





AIP NEWSLETTER

A Newsletter of the Agricultural Innovation Program (AIP) for Pakistan

Message from the Project Leader Greetings from AIP!

I am pleased to share with you an update on the Agricultural Innovation Program (AIP) for Pakistan for the quarter that ended on December 31, 2016.

During this quarter, the AIP-Livestock component enhanced reproductive efficiency in ruminants by training 140 livestock farmers on artificial insemination, embryo transfer, semen production and ultrasonography. Also, the uses of QPM maize in the poultry sector were analyzed and found to cause significant increases in the income of poultry farmers. AIP, through a collaborative research agreement with the University of Agriculture, Peshawar, evaluated the nutritional value of traditional and novel feeds in an effort to optimize their utilization as animal feed; the results indicated substantial growth in dairy animals.

Pakistan is expected to be severely affected by climate change through increased flooding and drought events, and is already one of the most water-scarce countries in the world. New white maize varieties in Pakistan have the potential to both quadruple irrigation water savings and double crop yields for farmers; this will build food security and conserve badly needed water resources for the country. Two early maturing, open-pollinated varieties produced above average seed yields when farmers irrigated fields just twice, compared to the usual 8 to 10 times necessary with currently grown varieties. The Cereal Crop Research Institute (CCRI) recently tested nine white maize varieties (hybrids and OPVs) provided by CIMMYT that demonstrated tolerance to water stress conditions. The CCRI will distribute about 1,000 kilograms of these seeds to about 100 farmers across the province in the coming autumn season; farmers will be allowed to keep seeds for subsequent seasons.

The rapid release of zinc-biofortified wheat variety Zincole is very welcome and will generate high payoffs early on; it also set a new example for reducing the length of the variety release process in Pakistan. In Pakistan, 39% of children and 48% of pregnant women suffer from zinc deficiency. Zinc fortified wheat could be the best option to reduce this problem in Pakistan, where wheat is a staple food that contributes more than 60% of humans' daily calorie and protein requirements.

CIMMYT recently began working in four provinces of Pakistan, providing GreenSeekers and training to AIP's research, extension and private partners. In total, 55 specialists took part in training events held at the Wheat Research Institute Sakrand, Sind Province; the Rice Research Institute KSK, Punjab Province; and the Model Farm Service Center, Nowshera, Khyber Pakhtunkhwa Province. CIMMYT Pakistan imported zero-till Happy Seeders that were evaluated in collaboration with national partners in farmers' fields in Sheikhupura, Gujranwala, Faisalabad, Nankana Sahib and Sialkot Districts in Punjab, Pakistan, during 2014-16. Results of these on-farm demonstrations showed that farmers were able to plant wheat in combine-harvested rice fields without burning rice residues while reducing tillage operations from six to one.

Preliminary findings of the socioeconomic component of AIP indicated that AIP interventions and technologies have higher cost-benefit ratios and produce higher net returns as compared to traditional technologies.

The first pistachio growers' association was registered in Baluchistan. The association will provide a platform to solve the production-related issues of pistachio growers, organize needs-based training courses for them and increase their market share through collective bargaining.

E-Pak Ag, a unique component of USAID's AIP whose objective is to promote the use of Information Communication Technology in agricultural extension, has trained 65 students, faculty members and extension staff from the province to make short informative videos on good agricultural practices.

We appreciate the continuous support of all our partners in creating a gender-sensitive sustainable agricultural innovation system in Pakistan.

AIP is the result of the combined efforts of the Pakistan Agriculture Research Council (PARC), the International Livestock Research Institute (ILRI), the International Center for Agricultural Research in the Dry Areas (ICARDA), the International Rice Research Institute (IRRI), the World Vegetable Center (AVRDC), the University of California at Davis, and the International Maize and Wheat Improvement Center (CIMMYT). It is funded by the United States Agency for International Development (USAID). With these national and international partners on board, AIP continues to improve Pakistan's agricultural productivity and economy.

Your comments and suggestions are welcome.

Best regards and enjoy reading.

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Inside this Issue:

Livestock2









Socioeconomics......9



Perennial Horticulture......11





Livestock

AIP

2

Enhancing reproductive efficiency in ruminants: Focus of a training event in Khyber Pakhtunkhwa

On December 17, 2016, AIP-Livestock, in partnership with the Directorate of Livestock and Dairy Development KP, organized a training workshop on "Embryo Transfer, Semen Production and Ultrasonography in Small and Large Ruminants" at Harichand Cattle Farm, Charssada District. The event was attended by 140 participants (including 40 subsistence farmers) from across the province. In addition to focusing on embryo transfer and semen production technology, the workshop also highlighted the importance of cattle diseases. In addition, participants shared practical field experience using ultrasound machines and discussed heat detection in small and large ruminants. Other topics included commercial silage making and Rhodes grass and Lucerne production technologies.



Conventional maize versus Quality Protein Maize (QPM) in broiler rations

Results of a study conducted by AIP-Livestock in collaboration with the University of Agriculture Peshawar indicate that 2 QPM varieties (QPM 200 and QPM 300, introduced into Pakistan by CIMMYT under AIP) are better than the conventional maize grains currently used as broiler rations (starter, grower and finisher) for chickens at all growth stages. Feed intake didn't



change in response to the replacement of conventional maize grain with QPM grain. However, live weight (2.6 g vs. 2.4 g) was significantly higher and the feed conversion ratio (1.70 vs. 1.82) was significantly lower for QPM-300 as compared to conventional maize. The net profit was higher with QPM-300 (Rs. 70), followed by QPM-200 (Rs. 67); the lowest was with conventional maize (Rs. 61). Compared to QPM 300, conventional maize lacks adequate levels of the essential amino acids (methionine, 0.12 vs. 0.24; lysine, 0.21 vs. 0.24; tryptophan, 0.05 vs. 0.07); this reduces the overall biological value of its protein. The superior protein quality and amino acid content of QPM improved the efficiency of feed utilization and may lead to overall net gains and/or returns.



Production performance of Broiler-fed conventional and QPM maize.

Setting quality parameters and standardized silage production in Punjab through AgriNIR analyzer

AIP-ILRI conducted a silage producer survey in the northern and southern parts (major silage production pockets) of Punjab, including 12 districts. The survey collected details of various production parameters along with silage samples from a total of 52 silage producers.

Across Pakistan and especially in Punjab, there are 40, 6 and 4 producers of bunker, bale and heap silage, respectively. Two farmers produce silage in bunkers and pack it into bales for selling. Samples collected were analyzed using a portable AgriNIR machine. Silage made in bunkers showed an average pH of 4.04, which is higher compared to others. Dry matter was comparatively high in samples of silage produced in bunkers and repacked in bales. Average crude protein ranged from 7.53 to 7.80% in different samples. This silage quality analysis is considered a stepping stone towards standardized silage production and sustainable dairy production in the Punjab.







Performance of Rhodes grass in cooler regions of Gilgit

AIP-ILRI has tried to create a space for Rhodes grass in the cooler regions of Gilgit due to its perennial nature. In May 2016, ILRI established 55 demonstration plots of Rhodes grass primarily in dairy enterprises in the Danyore valley in Gilgit District. A plan was adopted for monitoring performance and biomass production, as well as the potential for dairy production. Remarkable results were reported from Rhodes grass performance trials on cooler hilly terrains, where biomass production reached 7.65 ton/acre/year, which is 125% higher than the biomass produced by naturally occurring grasses. Milk



production increases of up to 1.5 liters/day/animal were observed with the Rhodes grass feeding regime. Moreover, some dairy farmers also witnessed 30-40% more biomass per cut as well as a noticeable improvement in animal health conditions due to the availability of quality nutritional feed.



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Evaluating novel maize genotype silages and its nutritional quality for dairy production

AIP-ILRI, through a collaborative research agreement with the University of Agriculture, Peshawar, evaluated the nutritional value of traditional and novel feeds in an effort to optimize their utilization as animal feed. In the first experiment, six promising traditional and new spring maize cultivars, coded as QPM-200, QPM-300, P3025, ASS9633 and 95W34, were evaluated for silage production in terms of dry matter (DM); starch and crude protein (CP) yields; fermentation quality; and nutritional value under local environmental conditions. The results showed that compared to the local variety (Azam), QPM-300 produced 4.6 tons more DM, 0.58 tons more CP and 2.2 tons more starch. Compared to the local variety, QPM-300 had higher CP (8.05 vs. 6.44%) and starch (28.9 vs. 23.2%) content and lower NDF content (41.5 vs. 47.1%), indicating that QPM-300 had the highest metabolizable energy content and will support high DM intake (DMI) and milk production in dairy cows. In terms of CP, starch content and yield, QPM-300 was closely followed by QPM-200, while the local variety Azam had the lowest values. Dry matter and starch yields increased as maturity increased up to a DM content of 35% in fully grown crops. During progressive maturation in the post-silking period, NDF content decreased consistently, mainly due to the growth of ears/kernels and their increasing contribution to whole crop DM.

Consumers willing to pay for safe milk consumption in Pakistan

Milk contamination with aflatoxin.

Many studies have reported that aflatoxin concentration is above the safe limit for raw milk in Pakistan, thus posing serious risks to human health. AIP-Livestock conducted a study to investigate consumers' preference for aflatoxin-free milk in Pakistan. A discrete choice experiment was conducted on a random sample of 360 raw milk consumers from ICT and Faisalabad (Punjab). The studied attributes included: fat content, bad smell, aflatoxin concentration and milk price. The results clearly indicate that consumers are willing to pay more for milk with low aflatoxin concentration. The study suggests that consumers are willing to pay a higher price of Rs 125/liter for milk with low aflatoxin concentration. Moreover, they are willing to accept a discount of Rs 44/liter for milk that smells bad.

Based on these findings, there is considerable scope for the dairy industry and researchers to invest in the production of quality/safe milk, especially aflatoxin-free raw milk.



Example of choice set.

In summary, the consumer demand mechanism adopted in this study may improve milk quality and safety along the entire supply chain.



Aflatoxin contamination pathway.

Maize

AIP promotes water-efficient maize to boost farmer resilience to climate change



Evaluation of CIMMYT's white maize germplasm at CCRI. Photo: CIMMYT.

New varieties of white maize in Pakistan have the potential to both quadruple irrigation water savings and double crop yields for farmers, while building food security and conserving badly needed water resources for the country.

Maize is the third most important cereal crop in Pakistan, which at a production rate of 4 tons per hectare, has one of the highest national yields in South Asia. Maize productivity in Pakistan has increased almost 75% from levels in the early 1990s due to the adoption and expansion of hybrid maize varieties. The crop is cultivated both in spring and autumn and grows in all provinces throughout the country.

However, Pakistan is expected to be severely affected by climate change through increased flooding and drought events, and is already one of the most water-scarce countries in the world. If the country is to meet future food demand, new maize varieties that can grow with less water under harsher conditions must be developed and adopted by farmers.

The Cereal Crops Research Institute (CCRI) in Pakistan's Khyber Pakhtunkhwa province – an area particularly reliant on white maize for food, unlike other parts of the country where yellow maize is predominantly used for animal feed – recently tested nine white maize varieties (hybrids and OPVs) provided by CIMMYT that demonstrated tolerance to water stress conditions. Two early maturing, open-pollinated varieties produced above average seed yields, even though farmers just irrigated the maize fields twice, compared to the usual 8 to 10 times necessary with currently grown varieties. These varieties can also be harvested in less than 100 days and yield 7 to 10 tons per hectare under good management practices, giving farmers time to grow another crop within the same season and produce nearly double the current national average yield.

CCRI will distribute about 1,000 kilograms of these seeds to about 100 farmers across the province in the coming autumn season, and farmers will be allowed to keep seeds for subsequent seasons. These varieties will not only contribute to climate mitigation strategies but will also help farmers adopt new, sustainable cropping practices. In addition to meeting food demand, these new varieties can also alleviate the scarcity of livestock feed, thereby contributing to food and nutritional security in Pakistan.

The CIMMYT-led Agricultural Innovation Program, which receives support from the United States Agency for International Development, is helping to bring affordable, climate resilient and water efficient maize options to market. Since the launch of the program in 2013, Pakistani researchers have identified more than 80 CIMMYT hybrids and openpollinated varieties that are well adapted to the country's diverse environments.



A team of researchers evaluate CIMMYT's white maize germplasm at CCRI. Photo: CIMMYT.

6 **AIP**

Gilgit Baltistan (GB) produces pre-basic seeds of new maize varieties

Maize is a dietary staple and often the major source of calories in Gilgit Baltistan Province. It is estimated that maize covers roughly 20,000 ha and is the major cereal crop being cultivated in the province. Despite its high importance, maize productivity is dismally low in the province mainly due to the use of inferior quality seeds and varieties, as well as poor agronomic practices. As the province is far from the country's major maize growing belts, so far few interventions have been made to increase maize production and productivity.

Since the beginning of AIP's maize activities in Pakistan in 2014, GB has been included in maize interventions aimed at delivering well adapted, stress tolerant and early maturing white maize varieties to resource-poor farmers. The joint

maize variety evaluation conducted by the directorate of Agricultural Research-GB and CIMMYT during the last three years has resulted in the identification of four high yielding maize varieties that are suitable for wide cultivation. In 2016, the Directorate produced nearly 400 kg of pre-basic seeds of these varieties. These early generation seeds will be multiplied further to produce more quality basic seeds that will be distributed to farmers in large volumes.

The Directorate is in the process of registering these varieties for cultivation in the province. However, to date there is no



Farmers in GB (Goner farm) evaluate the cobs of new maize varieties provided by AIP. Photo: CIMMYT.

variety release and registration system in GB, and stakeholders are trying to set up a committee to oversee such needs and recommend suitable crop varieties. Once released, these varieties will be the first maize varieties to enter into production in GB through the formal approval process. It is important to mention the need for other maize stakeholders to join hands to fast-track seed production and disseminate the new varieties to smallholder farmers so that they can boost their production through the rapid adoption of the new varieties.



Farmers field evaluation of new white maize varieties in Goner-GB. Photo: CIMMYT.

NP 7

Wheat

Growing more Zincole wheat and reducing zinc deficiency

"I eat two chappatis of Zincole wheat, while one is enough from other wheats." said Munib Khan to Dr. Hans Braun, Director of CIMMYT's Global Wheat Program and WHEAT CRP, who visited Gujar Khan Pakistan to monitor the acceptance and uptake of several new wheat varieties popularized by AIP. Like many other farmers across Pakistan, Munib Khan and other members of the Gujar Khan Seed Producer Group are producing seeds of this variety on 30 ha, with an estimated seed yield of 100 tons, which may cover over 800 ha next year. During field observations, farmers said that apart from the seed crop, they were also growing Zincole for home consumption.

For the first time, farmers in Gujar Khan evaluated and validated 12 new wheat varieties in participatory varietal selection (PVS) trials with support from CIMMYT and implemented by the National Rural Support Programme (NRSP). From PVS trials, farmers selected Zincole, Pakistan-13 and Ihshan-16, all CIMMYT wheat germplasm. Among these, Zincole is spreading fastest in farmers' fields. Farmers mentioned the reasons for its greater acceptance: it is well adapted to the area, it is high yielding and its cooking and eating qualities are excellent. Farmers' feedback on the variety grown in irrigated areas were also positive in terms of its adaptation, cooking and eating qualities, except that in certain high fertility patches, it lodged. In the last two to three years, the project evaluated and popularized this variety from Gilgi-Baltistan through to



Zincol 2016 research trials at NARC.

Balochistan, Khyber Pakhtunkhwa, Punjab and Sindh, covering 15 districts and engaging nearly 700 farmers. Around 20 tons of Zincole seed were used by farmers for varietal verification, popularization and seed production.

Zincole is also one of the varieties that have been released in the shortest time in Pakistan since it was first introduced. This was possible because Zincole was directly included in the National Uniform Yield Trial (NUYT) without passing through a number of provincial trials, which saved three to four years. The fast-track release of this zinc-biofortified wheat variety is very welcome and will have high payoffs early on; it also set a new record for reducing the length of the variety release



Ihsan -16 Fields in Gujarkhan.

process in Pakistan. Institutional support for popularizing this variety is evident, as it is being included in seed production by public sector institutions across all provinces. This is unlike the common practice of releasing varieties just by provinces and only exceptional megavarieties can be registered by Provincial Seed Councils.

Zinc is an essential mineral required by the human body for keeping a healthy immune system, for normal growth and development and for triggering enzymes. In Pakistan, more than 40% of children are stunted, infant mortality is 97 per 1,000 live births and the mortality rate of children under five is also high. According to the National Nutritional Survey of 2011, micronutrient deficiencies in Pakistan are widespread, with 39% of children and 48% of pregnant women suffering from zinc deficiency. Zinc-fortified wheat is the best option to overcome this problem in Pakistan, where wheat is a staple food that contributes more than 60% of the daily calorie and protein requirements. However, most commonly grown wheat varieties in Pakistan contain less than 25 micrograms of zinc per gram of wheat grain; this figure must be close to 40 to supply sufficient zinc in the daily diet. Bred by CIMMYT and released in Pakistan in 2016, Zincole contains 37 micrograms of zinc per gram of grain. Our study found that Zincole is expanding steadily in farmers' fields. However, more concerted efforts are needed to rapidly popularize this variety so that it may contribute to reducing zinc deficiency in Pakistan in the years to come.

Agronomy

AIP

8

Precision nitrogen management in wheat in Pakistan

Wheat is planted on more than 9 million hectares in Pakistan each year. Of this, 85% is grown under irrigation in farming systems that include several crops. Farmers apply 130-190 kilograms of nitrogen fertilizer per hectare of wheat, a third at planting and the remainder in one to several partial applications



GreenSeeker^ $\ensuremath{^{\rm TM}}$ use training at Wheat Research Institute, Sakrand Sind.

during the crop cycle. Often, the plants fail to take up and use all of the fertilizer applied. More precise management of crop nutrients could increase farmers' profits by saving fertilizer with no loss of yield; this would also reduce the presence of excess nitrogen that turns into greenhouse gases. Precision nutrient management means applying the right source of plant nutrients at the right rate, at the right time and in the right place. CIMMYT-India and the Borlaug Institute for South Asia (BISA) have developed the "urea calculator," an application for cell phones. In this process, a handheld GreenSeeker™



National partners from Punjab using GreenSeeker™ at Rice Research Institute, Kala Shah Kaku.

sensor quickly assesses crop vigor and provides readings that are used by the urea calculator to furnish an optimal recommendation based on the amount of nitrogen fertilizer the wheat crop needs.

Results of the evaluation of this technology in more than 35 farmers' fields in Pakistan during 2016 showed that 35 kilograms of nitrogen per hectare could be saved without any loss of grain yield. This technology is being evaluated and demonstrated in Pakistan as part of a CIMMYT-led effort in collaboration with Pakistani partners.

CIMMYT recently began working in four provinces of Pakistan, providing GreenSeekers[™] and training to AIP's research, extension and private partners. In total, 55 specialists took part in training events held at the Wheat Research Institute Sakrand, Sind Province; the Rice Research Institute KSK, Punjab Province; and the Model Farm Service Center, Nowshera, Khyber Pakhtunkhwa Province.

These events helped national partners train more than 100 wheat farmers on precision nitrogen management in wheat in Nankana Sahib, Gujranwala, Faisalabad and Sheikhupura, Vehari, Sahiwal, Bahawalpur, Jaffarabad, Umerkot and Shaheed Benaziarabad Districts in Pakistan.



Demonstration of GreenSeeker[™] use in Nowshera.

AIP-CIMMYT supports environmentally friendly zero-till Happy Seeder in the rice-wheat area in Punjab, Pakistan

CIMMYT Pakistan imported zero-till Happy Seeders from India; the planters were evaluated in collaboration with national partners in farmers' fields in Sheikhupura, Gujranwala, Faisalabad, Nankana Sahib and Sialkot Districts in Punjab, Pakistan, during 2014-16. Results from these on-farm demonstrations showed that farmers were able to plant wheat in combine-harvested rice fields without burning rice residues, and reduced tillage operations from six to one. AIP-Agronomy collaborated with a local machinery manufacturer, Sharif Engineering Faisalabad, to locally produce this modified light-weight zero-till Happy Seeder, which was demonstrated successfully to 30 farmers and national partner staff on November 4 during a training session held at the Rice Research Institute, Kala Shah Kaku, in Punjab. With the support of AIP, Sharif Engineering manufactured 10 Happy Seeders that were distributed among interested farmers in Punjab's ricewheat area on a cost-sharing basis. The new locally modified zero-till Happy Seeder enabled farmers to plant wheat in combine-harvested rice fields without burning residues while saving 70% in cultivation costs.



Planting of wheat with locally made zero-till Happy Seeder in Sheikhupura.



Socio-economics

Capacity building

On November 29-30, 2016, AIP, in collaboration with Baluchistan University of Information Technology Engineering and Management Sciences (BUITEMS), carried out two training sessions on the use of SPSS and STATA software. More than 60 faculty members from different disciplines participated in the training sessions. More than 45% of the participants were women. BUITEMS management appreciated AIP's efforts to build the capacity of scientists and researchers in remote areas.



Training Session at Baluchistan University of Information Technology Engineering and Management Sciences.





Participents of training session at Baluchistan University of Information Technology Engineering and Management Sciences.

Follow-up surveys

AIP-SEP carried out follow-up surveys on different interventions of maize, wheat and conservation agriculture technologies. A separate set of comprehensive questionnaires was prepared for each intervention. AIP-SEP completed the following surveys:

- Evaluation of agronomic performance and the implications of QPM hybrid adoption for smallholders in AJK and KPK.
- Impact of access to improved maize seed among rural households in KPK and Punjab.
- Adoption and impact of zero tillage technology in various cropping systems: Farmers' and manufacturers' perception.
- Impact of laser land-leveling technology adoption on household income and food security in Pakistan.
- Follow-up survey to identify preferences, uptake and outcome of AIP wheat activities conducted across various districts of Pakistan.

The preliminary findings indicated that AIP interventions and technologies have higher cost-benefit ratios and net returns as compared to traditional technologies. Detailed analysis and writing are currently in progress.



AIP-SEP carried out follow-up surveys regarding different interventions.



Follow-up survey from farmer to identify preferences, uptake and outcome from AIP activities.

AIP 11-

Perennial Horticulture

AIP pioneers the Pistachio Growers' Association of Baluchistan, Pakistan

AIP, through its commissioned project with the Agriculture Research Institute (ARI) Quetta, helped the emerging pistachio industry of Baluchistan obtain registration for the first pistachio growers' association. The registration process was completed on the second week of December. The association will provide a platform to solve pistachio growers' production-related issues, organize need-based training courses for them and increase their market share through collective bargaining.



AIP supports greater economic gains through vineyard soil acidification

Grapes grow best in deep, fertile, well-drained loamy soil with a pH ranging from 5.5 to 7.0 and a moderate amount of organic matter under mild sub-tropical conditions. Despite fulfilling most of the growth requirements of table grapes, Pakistani soils (particularly soils in the Pothwar region in Punjab Province) are alkaline and have low organic matter content, which reduces yield, quality and financial turnover. To address this problem, AIP supported soil acidification field trials at three selected sites in the Pothowar region for one complete season. On December 17, 2016 at the conclusion of research activities, 47 grape-growing farmers from throughout the Pothwar region gathered at the Attock District Agriculture Office. They were told about the research activities and shown the results of soil acidification trials on the yield of three selected grape varieties (namely, Flame Seedless, King's Ruby and Perlette). Extension materials including recommendations based on experimental results were distributed among prospective grape-growing farmers and practitioners.



The grape grower told about the research activities, and shown the results of soil acidification trails.

Human Resource Development

AIP scholar wins third place in poster presentation contest at Mississippi State University

Mississippi State University, USA, recently held its second annual Graduate Students Poster Competition on campus. AIP Ph.D. scholar Naqeebullah secured third place for his poster presentation on "Screening Indica Rice Lines for Salinity Tolerance at Early Stages Using Root and Shoot Morphological Traits." In his poster presentation, Naqeebullah duly acknowledged the financial and moral support of USAID and AIP and reiterated his commitment to serve Pakistan after completing his degree program.







Maria Solangi - AIP, UC DAVIS.

Naqeebullah-AIP Ph.D. Scholar won the "Third Place" in Poster Presentation Contest 2016 held by Mississippi State University, USA.

AIP scholar Maria Amir Solangi passed her M.Sc. thesis defense on November 29, 2016 and filed her thesis at the Department of Veterinary and Animal Sciences, University of Massachusetts. Her research focused on identifying genetic immune response patterns in domesticated animals, which will help design veterinary care for improved animal health. She traveled back to Pakistan on December 5. Upon her return. Maria stated that she is committed to providing outstanding veterinary care to the animals in underprivileged communities of rural Sindh.

e-Pak Ag

12 **AIP**

Promoting the use of short participatory videos to educate masses of smallholders in Pakistan

E-Pak Ag is a unique component of USAID's AIP that promotes the use of Information Communication Technology (ICT) in agriculture extension. Under E-Pak Ag, the University of California Davis (UC Davis), in collaboration with its working partner, the University of Agriculture, Faisalabad (UAF), held a one-day workshop on making short videos at the University of Agriculture, Peshawar, on October 10, 2016. A total of 65 students, faculty members and extension staff from the province were invited to impart the skill of making short informative videos on good agricultural practices. Such videos can be easily used on smartphones and have the advantage of effectively communicating extension messages to the masses of smallholder farmers with whom face-to-face interaction is practically impossible.





AIP promotes ICT use among rural schoolgirls

Use of ICT by rural school girls to address the agricultural issues.

During the first week of December 2016, a series of events were organized under AIP's gender-specific initiative on the use of Information Communication Technology by rural schoolgirls to address the agricultural issues faced by their households. The events included a competition among the project-trained schoolgirls (one from each of the three project sites including Okara, Faisalabad and Chakwal) followed by the concluding ceremony at PMAS-Arid Agriculture University Rawalpindi during which prizes were distributed among the top 100 schoolgirls out of a total of 300 who were trained. Prof. Dr. Rai Niaz Ahmad,



Vice Chancellor PMAS AAUR, chaired the concluding ceremony. During his address at the event, Dr. Muhammad Azeem Khan, DG NARC, talked about the importance of rural schoolgirls for promoting the use of ICT in agriculture. Telenor Pakistan, Pakistan Institute of ICT for Development (PIID) and E-Pakistan partnered at the event. It was a great success of the project that PIID and E-Pakistan formally assumed the responsibility to further train the top 100 girls and use them to promote ICTbased solutions to the agricultural issues of their communities.

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