Challenges and Opportunities

USAID-funded Agricultural Innovation Program

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Challenges

- High Efficiency
- Cheaper Products

Continuous commitment for drought tolerant, climate resilient and nutritious food for all

120 million extra by 2050
Great collaborations

• International and national
• research institutes
• Local government
• Private partners
• Progressive Farmers
The Approach:

- Multi partner
- Multi stake holder
- Multi sectorial
- Multi disciplinary
The Implementation Approach: Public-Private Partnership

Research for Development Continuum

Generation of Technology

• National and provincial agricultural research and extension institutions and private sector research organizations;
• International research organizations CIMMYT, IRRI, ILRI, AVRDC, ICARDA etc.

Dissemination of Technologies
Seed companies (4 brothers, Jullundur seeds, Engro corporation, etc), seed corporation, and public sector organizations NARC, CIMMYT, service providers, NGOs, extension workers.

Adoption of Technologies (Awareness and marketing)
Farmer groups, extension agents, ministry of food security, media, agricultural colleges, agro dealers, stockists, women group. Service providers etc.
Successes and New Challenges
Artificial Insemination in goats (collaborators: UAF & L&DDD, KPK)

First time in Pakistan, Beetal frozen semen straws were produced for commercial use

IMPACTS

• Technique introduced and more than 800 NARS, AI technicians trained
• Two SPU’s are producing beetal goat semen (to-date 2000 doses distributed)
Livestock Way forward

• Increase outreach in Baluchistan, KP and Sindh
• Selection of area specific breed have potential for high productivity
• Establishment of genetic pool by provincial Government could help to sustain livestock production system
• New marketing strategy of milk and its by products could help to improve the profitability of poor farmers
Vegetables

• **Outreach** in potential vegetable grown areas such as Gilgit-Baltistan, South Punjab and KP for value chain assessments.

• Introduce **insect-proof polynet houses** to improve the quality of produce, reduce the use of insecticide and to increase the length of the growing season.

• Scaling of combine harvesting contractors to successfully harvest mungbeans

• Introduction of vegetable seed drying and threshing machinery for small farmers to reduce the overall cost
Cereal and cereal systems

Wheat  Maize  Rice
Bridging Wheat Yield Gap

Increasing Wheat Production
High Yielding Rust Resistant Wheat Varieties

Deployed 16 new, high yielding & rust resistant wheat varieties to in 56 districts - 297 ton wheat seeds deployed to generate 5,800 ton seeds in rural areas. 

**Increase in yields: 20-50%** more over the currently grown varieties and buffer the risk of deadly disease spread & abiotic stresses 

Working with multi-partners including NRSP having directly linked with >400,000 smallholder families
Wheat

- Results from on farm interventions indicate closing yield gaps is possible with varietal replacement (22-113%)

- Genetic diversification for wheat is vital to buffer the risk

- Varietal popularization.

- Producing basic seed outside the fence of Research Stations through P-P-P

- Increased access to new seed varieties through village-based seed production & other interventions
Agronomy

• Disseminating CA techniques such as ZT in rice-wheat, legume – wheat system
• Capacity building of stakeholders on laser leveling in small provinces.
• Providing training opportunity to NARS on CA
• Local fabrication of CA seeders that includes multi crop planters and happy seeder
• Introduction of small scale machinery in the hilly regions
• There are encouraging results on SSNM and it needs validation and demonstration
Rice

- **Outreach** for DSR, AWD and post harvest in Balochistan and Sindh
- Work on value addition such as bran oil and utilization of rice by-products could lead to increase profitability
- Introduction of solar bubble dryer may help in improving milling efficiency and grain quality.
- Contact farming by private sector can be instrumental in integrated crop productivity and profitability
- Training on post-harvest strategies involving all rice stakeholders.
- New marketing strategy of rice could help to improve the profitability of poor farmers
Socioeconomics

• Very Interesting insights on Baseline Surveys, Livelihood Studies, Feasibility studies.
• How we can lower cost of production of wheat
• Determinants of the late wheat planting
• Balanced fertilizer use
• Durum wheat stakeholders identifies key areas for investment
• Livelihood of the Maize street vendors
Agronomy
Perennial Horticulture

• Post-harvest course to be delivered to 40 students in Sindh every year
• New cultivar citrus and mangos
• More training on grapes and ber production
• Expansion of value added products in citrus, mango and ber
• Improvements in postharvest and olive oil quality initially
Human Resource Development and ICT

Enriching Skills for Improved Agriculture

Increase quality of science and trained scientists supporting commissioned projects

- Graduate studies
- Vocational training

Graduate studies

5 PhD and 9 MS scholarships awarded to highly competent scholars, out of which 64% are women

Vocational Training

A working group for vocational training formed to collaboratively plan cross-institute vocational training activities as per need.
Research & Capacity Building
AIP Assisted
62,888 Beneficiaries in Pakistan
Establishment of AR4D boards

• Set high priority for procedural directions for transfer of funds to establish of AR4D Boards

• Finance Division & Accountant General Pakistan Revenue (AGPR) to revise the accounting procedure for Foreign Aid projects.
Innovate, Grow More, Live Better
Way ahead

• **Short term** more effective and more efficient (cost)
• **Long term** food security, resilient systems
Together in Food Security

CIMMYT’s Borlaug Innovation Platform in Pakistan