

AIP Wheat Project outputs/objectives

- Rapid diffusion of new, high yielding, rust resistant wheat varieties
- Effective fungicides evaluated & registered for managing wheat rust
- **Durum wheat value chain in Pakistan**
- Product-based wheat to ensure end use quality



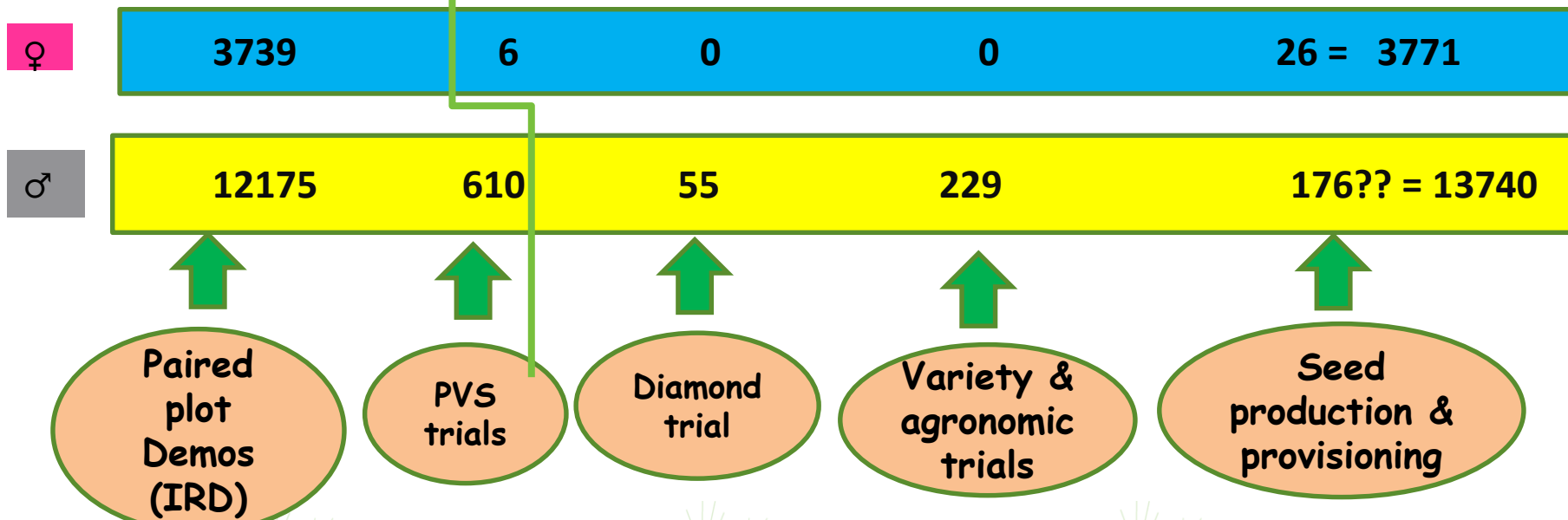
- Technology verification, popularization & scaling up

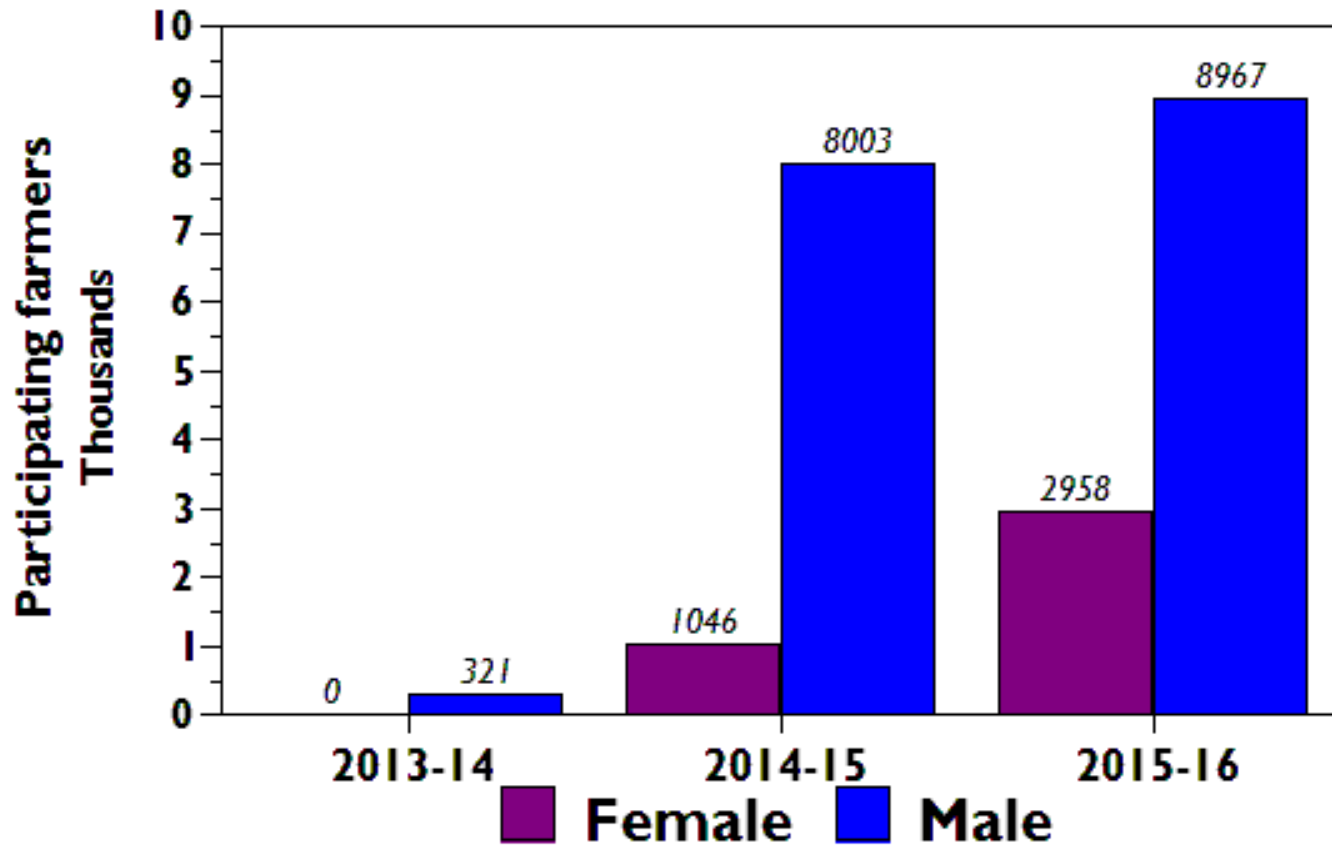
By Krishna Joshi
National Wheat Workshop,
Islamabad Pakistan. 2016.

Rapid diffusion of high yielding rust resistant wheat engaging farmers in on farm activities

Activity	Purpose
Participatory Varietal Selection	Validation for local adaptation & farmers' preferences
Diamond trial (2 x2 factorial)	Replacing old by new improved varieties
Informal Research & Development	Creating knowledge & demand for new varieties, Farmers-to-Farmers-seed flow Replacing old improved by new improved
Seed system strengthening	Fast delivery of genetic gains to farmers

On farm R4D: for rapid transfer of genetic gains to farmers





Female & male beneficiaries in AIP wheat over a three year period

Spread of Wheat activities & portfolio of partners in AIP wheat

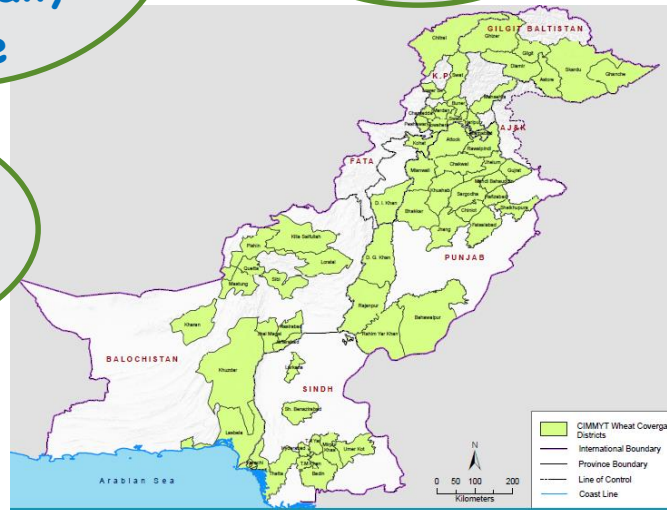
Total public = 15
Total private = 13

KP
CCRI,
DoAE,
NRSP,
Miankhail,
Pride

GB
MARC
DoAE
AKRSP

ICT
NARC
CDRI
NRSP

Balochistan
ARI
BARDC
Kashmala, BRSP



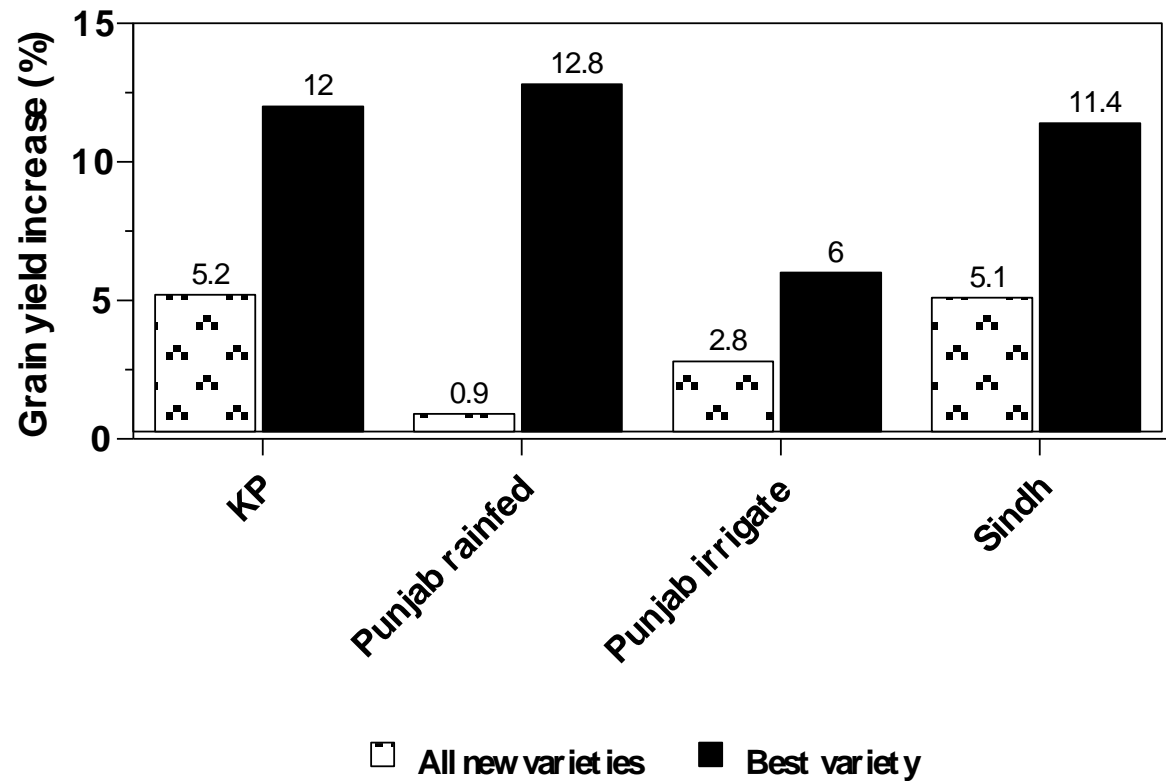
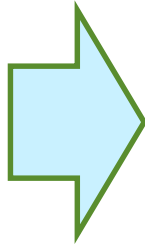
Punjab
AARI
BARI
RARI
Engro
NRSP

Sindh
WRI, AZRI
CDRI, FSQRI,
NRSP, TMK,
Lakiyari,

22: varieties
485: + seeds
17, 511: farmers
52-63 districts

Major
implementation

PVS key findings



- Through PVS farmers identified superior & acceptable varieties in a single season
- Best varieties in PVS gave 0.3-0.4 ton extra yield: can feed 2 to 2.6/ annum
- Overall yield gain on farm: new varieties 5-6%

- Pakistani farmers were growing 8-10 years older varieties in 2014 compared to 6-8 years in 1997 (Lantican et al., 2016)
- Varietal replacement is slow= farmers benefits from recently developed varieties also delayed



➤ Variety is cheapest and easiest means of increasing productivity- for smallholders

➤ Seed of new high yielding varieties is engine for agricultural growth

➤ 50% yield gain in last century is attributed to varieties alone (Tanksley et al., 1989)



2x2 factorial
Diamond Trial
Demos to
highlight the
value of new
varieties over
obsolete ones



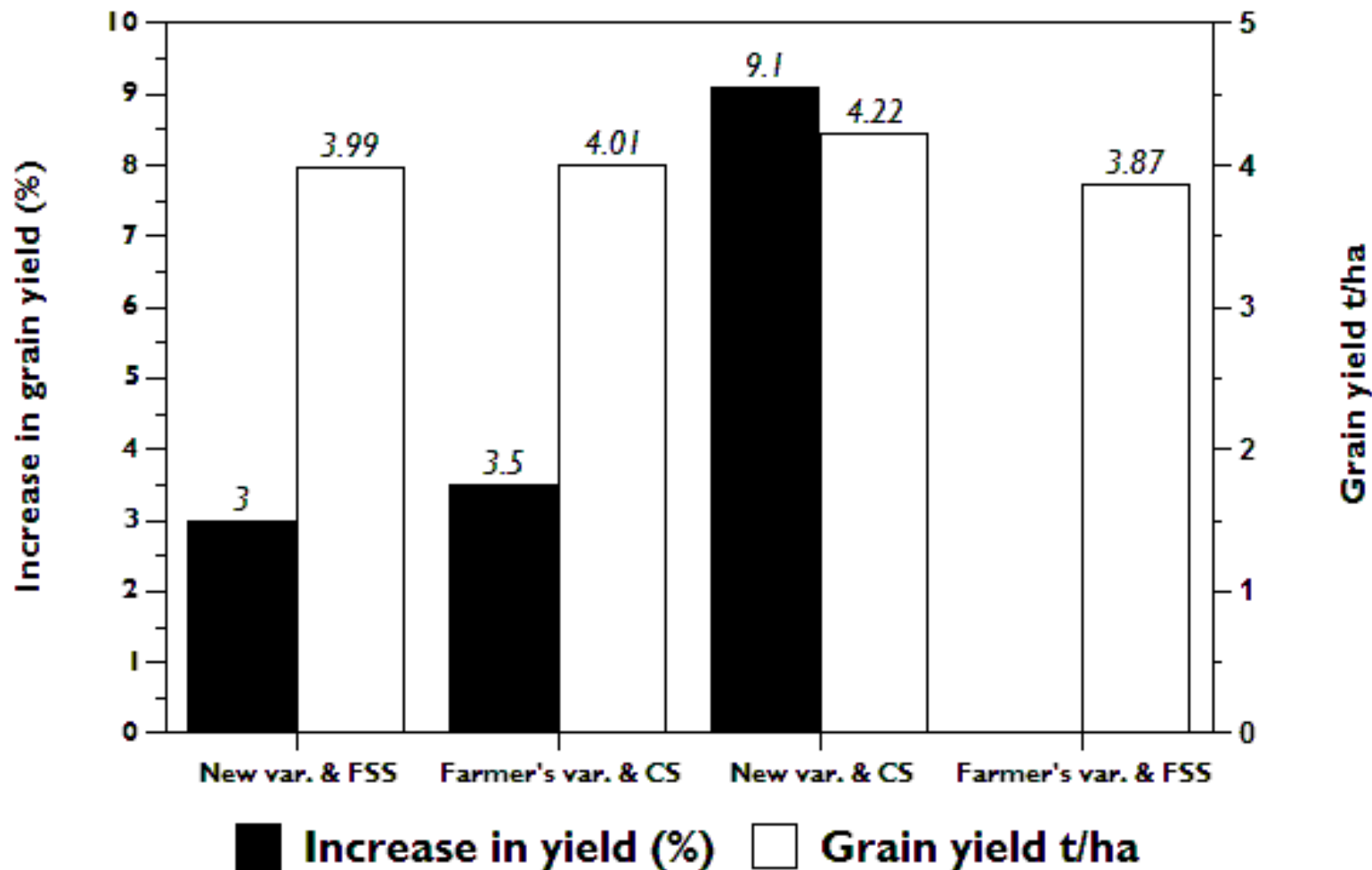
New improved
variety
certified
seeds

Old improved
variety
certified seeds

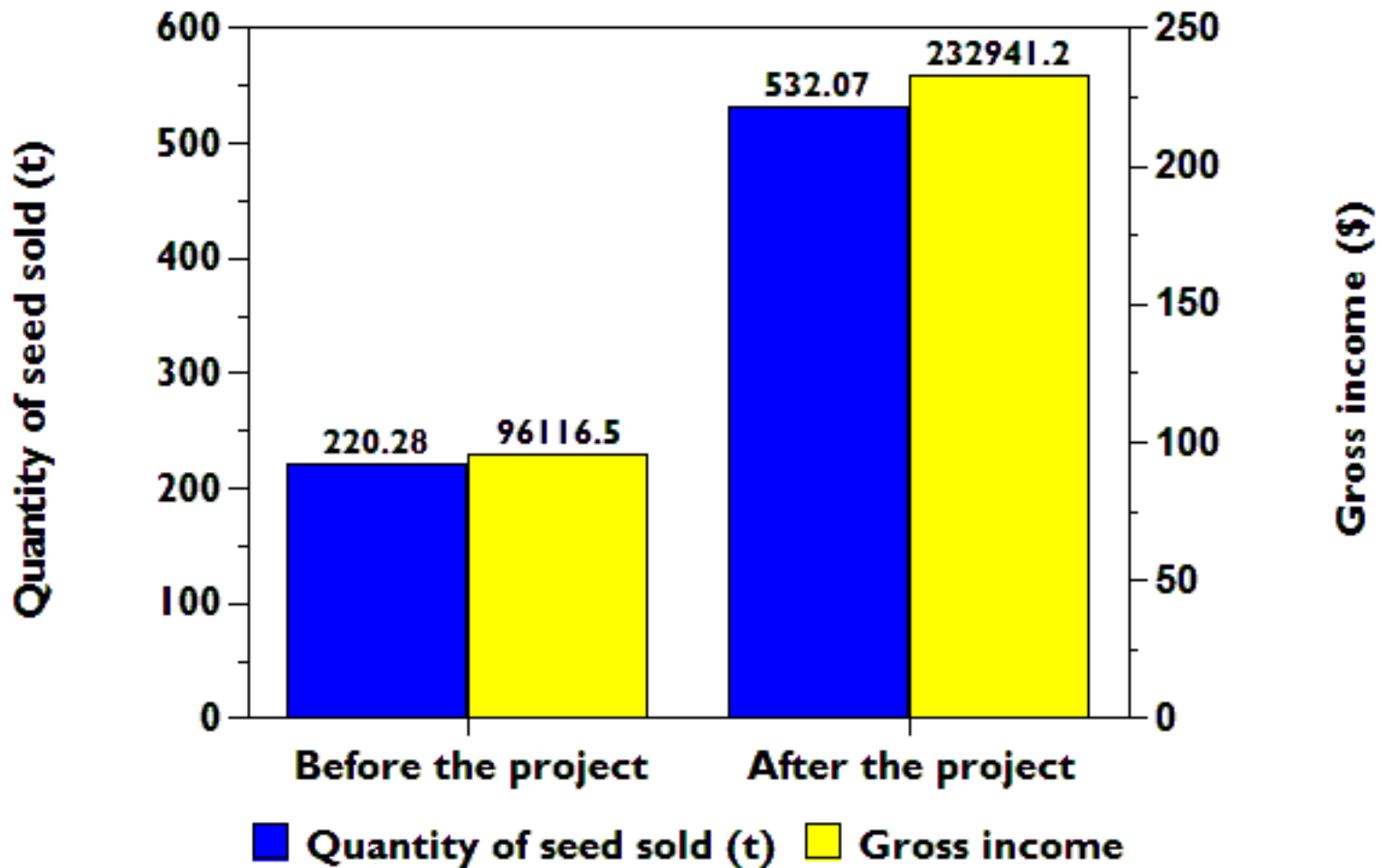
New improved
variety farm
saved seeds

Old improved
variety farm
saved seeds





Grain yield difference due to interaction between wheat varieties and type of seed

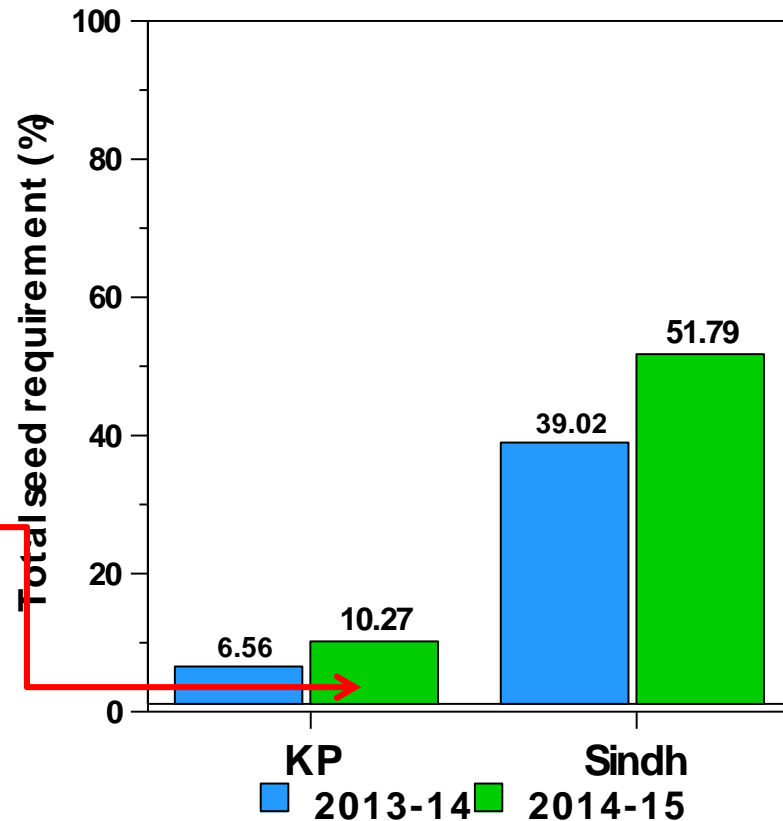


Strengthening seed system: organized sector

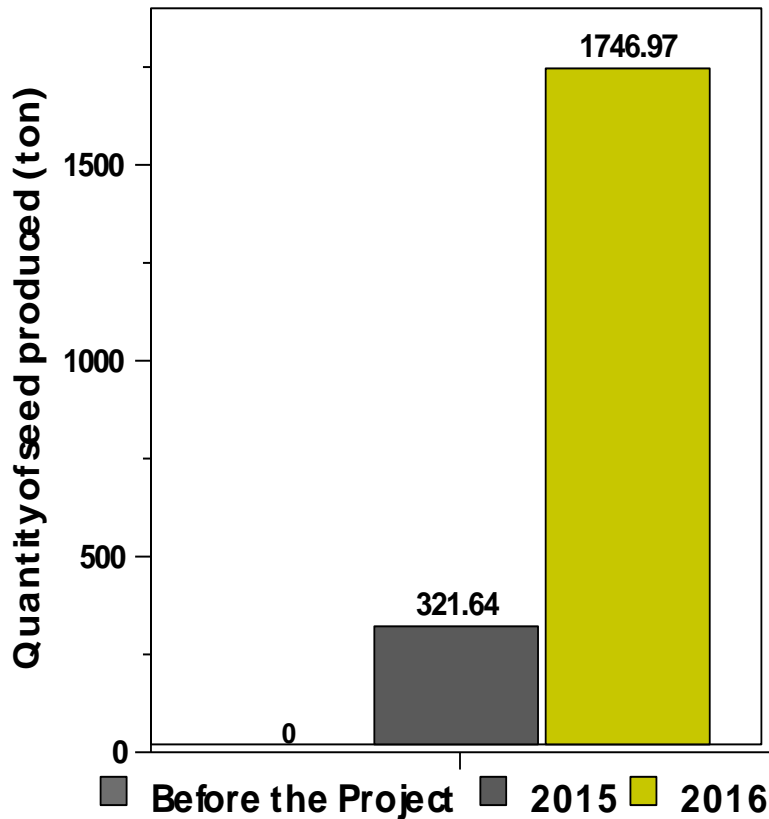


WHEAT SEED TESTING

Province/ Region	Sector	2013-14		2014-15	
		Total Seed* Requirement	Procurement/ Availability	Total Seed* Requirement	Procurement/ Availability
Punjab	Public		70070.14		88202.18
	Private		142297.5		211962.00
	Total <i>%age of TSR</i>	820,320	212367.64 25.89%	820,320	300164.18 36.59%
Sindh	Public		3108.64		3204.79
	Private		45172.60		60869.00
	Total <i>%age of TSR</i>	123,720	48281.24 39.02%	123,720	64073.79 51.79%
Khyber Pakhtunkha	Public		3423.72		4583.65
	Private		2632.07		4889.72
	Total <i>%age of TSR</i>	92,280	6055.79 6.56%	92,280	9473.37 10.27%
Balochistan	Public		6.20		13.90
	Private		4540.00		1878.00
	Total <i>%age of TSR</i>	49,080	4546.20 9.26%	49,080	1891.90 3.85%
Pakistan	Public Sector		76608.70		96004.52
	Private Sector		194642.17		279598.72
	Total <i>%age of TSR</i>	1,085,400	271250.94 24.99%	1,085,400	375603.33 34.61%



- Seed availability increased from 4 to 13%: AIP has important share in it
- Partners got extra income of \$0.3 million ~ sale of seeds of new varieties



Group of 8 farmers in Bhakkar Punjab, produced 13 ton wheat seeds



2.7 t used by the farmers as seed



**7.5 t sold @ \$152/ton
Total=\$1 155**



2.6 t exchanged with neighbors & relatives

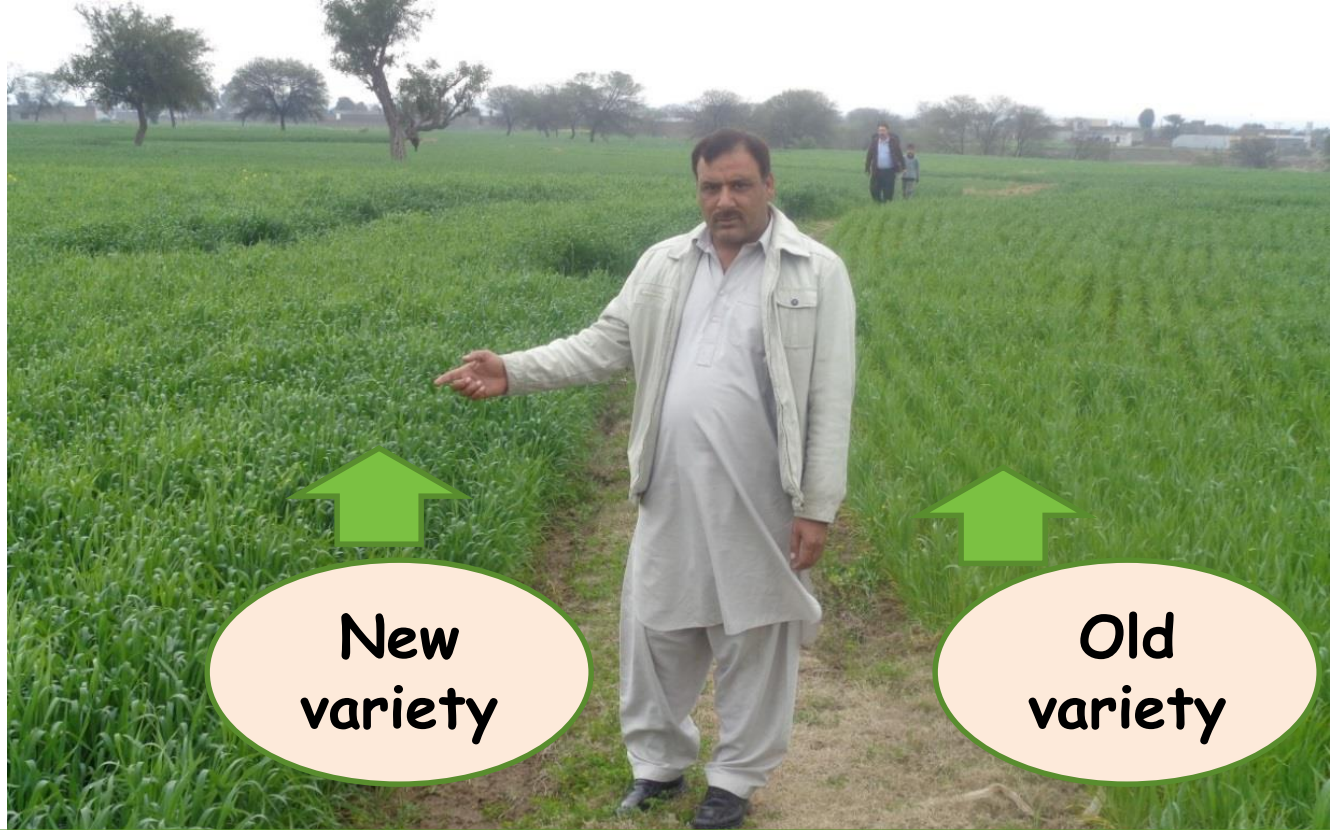
Seed production of new improved wheat varieties by semi-organized village-based seed production initiatives (left) & a case study example of seed production & provisioning through seed producer groups in 2015 (right) following project intervention

Example of farmer-to-farmer seed flow from a paired plot demonstration (IRD)

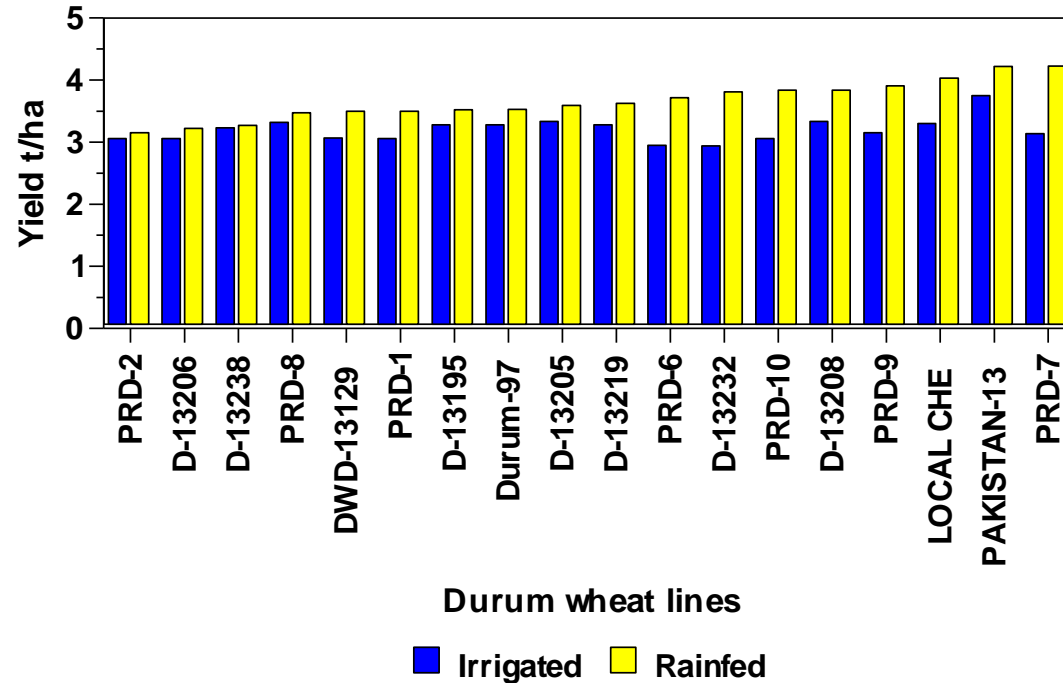


Baba Mureed, Pind Malkan
From an IRD saved 640 kg, graded locally & sold as seeds of AAS-11 to 7 farmers @Rs 16/kg= an extra income of \$100

More documentation of such cases is vital to have better understanding of the magnitude of Farmers-to-Farmers seed flow



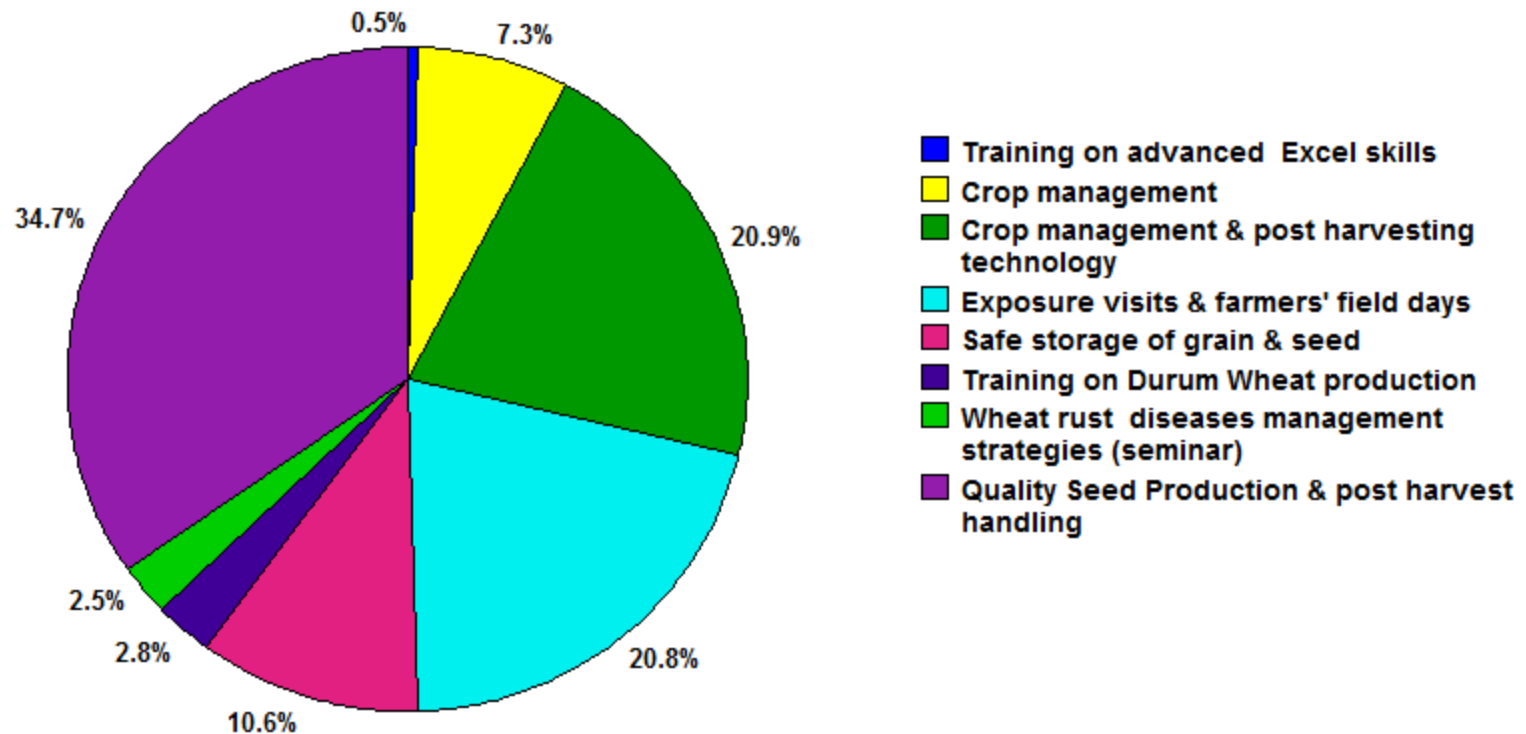
- Munib Khan, Gujarkhan compares the crop of a new variety adopted from last year IRD Demo in 11 Acre with Seher06 (most popular check variety).
- He intends to sell most of the harvest of new variety as seeds after grading locally



Yield performance of durum wheat lines in irrigated and rainfed domains of Pakistan during 2015-16 wheat growing season



>4000 people trained



A summary of capacity building activities undertaken in AIP wheat during 2015-16 wheat season



Training on durum wheat cultivation practices & utilization, WRI, Sakrand

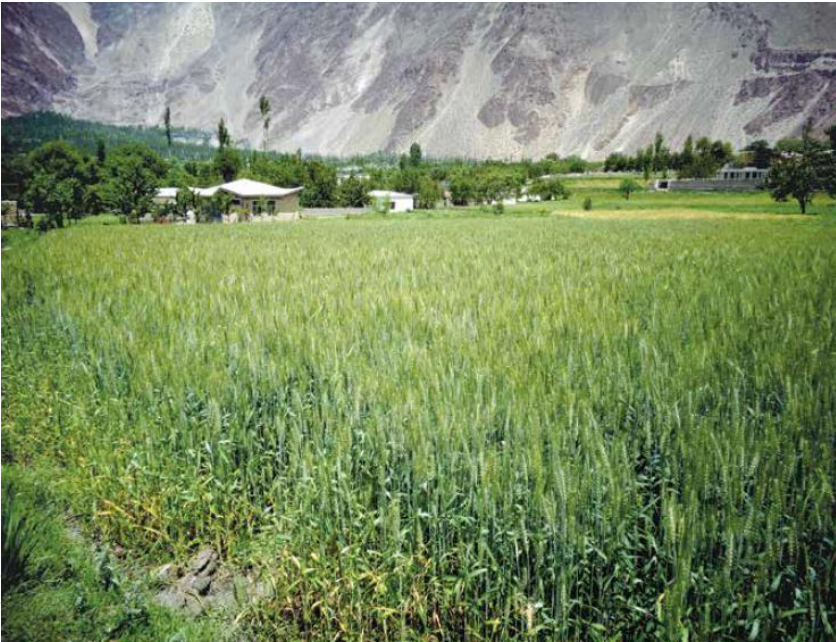




Seed production, Balochistan



Farmers' Field Day, Balochistan



← Seed production, Gilgit





Wheat seed growers from various partners trained on hands-on-skills of quality wheat seed production and post harvest handling at Engro Research farm Sheikhpura





Thank you
for your
interest!

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