
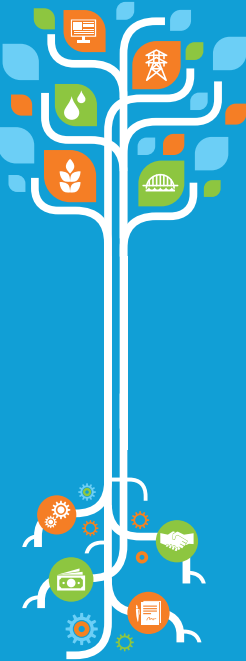


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# Technical Assistance for Climate Resilience

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1



## Vulnerability of Agriculture in Asia

- 420 million farmers in Asia and the Pacific
  - 0.5ha average holding
  - 90% of holdings <2ha
- 43% of South Asia's arable land is degraded
- 80% of Asia's freshwater is consumed by irrigation
- Majority of global zoonoses and antimicrobial resistance (AMR) hotspots are located in Asia
- Smallholder farmers have been amongst the most impacted by the COVID-19 pandemic, highlighting vulnerability

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2

## Climate Change Impacts

### Micro level impacts (smallholders)

- Suboptimal agriclimate and increased pest and disease prevalence
- Increased production costs
- Increased risk of crop failure due to extreme weather events
- Reduced yields, quality and farm profits

### Macro level impacts

- Increased water demand and scarcity
- Increased prevalence of EIDs and the contribution of animal health
- Increased pest and disease prevalence; biosecurity, IPM and the impact on food security
- Nutrition



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## Agribusiness Support for Resilience

### Investment

- Long and short-term loans, guarantees, and equity to agribusinesses at market rates
- Blended finance at concessional rates, often to support climate change adaptation and mitigation projects

### Technical Assistance (TA)

- Concessional rates (often grant-based)
- Direct support to smallholder farmers, veterinarians or other supply chain participants
- Expert consultants engaged



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4

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## How Can TA Improve Resilience?

- 1 Focus on outcomes for smallholders
- 2 Genetics and farming systems
- 3 Climate resilient farming practices



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5

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## 1 Focus on Outcomes for Smallholders

- User-centered solutions
  - Addressing gaps/needs
  - Understanding context - access and affordability
  - Continual assessment and refinement
- Empowerment of women farmers
- Access to financial services
  - Savings
  - Credit
  - Insurance
- Appropriate use of technological innovations
  - Many technologies are difficult to adopt for smallholders
  - Communicating macro scale to micro scale (climate, plant/animal care)
  - Fintech



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6

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## 2 Genetics and Farming Systems



- Improving climate resilience through genetics
  - Livestock and plant species/varieties resistant to heat
  - Plant species/varieties resistant to water-scarce conditions
  - More productive livestock and plants species/varieties
  - Plant species/varieties with higher nutrition
- Supporting existing climate-resilient farming systems
  - Agroforestry
  - Forest gardening and multi-tier farming approaches
  - Controlled environment agriculture



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7

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## 3 Climate Resilient Farming Practices

- Integrated Pest Management (IPM)
  - Observing and reacting to emerging pests and adjusting pest life cycles
  - Economic thresholds to reduce use of chemical crop protection agents (CPAs)
  - Increased reliance on biological and cultural CPAs
- Planting and harvest timing adjustments to meet new climate realities
- Harvest and post-harvest practices
- Soil quality management practices
  - Improving moisture holding capacity
  - Cultural practices to improve soil quality – no/low till, crop rotation, use of legumes
  - Bio char, use of organic inputs
  - Tailored use of chemical fertilizers only
- Water availability and storage
- Diversification of income streams
  - Intercropping
  - Multi-layer farming
- Light filtration and shade



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8



**Case Study:**  
**Climate-Resilient for Women Poultry and Fish Farmers**  
 Bangladesh, Philippines

**Client :** New Hope Singapore Pvt Ltd

**ADB assistance:** \$0.4m grant-based technical assistance to improve climate resilience of women smallholder poultry and fish farmers

**Outcome:** 7,200 women farmers trained



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**Key features:**

- Best farming practices capacity building
- Farmer financial literacy and access to finance
- Focus on acute support for farmers recovering from impacts of COVID-19 pandemic
- Scalability

**Climate resilient features:**

- Improved biosecurity and animal health practices, including appropriate use of antibiotics
- Identifying heat stress and mitigating impacts on animals
- Importance of feed in adapting to climate change for inland fish farmers
- Flood and storm protections for fish farmers
- Low-cost passive ventilation for brood sheds
- Access to credit



9



**Case Study:**  
**Inclusive and Sustainable Coffee Value Chain**  
 Timor Leste

**Client :** Olam International Limited

**ADB assistance:** \$1.2m grant-based technical assistance to improve climate resilience and farm productivity of smallholder coffee farmers

**Outcome:** 6,500 farmers trained, including 25% women



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**Key features:**

- Good agriculture practices capacity building
- ICT solutions for extension support services
- Farmer financial literacy and access to finance
- Gender inclusion and elimination of child labour practices

**Climate resilient features:**

- Climate-smart farming methods
- Improvements to post-harvest processing and storage
- Bio char kilns and use
- Improved traceability



10



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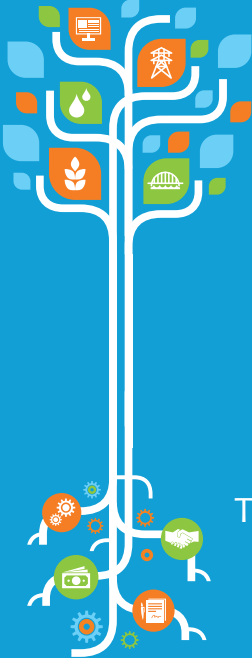
## Sustaining and Scaling TA Impact

- Focus on sustainability of support to farmers
  - Partner company
  - Grower cooperatives
  - Industry groups
  - Government ministries
- Scalability
  - Achieved through sustainability
  - OneADB approach - partner with or pilot solutions for ADB sovereign operations programs



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11



# THANK YOU!

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12