When long fog water collectors are used, they should be placed at intervals of about 4.0 m to allow the wind to blow around the collectors.

Crestline and upwind locations: Slightly loweraltitude upwind locations are acceptable, as are constant-altitude locations on a flat terrain. But locations behind a ridge or hill, especially where the wind is blowing down slope, should be avoided."

Barriers to Implementation

Several challenges and issues have emerged from fog harvesting projects implemented to date:

- Where fog is a seasonal source, water has to be stored in large quantities for dry season use
- If not properly maintained, water quality becomes an issue during low-flow periods

- Fog water collection requires specific environmental and topographical conditions, limiting its application to specific regions
- Procurement and transportation of materials is hindered by remote locations and steep terrain
- Strong winds and snow fall can result in structural failure during the winter season
- Water yield is difficult to predict, requiring feasibility studies prior to large scale implementation
- For harvesting to be effective, frequent fogs are needed and sufficient water collected for the investment to be costeffective. This limits the technologies to areas with specific conditions.
- There are few commercial producers of mesh currently in operation, with main suppliers located in the Chile. Therefore, implementation and maintenance can be costly [due to import or transportation].

Opportunities for Implementation

Fog water collection has emerged as an innovative technology for mountainous communities without access to traditional sources of water. Still largely in a state of development, there is opportunity for research and development into fog harvesting technology and its potential to support agricultural production. Given the lack of mesh suppliers, using locally available materials for component parts presents an opportunity for local business development. This technology also provides an opportunity to restore natural vegetation and support agricultural practices through the sourcing of clear water for crops and livestock

Source: www.climatetechwiki.org

زرعی سفارشات برائے کسان سا

﴾ کاشتکار دھان کی کٹائی کے بعداس کی باقیات کوآگ ہرگز نہ لگا کیں ، کیونکہ باقیات کوآگ لگانے سے فضائی آلودگی میں اضافہ کے علاوہ زمین میں موجود نامیاتی مادہ کو نا قابل تلافی نقصان پہنچتا ہے۔

﴾ کاشتکار حضرات دھان کی فصل کی برداشت کے بعد باقیات کورائس سڑراچاریاروٹاویٹراور دسک ہیرو کے ذریعے زمین میں دبادیں یا گہراہل چلا کر آ دھی بوری یوریا فی ایکڑ کا چھیلہ لگا کریانی دیں۔

گندم

﴾ گندم کی اچھی پیداوار حاصل کرنے کے لیے گندم کی کاشت کا موزوں ترین وقت کیم نومبر تا 30 نومبر ہے۔30 نومبر کے بعد کاشت کی گئی گندم کی پیداوار میں بتدریج کی آنا شروع ہوجاتی ہے۔

﴾ 30 نومبرتک بوائی کے لیےشرح نی 40 تا 50 کلوگرام فی ایکڑر تھیں ، جبکہ کم نومبر تا 15 دیمبر تک بوائی کےشرح نی 50 تا 55 کلوگرام فی ایکڑر تھیں۔

﴾ نج کوبوائی سے پہلے زرع ماہرین کے مشورہ سے تھا ئیوفدیٹ میتھا کل بحساب2 تا 2.5 کلوگرام نج کیا امیڈ اکلوپرڈ +ٹیو بکونازول بحساب4 ملی لٹر فی کلوگرام نج کا کارکاشت کریں تا کہ کا نگیاری، کرنال، بنٹ، گندم کی بلاسٹ وغیرہ بیاریوں سے بچاجا سکے۔

گھرف منظور شدہ اقسام ہی کاشت کریں۔بارانی علاقوں کے لیے چکوال 50 ،این اے ارس 2009 ، پاکستان 2013 ،دھرانی 2011 ، بارانی 2017 ، جنگ 2016 اور احسان 2016 کو 15 نومبر تک کاشت کریں۔

﴾ آبپاش علاقوں میں لا ٹانی 2008، فیصل آباد 2008، آس 2011، ملت 2011، آری 2011، اجالا 2016، گلیکسی 2013، بورلاگ 2016، جوہر 2016، گولڈ 2016، فخر بھراوران این گندم-1 کاشت کریں۔

مسوراورجنا

﴾ مسور کی کاشت 15 نومبر تک جلداز جلد کمل کرلیں۔ شرح نی 10 تا 12 کلوگرام فی ایکڑر کھیں۔

كه منظور شده اقسام نباب مسور 2002 ، نباب مسور 2006 ، پنجاب مسور 2009 ، مسور 93 ، چكوال مسور اور مركز 2009 كانتج كاشت كرس

﴾آبپاش علاقوں میں پنے کی کاشت کاوفت 15 نومبر تک ہے۔صحت منداور خالص ﷺ چھی فصل کی بنیاد ہے۔اس لیے محکمہ زراعت کی منظور شدہ اقسام کے ساتھ 30 کلوگرام ﷺ فی ایکڑا ستعال کریں۔

﴾ کاشت کے لیے ہلکی میرااوریتلی زمینوں میں قطاروں کا فاصلہ ایک نٹ جبکہ بھاری میرااور زیادہ ہارش نہ ہونے والےعلاقوں میں فاصلہ ڈیڑھ فٹ اور پودوں کا درمیانی فاصلہ چھائج رکھیں۔

روغنداراجناس

﴾ كينولاكى بوائى جلدا زجلد مكمل كرليس ، كاشت تروتر مين كرين اور جُ2 الحج سے زياد ه گهرائى پر كاشت نه كريں۔

﴾ کینولا کی کاشت کے لیےشرح 🗗 تا 2.5 کلوگرام فی ایکڑر تھیں۔اورالسی کا 🛪 آبیاش علاقوں میں 6 کلوگرام اور بارانی علاقوں میں 8 کلوگرام فی ایکڑر تھیں۔

سنريات وبإغات

﴾ پیاز کی نرسری کی کاشت کاوفت آخرنومبر تک ہے۔اور کھیت میں پنیری کی منتقلی دعمبر، جنوری تک ہوتی ہے۔ پیاز کا تین کلوگرام فی ایکڑ نیج استعال کریں۔اس وفت ٹنل میں کریلہ، کھیرا،اورٹماٹر کی کاشت کاوفت 15 نومبر تک کی جاسکتی ہے۔

Source: Ziratnama Government Of Punjab (Farmers'Advisory)

SBP UPDATES

Press Release of Workers Remittances in October 2023

Workers' remittances recorded an inflow of US\$2.5 billion during Oct 23. In terms of growth, during Oct 2023, remittances increased by 11.5 percent on m/m and 9.6 percent on y/y basis. Workers' remittances inflow of US\$ 8.8 billion has been recorded during first four months of FY24. Remittances inflows during Oct 2023 were mainly sourced from Saudi Arabia (\$616.8 million), United Arab Emirates (\$473.9 million), United Kingdom (\$330.2 million) and United States of America (\$283.3 million).

https://www.sbp.org.pk/press/2023/Pr-10-Nov-2023.pdf

The Arab Monetary Fund and the SBP Sign an MoU to Facilitate Cross-border Remittances between the Arab region and Pakistan

In a ceremony hosted by the Arab Monetary Fund (AMF), H.E Dr. Abdul Rahman Bin Abdullah Al Hamidy, Director General Chairman of the Board of the Arab Monetary Fund (AMF), and H.E. Mr. Jameel Ahmad, Governor of the State Bank of Pakistan has signed a Memorandum of Understanding (MoU) in Abu Dhabi. The MoU is signed to establish a framework of cooperation between Buna, the cross-border payment system operated by Arab Regional Payments Clearing and Settlement Organization "ARPCSO", owned by AMF, and Raast, Pakistan's Instant Payment System. The integration of Raast with Buna aims to facilitate Cross-border Remittances between the Arab region and Pakistan through formal channels. This initiative will benefit individuals as well as businesses not only through instant, safe and cost-effective cross border payments, but also by strengthening economic, financial, and investment ties between the Arab countries and Pakistan.

https://www.sbp.org.pk/press/2023/Pr-03-Nov-2023.pdf

Governor SBP unveils Strategic Plan for 2023 – 2028

Governor State Bank of Pakistan (SBP) has launched SBP's strategic plan, SBP Vision 2028, for the period 2023-2028 in a ceremony held today at SBP Karachi, which was attended by the senior management of the Bank. SBP Vision 2028, the first plan after amendments in the SBP Act, highlights the central bank's vision, mission and key goals to be pursued over the next five years. The strategic plan has been developed through a consultative and inclusive process with key stakeholders. Speaking on the occasion, the Governor SBP highlighted that SBP Vision 2028 represents SBP's commitment to foster price and financial stability and to contribute in a sustainable economic development of the country. Mr. Ahmad added that evolving risks and challenges to the economy and financial stability, including climate change, rapid digital innovations and disruptions, and growing cyber security threats, have also been kept in perspective while developing the plan.

https://www.sbp.org.pk/press/2023/Pr-17-Nov-2023.pdf

KSA extends term for a \$3 billion deposit placed with Pakistan to support Pakistan's economy

The Saudi Fund for Development (SFD) on behalf of the Kingdom of Saudi Arabia has extended the term for the deposit of USD 3 billion maturing on 05 December 2023 for another one year. The said amount has been placed with State Bank of Pakistan (SBP) on behalf of Islamic Republic of Pakistan. The extension of the term of the deposit is a continuation of the support provided by the Kingdom of Saudi Arabia to the Islamic Republic of Pakistan, which will help to maintain the foreign currency reserves of Pakistan and contribute to the economic growth of the country.

https://www.sbp.org.pk/press/2023/Pr-29-Nov-2023.pdf

MANAGEMENT TIPS

5 effective leadership tips for new managers to help increase your overall performance

Hunger to learn

Open your mind to learning and growing as a manager. Avoid making the mistake of more experienced managers who are set in their rigid ways of (my way is the only way). You must be willing to adapt to changes and new technological advances. You will have worked hard for your promotion and have ample expertise in your chosen field, but you may find that you lack self-confidence in your ability to lead. Be prepared to learn from others — including your new team. It will help you grow into the role faster.

Communicate Your Plan

"A goal without a plan is just a wish." One of the best management quotes to date. Always keep your team fully informed of project goals, priorities and important deadlines. When employees lack planning information, it can raise levels of distrust and anxiety. Effective communication will be essential in both establishing your credibility and gaining the support of your team, so be sure to provide clear direction and always welcome questions and feedback from others.

Set a good example

Your team will look to you for setting standards. When writing this blog on the ultimate leadership tips for new managers, management teams often

forget to lead by example and demand too much of their team. This will cause arguments as your team won't feel you demands are justified if you are not following the demands too. Demand from yourself the same level of professionalism and dedication that you expect from others. If you expect the team to be upbeat and friendly, then make sure you are! Creating an environment where the energy is positive and ideas are heard are the core ingredients for a thriving team.

Encourage team feedback

Have an open-door policy with your team. Being approachable is key. Sometimes employees are unwilling to speak up about certain issues unless they are prompted, particularly if they fear losing their jobs. Canvass for opinions on issues such as support, training, and resources while maintaining an open-door policy so that your team knows that you are willing to listen to their concerns and ideas.

Recognition builds team confidence

By publicly recognizing the efforts and achievements of your team, you not only build up their confidence, but also encourage future contributions and effort. Praise does not always have to be formal – praising employees can be part of your day-to-day communication with your team. When conducting monthly performance reviews with your team, this is a great opportunity to convey your thoughts but also listen to your staff concerns and challenges. Many team leaders cancel appraisals when time is limited, make every effort to conduct a regular one to one employee interview.

NATIONAL NEWS

Mega Farmer's Day

Secretary Agriculture Punjab has directed the farmers of Faisalabad to make more efforts in this season and bring more area under wheat cultivation and ensure more yield to achieve the sowing and production for the current season. The Secretary Agriculture Punjab hoped that collectively 16 million acres of land would be brought under cultivation of wheat in the province this year. Secretary Agriculture Punjab said that reducing the production cost of farmers was top priority so that farmers can get abundant production of wheat during Rabi 2023-24. He directed the officers of the Agriculture Extension to take immediate steps to ensure the supply of quality agricultural inputs in the market. Action will be taken to save the farmers from economic exploitation.

Monthly Economic Update and Outlook for October 2023

According to the monthly economic update and outlook for October 2023, in the coming months the overall economic activity will remain positive throughout the outgoing fiscal year due to a rebound in domestic economic activities and improvement in inflationary pressures. The first quarter of fiscal year 2024 demonstrates that the economy is yielding positive results from the development and government stabilization measures. According to the Federal Committee on Agriculture (FCA) for Rabi 2023-24, cotton production is provisionally estimated at 11.5 million bales showing a bumper increase of 126.6 percent over the last year. Rice production estimated at 8.6 million tonnes showing an increase of 18.0 percent compared to last year. Sugarcane and maize production declined by 10.7 percent and 6.1 percent to 78.5 million tonnes and 10.3 million tonnes, respectively, compared to the period under review. The FCA has fixed the production target of wheat for Rabi 2023-24 at 32.12 million tonnes on an area of 8.9 million hectares based on satisfactory input situation. For Rabi crops 2023-24, the outlook is positive as the seed availability and supply of urea and DAP, however, the water availability is anticipated to be short by 15 percent for Punjab and Sindh during the season.

Project Launched to Increase the Productivity of Wheat and Reduce the Productivity Gap

Aimed to increase the productivity of wheat and reduce the productivity gap, the government had launched a project worth Rs 30,455.353 million. The project to increase the productivity of wheat and reduce the productivity gap was launched at a cost of Rs 30,455.353 million, in which the share of the federal government is Rs 5,632.774 the provincial government's million, 12,526.591 rupees, and the farmers and service providers have Rs 12,295.985 shares. Four million tons of wheat production capacity has been increased, which has a Rs 400 billion financial benefit and productivity of wheat has increased from 28 to 32 maunds per acre.

Support Price of Wheat Fixed by the Punjab Government

The Punjab government has fixed the support price of wheat for the ongoing season at Rs 4000 per maund while the minimum purchase price for sugarcane has been fixed at Rs 400 per maund. The crushing season for sugar production will start from November 20 this year. The wheat release policy has been approved and it has been decided to ban all types of quotas regarding wheat release. According to agriculture minister, wheat would be cultivated on an area of 16 million acres with a production target of 40 maund per acre. To achieve the production target, government would ensure the availability of seeds, fertilizers, water and agricultural inputs.

Source: Business Recorder

ZTBL NEWS

MEETING BETWEEN THE AMBASSADOR OF TURKIYE, MR. MEHMET PACACI AND PRESIDENT/CEO ZTBL, MR. TAHIR YAQOOB BHATTI

The Ambassador of Turkiye, Mr. Mehmet Pacaci called on President/CEO ZTBL, Mr. Tahir Yaqoob Bhatti. He was accompanied by Muhsin BALCI, Country Coordinator, **Pakistan** Turkish Cooperation and Coordination Agency. The Ambassador of Turkiye extended his support to Zarai Taragiati Bank Ltd (ZTBL) in promoting agriculture, farm mechanization and imparting training to farmers. Mehmet Pacaci, expressed gratitude to the President ZTBL for his hospitality. The ambassador informed that Turkiye has years long brotherly relations with Pakistan and are always eager to support them in all areas of mutual interest. He said Turkive has rich experience renowned expertise and in agriculture. Pakistan, being blessed with large agro economy, can reap benefits of this knowledge and skills through training programs. Mehmet Pacaci, showed keen interest to visit ZTBL farm in near future and assured that all support and cooperation of Government of Republic of Turkiye will be extended to ZTBL in areas of mutual interest in agriculture sector.

During discussion, President ZTBL highlighted that ZTBL is the only specialized bank in Pakistan catering to the financing and banking needs of small and subsistence farmers of the country through its large network of over 500 branches pan Pakistan. In addition to extending banking services, ZTBL through its field functionaries reaches out to farmers at their doorstep for providing advisory services on best agriculture practices aiming to improve their income and financial empowerment. The President

mentioned that ZTBL has signed MoUs with provincial government of Punjab, Pakistan Agriculture Research Council, academia and think tanks to make joint efforts for the uplift of agriculture and rural economy of the country. He further apprised that ZTBL farm in Islamabad has separate sections for agriculture machinery, orchards, vegetables and crops where various trainings are imparted to ZTBL field staff for onward dissemination to farmers. President ZTBL desired Turkish officials to share their diversified and dynamic experience in agriculture along with best practices through expert led training programs for ZTBL staff at ZTBL farm. The include areas like farm trainings may mechanization, olive farming, bee keeping, cheese making and value addition in livestock. This train the trainer mechanism will enable ZTBL to disseminate this rich knowledge, best practices and experience in agriculture to farmers of the country.

VISIT OF MR. MUHSIN BALCI, COUNTRY COORDINATOR-PAKISTAN, TURKISH COOPERATION & COORDINATION AGENCY TO ZTBL FARM

Mr. Muhsin BALCI, Country Coordinator-Pakistan, Turkish Cooperation & Coordination Agency, visited ZTBL Farm as on 29-11-2023. Mr. Muhsin visited training classrooms, machinery section, olive oil extraction machine, mushroom farming, bio floc fish farming, crops and orchards section of the farm.

Mr. Muhsin BALCI highly appreciated the efforts of ZTBL and added that opening of ZTBL farm for general public will pave the way for promotion of agri tourism and learning through display of ongoing activities in agriculture. He assured that Turkish officials will impart training to ZTBL employees and farmers in mutually agreed agri related areas after completion of formalities.