

An approach for providing USDA technical expertise to support U.S. foreign policy objectives



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“...a strong, prosperous, and democratic Pakistan is an essential partner for the United States in advancing the shared goal of a peaceful and stable region.”

U.S. Dept. of State, U.S.-Pakistan Strategic Dialogue Joint Statement, January 2015



Agriculture in Pakistan is important for:

- **Food Security**

- Wheat is main staple
- Water shortage becoming water scarcity in many areas affecting many crops

- **Rural Stability**

- 64% of population lives in rural areas and earns livelihood directly or indirectly from agriculture

- **Employment**

- 45% of total labor force
- Approximately 21% of GDP is from agriculture



Farms:

64% < 5 acres

96% < 25 acres

Average size: 6.4 acres

8.2 million

But how can USDA help?



Focus on a technical area where they have strong interest and need and where we have expertise to offer:

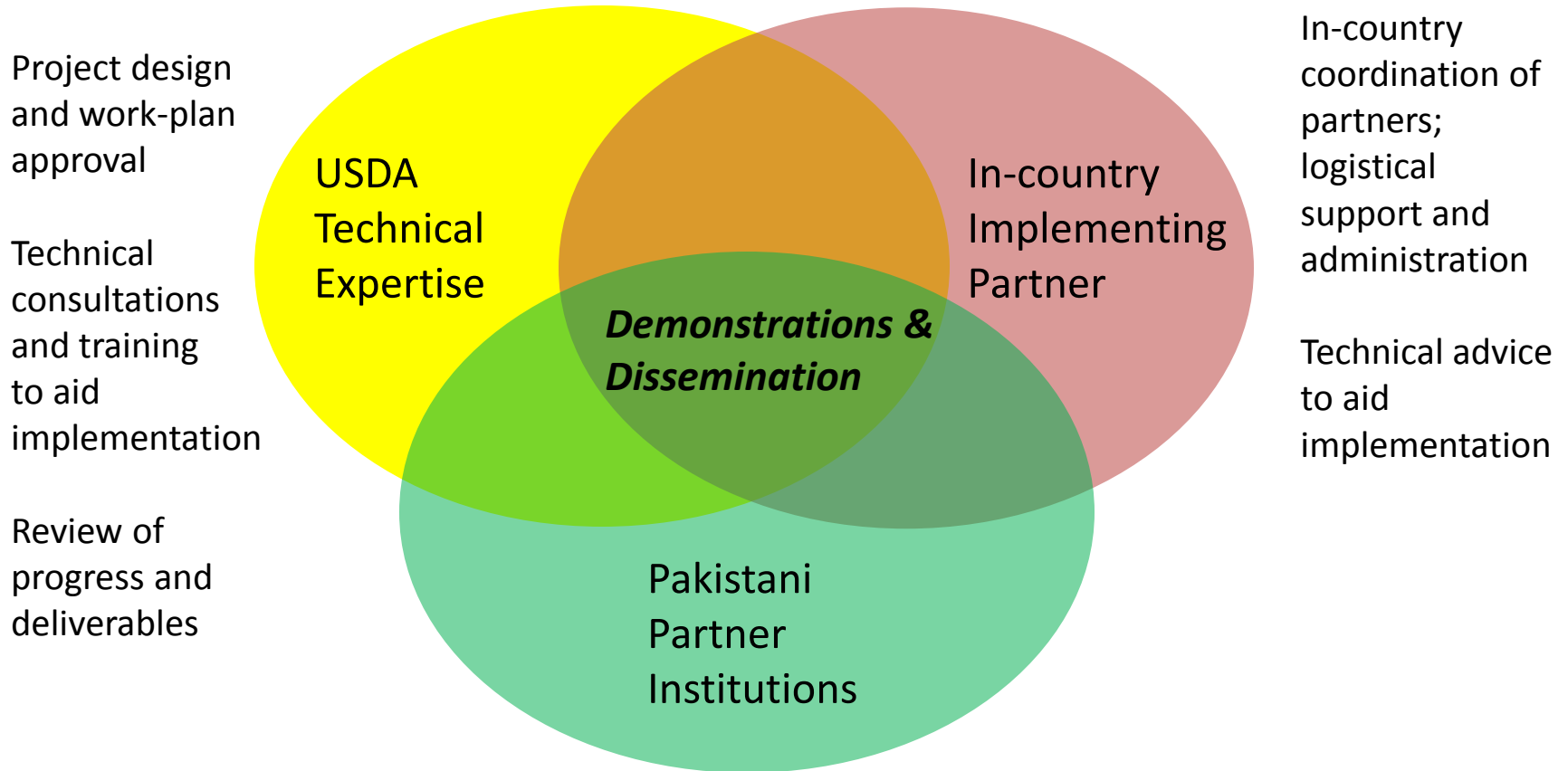
Watershed Rehabilitation and Irrigation Improvement in Pakistan

Focus on a technical area where they have strong interest and need and where we have expertise to offer:

***Watershed Rehabilitation and
Irrigation Improvement in
Pakistan:***

***Demonstrating and Disseminating
the Best Practices and
Technologies to Help Rural Farmers***

USDA's Approach for Building Capacity



6 agricultural research institutes, 3 universities, provincial extension staff, 1 NGO

46 demonstration sites

Training and involvement of farmers, agricultural professionals, and service providers through demonstration and dissemination activities

Technical cadre attributes

- Expert technical experience and skills relevant to the project
- Interest in helping other countries build capacity
- Comfortable with the idea of working within a different culture
- Willingness to represent USDA and the American people
- Patience
- Flexibility
- Commitment



Jon Fripp,
USDA NRCS



Cheryl Simmons,
USDA NRCS



Thomas Reinsch,
USDA NRCS



Mike Kucera,
USDA NRCS

In-country implementing partner institution

- Able to accept and manage funds as a trusted partner to USDA
- Physical presence in the country
- Solid and long relationship with the country
- Able to coordinate activities on the ground
- Willing to be a link to and platform for USDA technical expertise



Pakistani partner institutions attributes:

- Ready, willing, and able to fully participate to achieve the objectives of demonstration and dissemination to farmers
- Will work under coordination of implementing partner and USDA



All demonstration and dissemination activities had to be in one or more of these categories:

- Capture of water
- Storage of water
- Lift or conveyance of water
- Reducing loss of water or soil
- Efficient application of water



- **Capture of water**
 - Water harvesting – depressions and ditches channeling water to plants
 - Diversion dams
 - Rain harvesters
 - Spring boxes
- **Storage of Water**
 - Mini dams
 - Community or farm ponds
 - Tanks
- **Lifting/conveyance of water**
 - Canal lining or use of pipes
 - Hydraulic ram pumps
- **Reducing loss of water and soil**
 - On – farm – no till
 - On- farm – application of gypsum; application of green manure
 - On-farm – windbreaks
 - In watershed – check dams
 - In watershed – streambank stabilization
 - In watershed – tree and shrub barriers
 - On-farm and In –watershed – terraces and waterways
- **Efficient application of water**
 - Small farm drip irrigation
 - Bucket drip irrigation
 - Bubbler irrigation
 - Sprinkler irrigation
 - Improved furrow irrigation
 - Land leveling
 - Improved irrigation scheduling



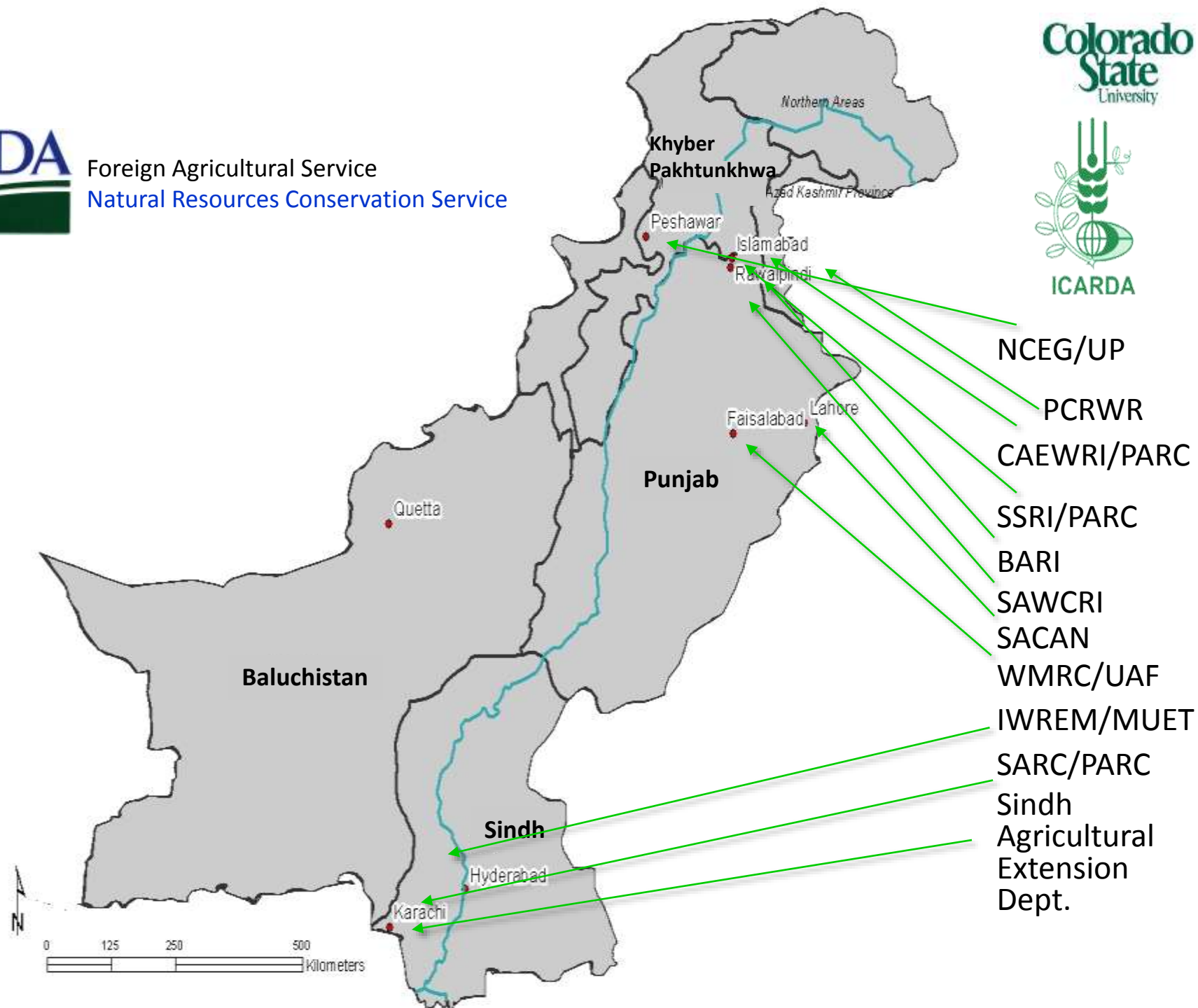


Foreign Agricultural Service
Natural Resources Conservation Service

Colorado
State
University



ICARDA



Microcatchments



Solar powered drip





Bucket Drip

Raised beds - wheat



Promoting green manure, compost,
reduced – till or no-till to improve
soil health and moisture retention



Wheat sowing on ridges



Soil moisture and irrigation scheduling



Farm ponds



Gully farming, and check dams



Key accomplishments after 3 years



- **11 Pakistani partner institutions** are demonstrating and disseminating improved practices and technologies
- **3 provinces** host sites with **farmers from 4 provinces** participating
- **46 demonstration sites**
- **10,300 farmers and agricultural professionals**, as well as students, government officials, and service providers have attended farmer field days and trainings at the sites
- **200 existing mini dams** are where Pakistani government authorities are investing their own funds to replicate solar powered drip irrigation
- **20 different extension leaflets** some in **2 or 3** languages, **2 technical manuals**, and a variety of videos, radio programs, and social media, developed and used by the partner institutions to disseminate.
- **Private-sector service providers linked to outreach of public-sector institutions**
- **Research institutions adopt demonstration and dissemination as part of their mission**

Watershed Rehabilitation and Irrigation Improvement in Pakistan:
Demonstrating and Disseminating the Best Technologies to Help Rural Farmers



Our Pakistani partner institutions have gained new capacities to help rural farmers