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Zarai Taraqati Bank Limited



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**Planning & Research Department, ZTBL Head Office Islamabad, Phone No. 051-9252024  
Technology for Agriculture**



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# CLIMATE RISKS AND FINANCED EMISSIONS

(Faheem Haider, Unit Head Green Banking, Agriculture Technology Department, ZTBL)



## INTRODUCTION

Climate change is one of the most pressing global challenges, particularly for the agriculture sector, which is highly dependent on weather conditions, water availability, and soil health. Rising temperatures, irregular rainfall, droughts, floods, and pest outbreaks are increasingly disrupting agricultural productivity worldwide.

Understanding these climate risks, strengthening adaptation strategies, and developing targeted climate finance mechanisms are essential to ensure food security and enhance the resilience of farmers. By addressing both the environmental and financial aspects of climate change, stakeholders can better support sustainable agricultural growth and reduce vulnerability to climate shocks.

Agricultural climate risks not only affect farm productivity but also have direct implications for financial institutions that provide credit and investment to the sector. Measuring and managing **financed emissions** allows banks and investors to

assess climate-related risks in their portfolios and promote low-carbon, climate-smart agriculture.

## TYPES OF CLIMATE RISKS IN AGRICULTURE

Climate risks affecting agriculture can be broadly categorized as:

- 1. Physical Risks:** These arise from direct impacts of climate change on agricultural systems:
  - Acute Risks: sudden events such as floods, storms, heatwaves, and pest outbreaks.
  - Chronic Risks: gradual changes like rising temperatures, changing rainfall patterns, droughts, and soil degradation.
- 2. Transition Risks:** These arise from the shift toward low-carbon, climate-resilient economies. Policies, market changes, technology adoption, and



social expectations may require farmers to adopt climate-smart practices, or they may face economic and reputational disadvantages.

- Policy and Regulatory Risks: new environmental laws, carbon pricing, or restrictions on resource use.
- Market Risks: changes in demand for certain crops or agricultural products due to climate policies or consumer preferences.

- Technology Risks: need for adaptation to climate-smart technologies and sustainable practices.
- Reputation Risks: stakeholder and public pressure for sustainable practices and reporting.

## FINANCE EMISSIONS AND THE NEED FOR EMISSION ACCOUNTING

Financed emissions are the greenhouse gases (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, etc.) that are released because a bank or financial institution provides money to a project, business, or industry.

In simple words, when a bank funds any activity, the pollution created by that activity is counted as the bank's indirect emissions. Measuring emissions linked to investments is very important for sustainable and responsible development.

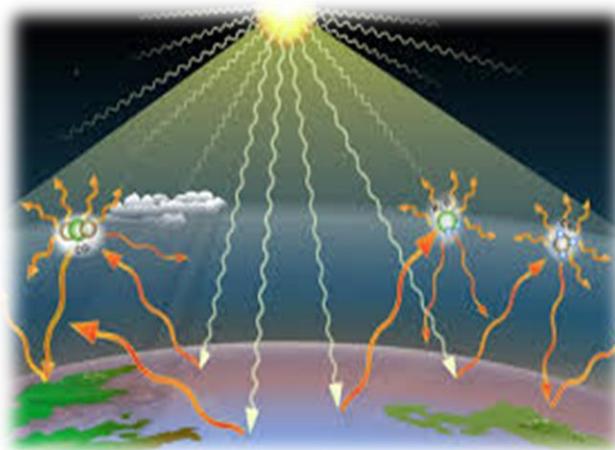
## GLOBAL FRAMEWORKS FOR EMISSION ACCOUNTING

1. GHG Protocol (Scope 1, 2, 3): Provides internationally recognized standards for measuring, managing, and reporting emissions.
2. PCAF Standard (Partnership for Carbon Accounting Financials): Offers methodology for financed emissions reporting.
3. Task Force on Climate-Related Financial Disclosures (TCFD): Helps institutions disclose climate risks and opportunities in financial reporting.
4. IFC Performance Standards & World Bank Guidance: Guides environmental and social risk management.

## IMPORTANCE OF ACCURATE EMISSION ACCOUNTING

- Helps identify sectors or activities that create the most emissions.

- It shows how much pollution is actually being produced.
- Supports banks in aligning their financing with climate goals.
- Helps banks/Financial Institute choose cleaner and climate-smart investments.



- Makes reporting more clear, transparent, and trustworthy
- Helps institutions meet national and international climate requirements.

### Green House Gas Protocol:

The GHG Protocol is the most widely used international standard for measuring, managing, and reporting greenhouse gas emissions. Developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), it provides consistent guidance for companies, governments, and organizations. Almost all major U.S. companies that report their carbon emissions use the GHG Protocol, making it the dominant global standard for corporate emissions reporting.

### **GHG Protocol Standards**

1. Corporate Accounting and Reporting Standard: For measuring and reporting Scope 1, 2, and 3 emissions.

2. Scope 3 Standard (Corporate Value Chain Accounting and Reporting Standard): Provides detailed guidance on measuring indirect emissions in the value chain.

3. Project Protocol (GHG Project Accounting Standard): For quantifying emissions reductions from specific GHG mitigation projects.

**Supplementary Guidance Documents:**

- Corporate Value Chain (Scope 3) Accounting and Reporting Guidance.
- Product Life Cycle Accounting and Reporting Standard.
- Mitigation Goal Standard.
- Policy and Action Standard.
- Other sector-specific guidance (e.g., forestry, land use, and agriculture).

**Scope Definitions with Agriculture Examples:**

- **Scope 1:** Direct emissions from owned sources.

General Examples: Company vehicles, generators

Agriculture Examples: Tractors, livestock methane, residue burning, diesel pumps.

- **Scope 2:** Indirect emissions from purchased electricity/energy.

General Examples: Office/factory electricity.

Agriculture Examples: Tube wells, cold storage, dairy equipment.

- **Scope 3:** Other indirect value-chain emissions.

General Examples: Transport, product use, waste.

Agriculture Examples: Upstream: Fertilizer/seed production, transport of inputs to farms.

Downstream: Crop transport to markets, processing, packaging, cold storage, food waste, financed farms.

**REFERENCE:**

- Green House Gas Protocol:  
<https://ghgprotocol.org/standards-guidance>

## GINGER CULTIVATION: ITS IMPORTANCE, PRACTICES, AND OPPORTUNITIES IN PAKISTAN

Zia Ur Rahman, Head, Agriculture Technology Department, ZTBL)

Ginger (*Zingiber officinale*) is one of the most important spice crops of commercial value in Pakistan. Although it is widely consumed in households and food industries, the country remains heavily dependent on imports to meet its domestic demand. This dependence represents an untapped opportunity for local farmers, agribusinesses, and policy makers to promote ginger cultivation as a profitable and sustainable enterprise.



At present, Pakistan imports nearly all of its ginger from other countries. According to data from the Pakistan Bureau of Statistics (PBS) and UN COMTRADE, Pakistan imported about 75.86 million kilograms of ginger worth US \$42.9 million in 2023, primarily from Thailand, China, and Indonesia.

Globally, the ginger trade is dominated by the top ten exporters: China, the Netherlands, India, Peru, Thailand, Brazil, Germany, Nigeria, and Spain. Given Pakistan's heavy dependence on imports,

there exists a substantial opportunity for domestic farmers to cultivate ginger locally, reduce import bills, and increase rural income.

This consistent reliance on imports reflects the high domestic demand and low local production. Limited awareness, lack of quality planting material, and inadequate technical knowledge among farmers have hindered the development of local ginger cultivation.

## **IMPORTANCE OF GINGER CULTIVATION FOR PAKISTAN**

### **1. Economic Importance**

Ginger cultivation can play a vital role in import substitution and foreign exchange savings. Promoting local production could reduce Pakistan's annual import bill of over US \$40–100 million and help stabilize domestic prices. Development of value-added products such as ginger paste, powder, oil, and pickles can further strengthen rural economies through small and medium enterprises.

### **2. Agricultural and Environmental Significance**

Ginger is a high-value, short-duration cash crop well suited to the agro-climatic conditions of Punjab, Khyber Pakhtunkhwa, Balochistan, and Azad Jammu & Kashmir. It can be integrated into existing crop rotations, enhancing soil fertility and overall farm productivity. The crop thrives under partial shade and in well-drained loamy soils, making it ideal for hilly and semi-tropical zones like Potohar, Swat, and Hazara.

### **3. Socio-Economic Benefits:**

The crop is labor-intensive, providing employment during planting, weeding, and harvesting stages. Women, particularly in rural communities, can

benefit from small-scale processing and marketing activities such as drying, pickling, and powdering. These opportunities contribute to rural income generation and women's economic empowerment.

### **4. Strategic Importance for Agri-Economy**

Ginger cultivation supports multiple national priorities: import substitution, crop diversification, employment generation, and rural industrialization. As global demand for ginger rises due to its culinary and medicinal uses, Pakistan has the potential to emerge as a regional supplier rather than a net importer.

Overall, ginger cultivation presents a profitable, low-maintenance, and sustainable farming option that can help reduce poverty and strengthen food security.



### **AGRO-CLIMATIC REQUIREMENTS FOR GINGER IN PAKISTAN:**

Ginger is a tropical plant that prefers warm, humid conditions and well-drained/Well-fertile soils. Ginger thrives in warm climates with adequate moisture but poor drainage or frost can damage the crop. Controlled irrigation ensures optimal yield, especially in semi-arid zones.

## Sowing Time

In Pakistan, ginger is generally grown as a winter crop, with sowing from March to April and harvesting between November and February, depending on regional climate.

## Soil Preparation:

Ginger grows best in well-drained loamy soils. Avoid water stagnation or fields where ginger was previously cultivated to reduce disease risk. Ideal soil pH is 6.0–6.5.

## Seed Selection and Rate:

Use fresh, disease-free rhizomes for planting — typically 480–720 kg per acre. Before sowing, treat rhizomes with Mancozeb @ 3 g/L water for 30 minutes to prevent fungal infestation, then dry under shade for 3–4 hours.

## Planting and Nursery:

After planting, apply Atrazine @ 4–5 g/L water for pre-emergent weed control. Subsequently, apply Glyphosate @ 4–5 ml/L water 12–15 days after planting to control emerging weeds. Mulch the field with green manure or paddy straw to retain moisture and suppress weeds.



## Irrigation and Fertilization:

Apply well-decomposed farmyard manure (FYM) before planting, for better crop apply nitrogen in splits i.e half at 75 days, half after 3 months. Irrigate regularly but avoid waterlogging.

## Weed Management and Earthing:

Perform earthing up 50–60 days after planting to promote rhizome development. Repeat after 40 days.



## Plant Protection

For better crop apply neem-based pesticide (Azadirachtin 0.3EC @ 2 ml/L).

#### Diseases:

- Rhizome Rot: Drench with Mancozeb @ 3 g/L or Metalaxyl @ 1.25 g/L every 30–60 days.
- Bacterial Wilt: Apply Copper Oxochloride @ 3 g/L immediately after symptoms appear.
- Leaf Blotch / Anthracnose: Spray Hexaconazole @ 10 ml/10 L or Mancozeb @ 25 g/10 L.
- Blight: Alternate Mancozeb @ 30 g/10 L and Carbendazim @ 10 g/10 L every 15–20 days.

#### Harvesting and Yield:

Ginger reaches maturity in 8 months. Average per acre yield in Pakistan is reported at around 8-10 tons.

- For fresh use, harvest after 6 months.
- For processing or drying, harvest after 8 months, when leaves turn yellow and dry.

Clean rhizomes thoroughly, dry under shade for 2–3 days. For dry ginger, peel the skin and sun-dry for one week — yielding 16–25% dry ginger from green rhizomes.



#### Storage:

Select healthy, disease-free rhizomes. Treat with Carbendazim + Mancozeb @ 40 g/10 L water for 30 minutes, then dry under shade.

#### ZTBL'S ROLE IN PROMOTING GINGER CULTIVATION IN PAKISTAN

Zarai Taraqati Bank Limited (ZTBL) is actively contributing to the promotion and development of ginger cultivation in Pakistan. ZTBL is also demonstrating cost-effective cultivation techniques for farmers at ZTBL Farm. One of its flagship initiatives involves intercropping ginger **within olive orchards**, effectively utilizing the inter-row spaces of long-term olive plantations. This approach maximizes land use efficiency, reduces production costs, and allows farmers to generate an additional high-value crop without the need for extra land. The shade provided by olive trees creates a favorable microclimate for ginger, enhancing growth and yield while promoting **sustainable, climate-smart farming practices**. These initiatives not only aim to **increase domestic production** and reduce reliance on imports but also strengthen farmers' livelihoods and the overall horticultural economy of Pakistan.

#### CONCLUSION:

Ginger cultivation holds immense potential for Pakistan's agricultural diversification, rural employment, and import substitution. With strategic support from government, research institutions, and financial agencies, Pakistan can transition from a ginger-importing country to a self-reliant and export-oriented producer, unlocking new opportunities for sustainable agricultural growth.

#### REFERENCES:

1. Pakistan Bureau of Statistics (PBS), *External Trade Statistics FY 2023*.

2. Government of Pakistan, *Economic Survey of Pakistan 2023–24*.
3. UN COMTRADE / WITS, HS 091010 — Ginger (2020–2023).
4. Punjab Agricultural Research Board (PARB), *Potohar Agriculture Transformation Plan 2025*.
5. INP WealthPK (2025): “Ginger an Emerging Cash Crop in Pakistan.”
6. Business Recorder (2022): “First-Ever Ginger Harvest in Punjab’s Potohar Region.”

## **SBP UPDATES**

### **Amalgamation of National Security Printing Company (NSPC) with and into Pakistan Security Printing Corporation (PSPC)**

Pakistan Security Printing Corporation (Private) Limited (PSPC) announces the amalgamation of its wholly owned subsidiary, National Security Printing Company (Private) Limited (NSPC), with and into PSPC effective July 1, 2025. As a result, all assets, liabilities, rights, and obligations of NSPC stand permanently vested in PSPC. NSPC has ceased to exist as a separate entity and is dissolved without winding up. PSPC, a wholly owned subsidiary of the State Bank of Pakistan, acquired NSPC from the Federal Government to achieve operational synergies and enhance customer value. The integration will improve resource utilization, coordination, and service quality. All NSPC customers will continue to receive uninterrupted services under existing arrangements.

### **State Bank of Pakistan Cancels Authorization/License of an Exchange Company**

The State Bank of Pakistan (SBP) has cancelled, with immediate effect, the authorization/license of M/s Money Masters Currency Exchange Company (Pvt.) Ltd. due to serious violations of regulatory instructions. The company, including all outlets, cannot undertake any foreign exchange-related business.

### **Clarification on 2-hours Cooling Period in Digital Funds Transfer**

Referring to news on social media, SBP clarifies that all digital fund transfers are made in real time and beneficiaries receive funds instantly. The 2-hour cooling period applies only to usage/cash-out of funds in branchless banking wallets/accounts. Introduced in April 2023, this measure allows time to report fraudulent transactions and has proven effective in preventing fraud.

### **UN Women and SBP BSC Partner to Advance Financial Inclusion and Women’s Empowerment in Pakistan**

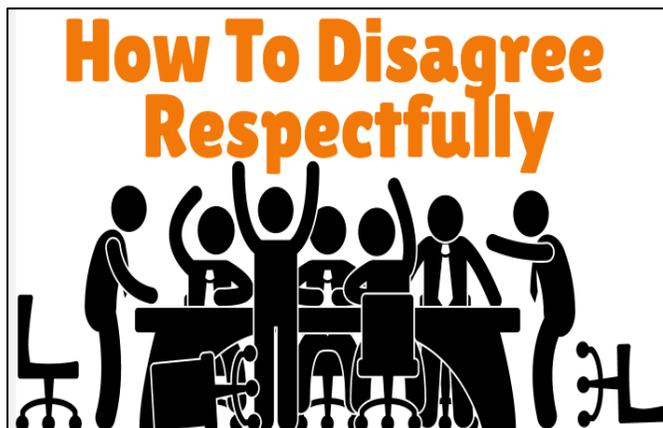
SBP Banking Services Corporation (SBP BSC) and UN Women Pakistan have signed an MoU to enhance financial inclusion, literacy, and women’s empowerment. The signing took place in Karachi in presence of Mr. Maraj Mahmood, Managing Director SBP BSC, and Mr. Jamshed Kazi, Country Representative UN Women Pakistan. The partnership aims to improve women’s access to financial services and knowledge. Both organizations reaffirmed commitment to gender equality and inclusive economic growth. The MoU includes joint seminars, awareness programmes, research on barriers to inclusion, and promotion of digital financial services, supporting women’s economic participation and empowerment.

### **SBP Simplified Account Opening for Individuals and Businesses and Advised Banks to Provide Digital Payment Solutions to Merchants**

SBP has issued a consolidated framework for customer onboarding and directed banks and

regulated entities (REs) to offer digital payment acceptance solutions to merchants. The new framework simplifies and standardizes account opening, rationalizes documentation, and enables digital interfaces. SBP instructed REs to ensure account opening within two days and allow customers to track application status. These measures support financial inclusion and convenience. SBP has already introduced branchless banking, Asaan accounts, and digital onboarding. Banks must equip merchants with at least one digital payment method such as Raast QR, POS, or e-commerce checkout. Merchants will be categorized as micro, small, or registered for ease of onboarding. The framework enhances inclusion, digitizes payments, and provides regulatory safeguards aligned with international standards.

## MANAGEMENT TIPS



Disagreements are normal, but when handled with empathy, respect, and focus, they lead to better understanding, stronger teams, and lasting success. Negativity often divides us, but it doesn't help in business or life. We can handle disagreements better by focusing on respect, empathy, and clear communication, which also strengthens our relationships. Here are eight simple ways.

### 1. Talk Face-to-Face

Discuss important matters in person, not through texts or emails. Seeing expressions and body language helps avoid misunderstandings and keeps everyone focused, making conversations more meaningful.

### 2. Stay on Core Issues

Don't get lost in side topics. Note them down for later and focus on solving the main problem. Look for win-win outcomes where everyone benefits, which saves time and reduces frustration.

### 3. See Different Perspectives

Step into others' shoes, an executive, a user, or a teammate. Understand if it's a real work issue or just a personality clash. Stay goal-focused, because different perspectives can reveal better solutions.

### 4. Build Team Relationships

Know your team well. When you understand people's habits and situations, it's easier to assign tasks fairly and handle disagreements calmly, which strengthens trust across the team.

### 5. Be Empathetic and Open-Minded

You can't change others, only yourself. Listen more than you talk. Try to understand what others feel and why they act the way they do, as empathy helps turn conflict into cooperation.

### 6. Encourage Quiet Voices

Invite input from quieter team members or introverts. Often, their ideas are thoughtful and valuable but need encouragement to be shared, which ensures every voice contributes to better solutions.

### 7. Check Incentives

Make sure your reward system supports teamwork, not competition. Recognize those who collaborate and help solve problems, not just

individual achievers, because healthy incentives build stronger, united teams.

## **8. Demand Respect**

Even in disagreement, treat everyone with dignity. Avoid harsh or careless words, especially online. Respect builds trust and trust builds strong teams, creating a positive culture for everyone.

Disagreements don't have to divide us; when approached thoughtfully, they can become opportunities to learn, grow, and strengthen relationships. By communicating clearly, listening actively, and treating others with respect, we create environments where everyone feels valued and solutions are found more effectively.

## **NATIONAL NEWS**

### **Chinese Delegation Explores Investment Opportunities in Punjab's Agriculture Sector**

A high-level 20-member Chinese delegation, accompanied by officials from the Green Pakistan Initiative, visited the Agriculture House in Lahore to explore investment opportunities in Punjab's agriculture sector. The delegation was received by representatives from the provincial agriculture and livestock departments, who discussed potential areas of collaboration. It was highlighted that cultivable areas offer vast investment potential in quality seeds, fertilizers, drone technology, irrigation systems, and modern farm machinery. Officials emphasized that the provincial government, in partnership with the Green Pakistan Initiative, is implementing measures to modernize farming and promote sustainable agricultural growth. The Chinese side expressed strong interest in introducing advanced technologies across the agricultural value chain to strengthen Punjab's agriculture sector.

### **Boosting Citrus Exports Through Innovation and Quality Enhancement:**

Federal Minister for Commerce reaffirmed the government's strong commitment to strengthening Pakistan's agricultural exports, especially citrus, through value addition, innovation, and improved quality standards. Highlighting the importance of Kinnow mandarin in the country's export portfolio, he emphasized restoring its competitiveness in global markets through modern farming practices, better compliance, and upgraded logistics. Referring to the Agri Expo Sargodha, the minister appreciated PHDEC's technical workshop where experts from the Citrus Research Institute guided farmers on pest control, harvesting, and post-harvest management. The National Logistics Corporation also introduced reefer container solutions to support temperature-controlled exports ahead of the December citrus season. Federal Minister stressed that strong partnerships between farmers, exporters, and institutions are essential for a competitive horticulture sector.

### **Progressive Farmers Support Corporate Farming but Oppose Use of State Lands:**

Progressive farmers in Pakistan believe that corporate farming can strengthen the agriculture sector and raise the value of private farmland but stress that it should not come at the cost of state-owned lands. Unlike in Europe, the United States, and Australia, where corporate farmers work on private lands to boost yields and exports, Pakistan still has vast barren state lands in deserts and remote regions. Farmers suggest that these lands should be given to landless farmers who can make them productive instead of leasing them to corporations. Experts note that corporate farming on private lands can increase yields through modern techniques, set up processing units, and enhance food security. With about 60 million acres of cultivable land nationwide, including 12 million in Sindh, experts emphasize the need for innovation and climate-resilient methods supported by research.

### **Punjab Launches Second Phase of Green Tractor Scheme:**

The Punjab Agriculture Department is set to roll out the second phase of the Green Tractor Programme, under which 10,000 locally manufactured tractors (50–65 HP) will be distributed to farmers with a subsidy of Rs. 500,000 each. Officials stated that the first phase of the Kissan Card Scheme issued 500,000 cards, enabling Rs. 55 billion in interest-free loans, 85 percent of which were used for fertilizer purchases. He added that construction of four Model Agriculture Malls is near completion, while 10 more will be established in the next phase. Progress is also being made in Solarization of tube wells, smog control measures through distribution of super seeders, and provision of hi-tech machinery worth Rs. 30 billion in FY 2025–26.

## ZTBL NEWS

### **OIC-COMSTECH Delegation visits ZTBL HO**

ZTBL was honored to host Dr. Ismaila Diallo, Regional Advisor for OIC-Africa (COMSTECH, Islamabad), and Mr. Renaud Blanchard Makaka, Senior Technical Manager at OIC-COMSTECH, at its Head Office in Islamabad. The President/CEO ZTBL briefed about bank's role, outreach, and different types of agri., loans backed by advisory services to farming community. The visiting dignitaries highly appreciated ZTBL's contributions in empowering Pakistan's small and subsistence farmers. Discussions were made for technology based improvement in crops and livestock sector. The delegation strongly urged joint working of OIC countries to promote their agricultural sector particularly in research and agri., financing models.



### **Conversion of ZTBL Dir Branch (Mingora Region) into Islamic Banking Branch**

Pursuant to the approval of the State Bank of Pakistan (SBP) for the conversion of ten ZTBL conventional branches into Islamic Banking Branches, the President/CEO of ZTBL has approved the conversion of the Dir Branch, Mingora Region, into a ZTBL Islamic Banking Branch. The branch has been converted with effect from 21 August 2025.

### **Implementation of Livestock Insurance Scheme for Borrowers (LISB) by ZTBL**

Zarai Taraqati Bank Limited (ZTBL) has implemented the Livestock Insurance Scheme for Borrowers (LISB), to provide insurance/Takaful coverage for loans disbursed for cows, bulls, and

buffaloes. The scheme covers both local and imported animals aged 9 months to 7 years and is applicable to all ZTBL conventional and Islamic banking branches advancing dairy, milch, and fattening loans. Under this scheme, ZTBL has executed five-year agreements with United Insurance Company Limited (UICL), Askari General Insurance Company Limited (AGICL), and Security General Insurance Company Limited (SGICL). The premium rate has been fixed at 1.38%, inclusive of all taxes and tagging charges. The scheme provides comprehensive risk coverage including disease, natural calamities, theft, accidental death, disability, landslides, and personal death of the borrower up to Rs. 300,000.

### **Enlistment of Agricultural Services Providers (ASPs) on ZTBL Approved Panel under National Subsistence Farmers Support Initiative**

To facilitate farmers in enhancing agricultural productivity, ZTBL is in the process of launching a dedicated scheme for the farming community. In this regard, all ZTBL branches have been advised to establish contact with the enlisted Manufacturers, Suppliers, Dealers, and Firms of Agricultural Services Providers (ASPs). The prices of services will be determined with the consent of customers based on their specific requirements, while the concerned vendors will remain bound to provide all agreed services, including warranty obligations.

### **Zarai Islamic Khawateen Rozgar Scheme**

Zarai Islamic Khawateen Rozgar Scheme is a Shariah-compliant financing initiative designed to empower women across Pakistan by supporting their participation in both farm and non-farm business activities. The scheme is processed through Islamic Banking Branches and aims to reduce the gender gap by offering financial opportunities to creditworthy female farmers and clients.