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# QUARTERLY PROGRESS REPORT - APR-JUL 16

August 31, 2016

## DAIRY PROJECT

Agreement No:

391-A-00-11-01206-00

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## The Dairy Project

### Objectives:

- o To increase the milk yields of dairy farmers
- o Spread awareness on best dairy farming practices
- o Establish quality dairy extension services
- o Establish young unemployed rural community as entrepreneurs
- o Economically empower the rural women

**Implementing Partner**

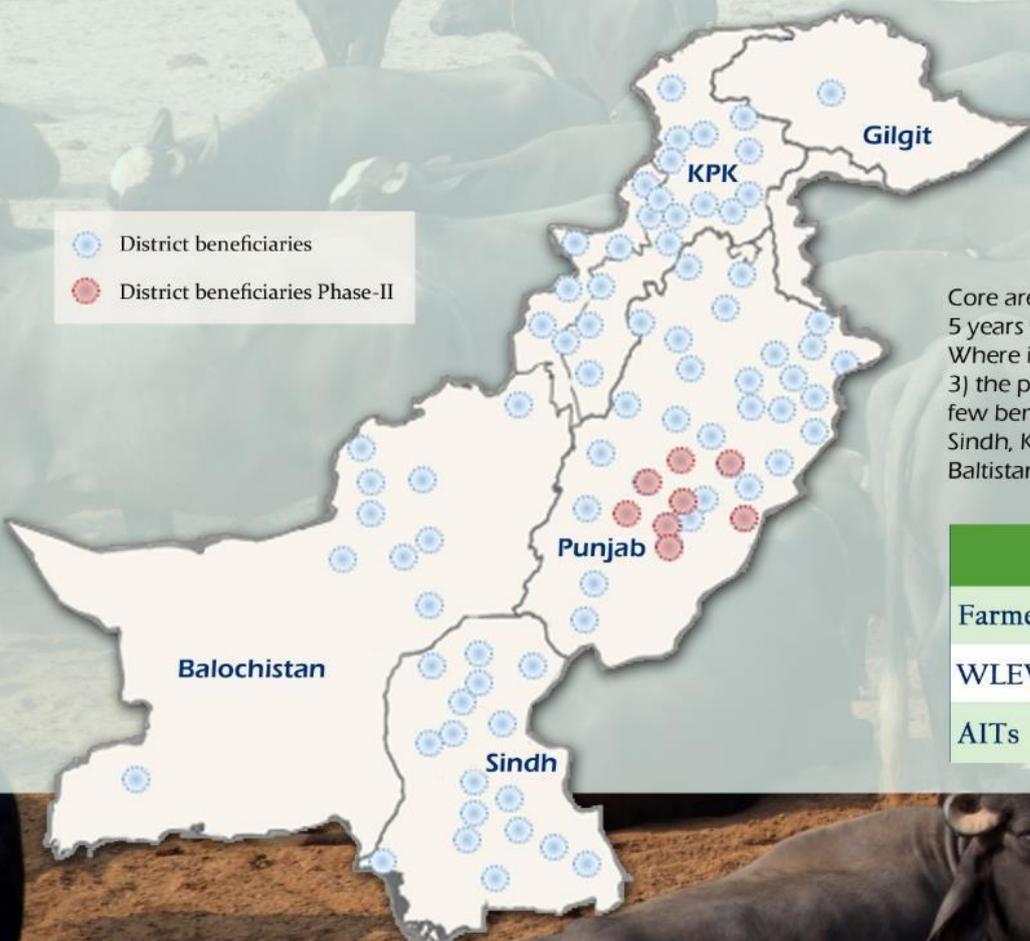


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Good Food, Good Life



- District beneficiaries
- District beneficiaries Phase-II

**PMU**  
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**Bahawalpur**

Core area of operation in 5 years was in Punjab. Where in Phase-1 (year 1-3) the project also trained few beneficiaries from Sindh, KPK, Gilgit Baltistan and Balochistan

	PUNJAB
Farmers	46,344
WLEWs	5,932
AITs	2,072

	SINDH	KPK/GILGIT	BALOCHISTAN
Farmers	357	264	265
WLEWs			
AITs	122	119	70



FARMERS



WLEWS



AITs



FARM  
UPGRADED

## INPUTs

Over 1,940 dairy training and awareness classes provided to people from rural areas

8,315 rural extension service providers awarded with start up kits

2,007 motorbikes awarded to AITs for large geographical coverage

Co-Financing for farm-upgradation

Silage making teams facilitating farmers

## Output:

Over 55,545 trained beneficiaries making dairy farming sector efficient and providing extension services

84 farms upgraded with more than PKR 37 million investment from farmers

Farmers facilitated with silage making free of cost

## Outcome:

17% increase in milk yield of dairy animals

67% of the trained farmers adopting more than three best practices for dairy farming

More than 8,000 young unemployed men and women set up their own business

## Impact:

Increase in productivity of the dairy sector

WLEWs and AITs earning on average PKR. 1,648 and PKR. 12,012 per month respectively

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## List of Acronyms

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<b>AI</b>	Artificial Insemination
<b>AITs</b>	Artificial Insemination Technicians
<b>AOR</b>	Agreement Officer's Representative
<b>BOG</b>	Board of Governors
<b>BRSP</b>	Balochistan Rural Support Program
<b>CMA</b>	Cumulative Moving Average
<b>DRDF</b>	Dairy and Rural Development Foundation
<b>EMPP</b>	Environmental Monitoring Program Plan
<b>FOM</b>	Field Operations Manager
<b>FROS</b>	Female reproductive organs
<b>GM</b>	General Manager
<b>LBEs</b>	Livestock Business Entrepreneurs
<b>LHW</b>	Livestock Health Worker
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MSI</b>	Management Systems International
<b>MTs</b>	Master Trainers
<b>NGO</b>	Non-Governmental Organization
<b>PD</b>	Project Director
<b>PMU</b>	Project Management Unit
<b>RFP</b>	Request for Proposal
<b>SMs</b>	Social Mobilizers
<b>TOR</b>	Terms of Reference
<b>TOTs</b>	Training of Trainers
<b>UAF</b>	University of Agriculture Faisalabad
<b>US</b>	United States
<b>USAID</b>	United States Agency for International Development
<b>UVAS</b>	University of Veterinary & Animal Sciences
<b>VTIs</b>	Vocational Training Institutes
<b>WLEWs</b>	Women Livestock Extension Workers

## Executive Summary

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The Dairy Project, a joint collaboration of the United States Agency for International Development (USAID) and Dairy and Rural Development Foundation (DRDF), aims to enhance rural incomes by increasing livestock productivity. In the first three years, the project focused on farmer trainings and adoption of `best dairy farming practices. Simultaneously, the project also trained young rural men and women from these farming communities and established them as extension service providers for dairy farmers.

After obtaining two years extension in October 2014, the project has now entered the last quarter of implementation and is heading towards its target(s) completion. During the extension phase, the project has continued the implementation methodology of farmers' capacity building on best dairy farming practices, providing farmers with an integrated system where they have easy access to extension services. The project has trained and established Artificial Insemination Technicians (AITs) and Women Livestock Extension Workers (WLEWs) as key services providers to small farmers at their door step. The project also initiated a farm upgradation component in the extension phase to support small/medium level farmers in upgrading their farms. The upgradations involve building easily replicable farm models which can also be used as training and learning centers for surrounding farmers. The project's farm upgradation team works closely with these farms to overcome farm level inefficiencies and improve farm economics. In this regard, the project has launched the 3:1:7 strategy which primarily focuses on optimal herd composition. Bahawalpur field office has been closed as the training targets in that region were accomplished. Activities will continue from Vehari and Burj Attari field offices.

The overall progress and performance in reporting period is given in subsequent paragraphs.

As of 30 June, 2016, the project has provided training to **47,230** dairy farmers, including **518** farm managers and commercial dairy farmers, in best dairy farm practices to help them increase milk productivity and consequently increase their income. In the reporting quarter, the project trained **5,331** farmers. The last survey done by the project revealed an increase in milk yield per animal of the project trained beneficiaries by **17%**. A total of **99** farms have been upgraded till 30 June, 2016 which serve as training and learning centers. A total of **5,210** farmers received one-day and seven-day training on these upgraded farms in the quarter. After upgradation, these farms are handed over to a team of veterinarians who work closely with the farm owners and provide advisory services to increase farm efficiency through proper herd management. For this the thumb rule of 3:1:7 (300 lactation days, 70% cows in milk and one calf every year) is implemented. Farm Upgradation team is gradually bringing the upgraded farms under the fold of the 3:1:7 strategy, where majority of them have started to implement it (adherence to the 3:1:7 strategy is a time taking process which also requires investment for herd replacement).

Breeding is one of the important pillars in best dairy farming practices. As of June, 2016, the project has trained **2,383** AITs. In this quarter, after a methodical selection process duly monitored by the Monitoring and Evaluation Department, **79** AITs completed the six-month training. The AITs were examined by the University of Veterinary and Animal Sciences (UVAS) with successful candidates awarded start-up kits and motorbikes. So far, **2,007** AITs have received motorbikes based on their performance evaluation. On average, each project trained AIT earns **PKR. 12,012/- (USD 114.6)** per month. However, the distribution of earnings is linked with experience, age and social visibility.

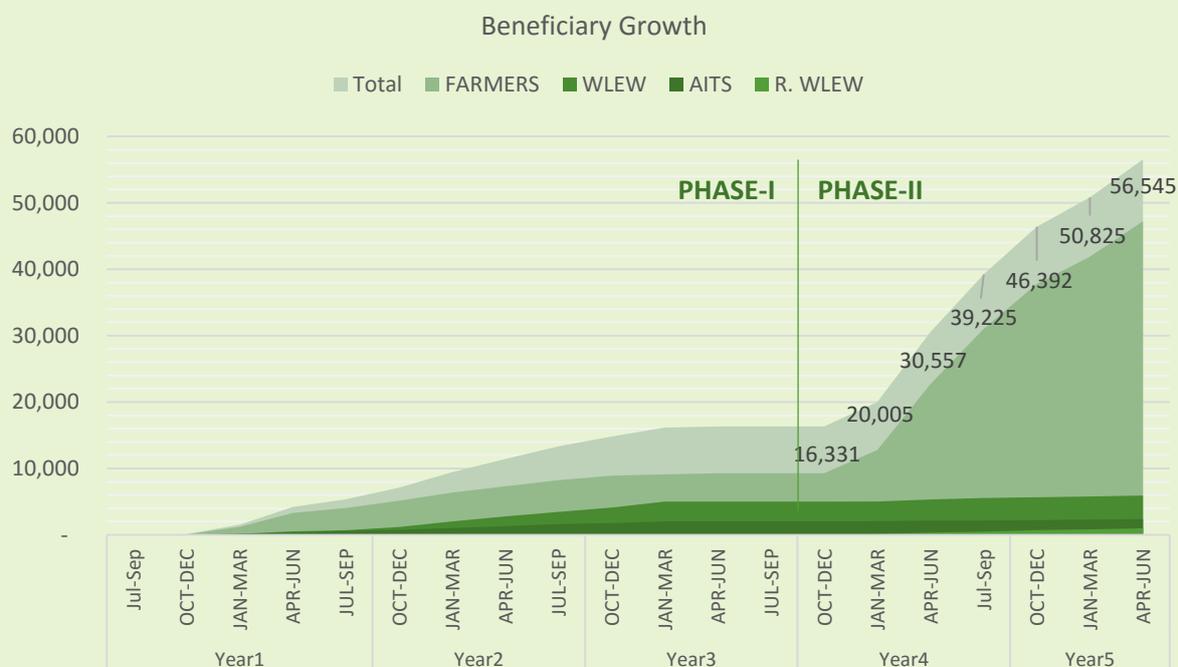
Women play a vital role in the informal dairy sector. The project has made an effort to recognize the role of women in the dairy sector by formally training and establishing them as independent extension service providers. As of June 2016, the project has trained **5,932** WLEWs which are providing services to more than 4,000 nearby villages. These women livestock extension workers (WLEWs) are not only providing much needed extension services but are also breaking the social barriers in rural societies which discourage women from working in the field. From the trained WLEWs, some

outperforming WLEWs are also given refresher courses and the project has provided **1,000** such WLEWs with refresher training. As per last survey, WLEWs are earning **PKR. 1,648/- (USD 15.72)** per month including the income of those who received the 15-day refresher course. Whereas average monthly income of the WLEWs who received refresher training is **PKR. 2,138/- (USD 20.40)**. The project is in discussion with other USAID projects to add more business lines in order to enhance the income of WLEWs.

Fodder is a prime concern for dairy farmers as Pakistan is in shortage of fodder production every year, it does not meet even the half of the maintenance requirement of the livestock population<sup>1</sup>. Initially, the project had planned to install 10 small biogas units to facilitate irrigation but later on decided to shift to one large biogas unit instead. In this regard, the Livestock and Dairy Development Department (L&DD) Punjab requested the project to install a biogas unit on a government farm in Bahadarnagar. Environmental assessment for this unit has been carried out and construction has started.

The Dairy Project has continued to raise the awareness on best dairy farming practices among the masses. For this purpose the project made use of various communication mediums to achieve its goals and targets. In the reporting period, the project team participated in Dawn Pakistan Food & Agri Expo 2016. Where they showcased its four-year achievements to a large audience, with more than 400 persons visiting the project stall. As before the project used the popular medium of street theatre by the name of “Dairy Laway Khushian the Dheri (Dairy brings happiness to your life)” to inform farmers about the farming practices and their resultant outcomes. In the reporting quarter 12 street shows were conducted, in which the average turnout was of 360 community members. This activity not only helped spread awareness on dairy farming in rural traditional farmers, but also increased the mobilization for one-day training. A team of consultants from JICA also visited the project to see impact and challenges being faced by the project. The project team gave them the overview of the project and also arranged field visits for them to experience the rural culture and interact with the beneficiaries.

Figure 1 Quarterly Growth in the Number of Trained Beneficiaries



<sup>1</sup> Pakistan Agriculture Research Council – (<http://www.parc.gov.pk/index.php/en/csi/137-narc/crop-sciences-institutue/714-fodder-program>)

## Aid for Sustainable Development

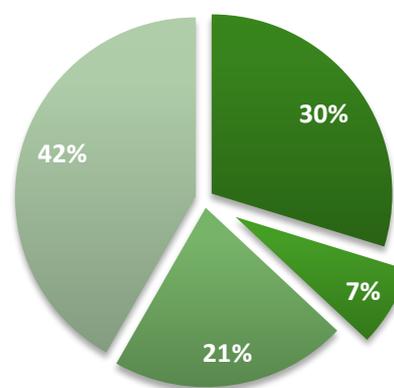
Table 1: Financial Summary

Description	Amount (In USD)
Total Estimated USAID Amount:	21,018,293
Amount Obligated :	20,918,293
Leverage Amount (Non-Federal):	5,108,059
Total Project Funds Expended To Date (end of June -2016):	19,663, 902
Project Funds Expended During the Reporting Quarter (April 2016 – June 2016):	831,299
Obligated Project Funds Remaining Available:	1,254,391
Project Funds Allocated for the Next Quarter (July 2016 – Sep 2016):	920,000

Table 2: Expenditure Summary

Expense Categories Under Cooperative Agreement	Expenditure during Apr-Jun 2016 (US \$)
Personnel Cost	247,489
Travel	60,253
Equipment and Supplies	176,377
Other Direct Costs	347,180
<b>Total</b>	<b>831,299</b>

Expenditure during Apr-Jun 2016



- Personnel Cost
- Travel
- Equipment and Supplies
- Other Direct Costs

Agriculture is not crop production as popular belief holds - it's the production of food and fiber from the world's land and waters. Without agriculture it is not possible to have a city, stock market, banks, university, church or army. Agriculture is the foundation of civilization and any stable economy.

- ALLAN SAVORY



## Progress & Performance

### Marching Forward

Due to the vital importance of the livestock sector in Pakistan, the Dairy Project, with its extensive training programs for dairy farmers, Women Livestock Extension Workers (WLEWs) and Artificial Insemination Technicians (AITs), is playing an important role in transforming livelihoods of rural communities associated with livestock. The project has adopted an integrated approach where it provides training to farmers on best dairy farming practices through upgraded model farms established in their own vicinities, and then fills the gap for extension services by increasing the number of trained AITs and WLEWs available for rural farmers. With this approach, the project is on track to achieve the set training targets by end of next quarter. The project has gradually start to wrap up its activities at field level as the training targets have started to be accomplished. Bahawalpur Field office has been closed and few of the key staff members have been shifted to Vehari and Burj Attari field offices. Where they will continue providing their support in achieving rest of the project targets.

This progress report describes the operations and progress of the project for the period April 2016 to June 2016. For a detailed overview of the project activities, please refer to [Annex 1](#).

### Farm Upgradation and Biogas plants

#### Upgraded Village Level Model Farms

The project aims to facilitate 100 small dairy farmers in different village centers to upgrade their existing small farms to model farms at the village level, on a cost share basis. The upgraded farm will help farmers implement best dairy farming practices, and will serve as a model for neighboring dairy farmers. The project has selected a total of 106 farms for upgradation. Construction/upgradation of 99 farms has been completed, and these farms are now accessible for one-day training.

Upgradation support is mainly categorized as construction/improvement of shed which involves civil-work and mechanization of farm by installing cooling system, milking machine and silage machine. The project has provided/committed a total of **PKR 31,957,151** for 118 farms while farmers have contributed/committed a total of **PKR 42,940,701**<sup>2</sup>. This investment is the first step towards establishing viable commercial dairy farms for small dairy holders. The following table shows the overall status of farm upgradation:

*Table 3: Up-gradation Summary (June 2016)*

Upgradation Type	Total	Completed
Calf Pen	1	1
Calf Cages	1	1
Flooring	1	0
Sand Bunker	2	2
Cooling System	3	3
Farm Fencing	4	3
Farm Soiling	4	4
Silage Bunker	8	7
Milking Area	9	8
Milking Machine	16	14
Silage Machine	24	15
Shed Construction	71	66
<b>Grand Total</b>	<b>144</b>	<b>124</b>
<i>*A farm under upgradation may have more than 1 facility being upgraded</i>		



<sup>2</sup> The contribution of farmer is calculated on the basis of initial feasibility. The figure may increase with the completion of up-gradation work.

There is a considerable spillover effect of this activity; a total of 11 surrounding farmers have called the project helpline number to contact the farm upgradation team for technical advice on farm upgradation. Based on the experiences of the project-upgraded farms near their villages and with the help the project upgradation team, 10 farmers have started to upgrade their farm.

In order to convert these farms into viable commercial units, the Dairy Project is providing constant follow-up services. The project team provides advisory services on feeding, vaccination, fodder planning, breeding and animal selection on the door steps of these upgraded farms. The project is also collecting farm economics data which shows that the production cost for farms implementing traditional practices is much higher. The farm upgradation team is working on the economics of each farm and provides helpful solutions to decrease the cost. Monthly data collection and follow-up visits are undertaken as per schedule.

The Dairy Project has also formed a task force to supervise upgraded farms. This task force is divided into seven teams, each responsible for 10-15 upgraded farms. The designated teams are also working on implementing the 3:1:7 strategy at these farms.

Continuous advisory support on herd management, feeding and breeding will help the farmers reduce the cost of milk production and possess high yielding animals in the future with the help artificial insemination. This will help farmers run their farm as a viable commercial unit.

Guidance on 3:1:7 strategy being given to the local farmers from village 343/WB in tehsil Dunyapur as a part of one-day farmers training on the project upgraded farm.

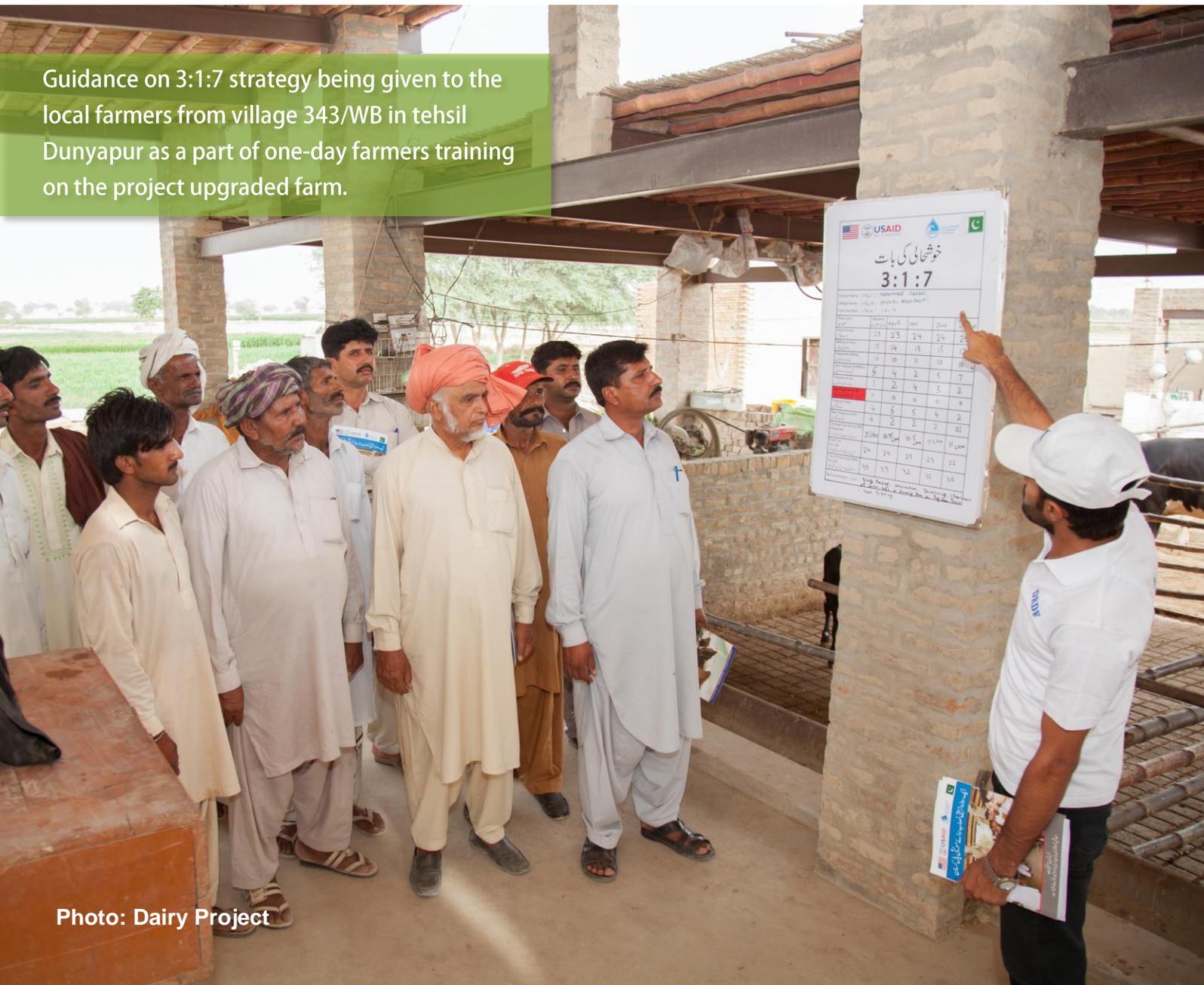


Photo: Dairy Project

### Bio Gas

The project is collaborating with the Livestock and Dairy Development Department, (L&DD) Punjab to build a state of the art biogas unit of 375 cubic meter (100 x 3 + 75) capacity on government-owned Bahadarnagar training farm. This biogas aims at providing energy solution to the residing community at the LPRI. Slurry will also be available for fertilization of fodder and other crops throughout the year. The Dairy Project's environment team is working closely with USAID Environment and Engineering departments to comply with USAID's environmental considerations. The initiation of construction was done on 22<sup>nd</sup> June 2016 till now the construction is successful through various stages of marking and layout excavation, brick work of base and sides and plaster while the shuttering is still in progress that will be followed by dome filling and slab filling in the first week of August as per the timelines.



Brick Work under process on the Bio Gas plant being constructed at Bahadurnagar in collaboration with L&DD.



## Training and Support for Dairy Farmers

The project continued to implement its farmer-training component as per the work plan. The status of the training (as of June 2016) is given below:

*Table 4: Number of Farmers Trained and Training Type*

Type of Training	Farmers Trained
Two-Day Training	5,118
Four- Day Training	3,749
One Month Training	518
One-day Training	35,968
Seven-day Training	1,877
<b>Total</b>	<b>47,230</b>

The project continued its one-day training on upgraded farms in both in Bahawalpur and Vehari zones while seven-day trainings were conducted on the Sukheki Nestle Farm as well as upgraded farms in Bahawalpur and Vehari zones. A total of 5,331 farmers were trained in the current reporting period. To mobilize the farmers and WLEWs, a total of 127 community/corner meeting were conducted by social mobilizers in both zones.

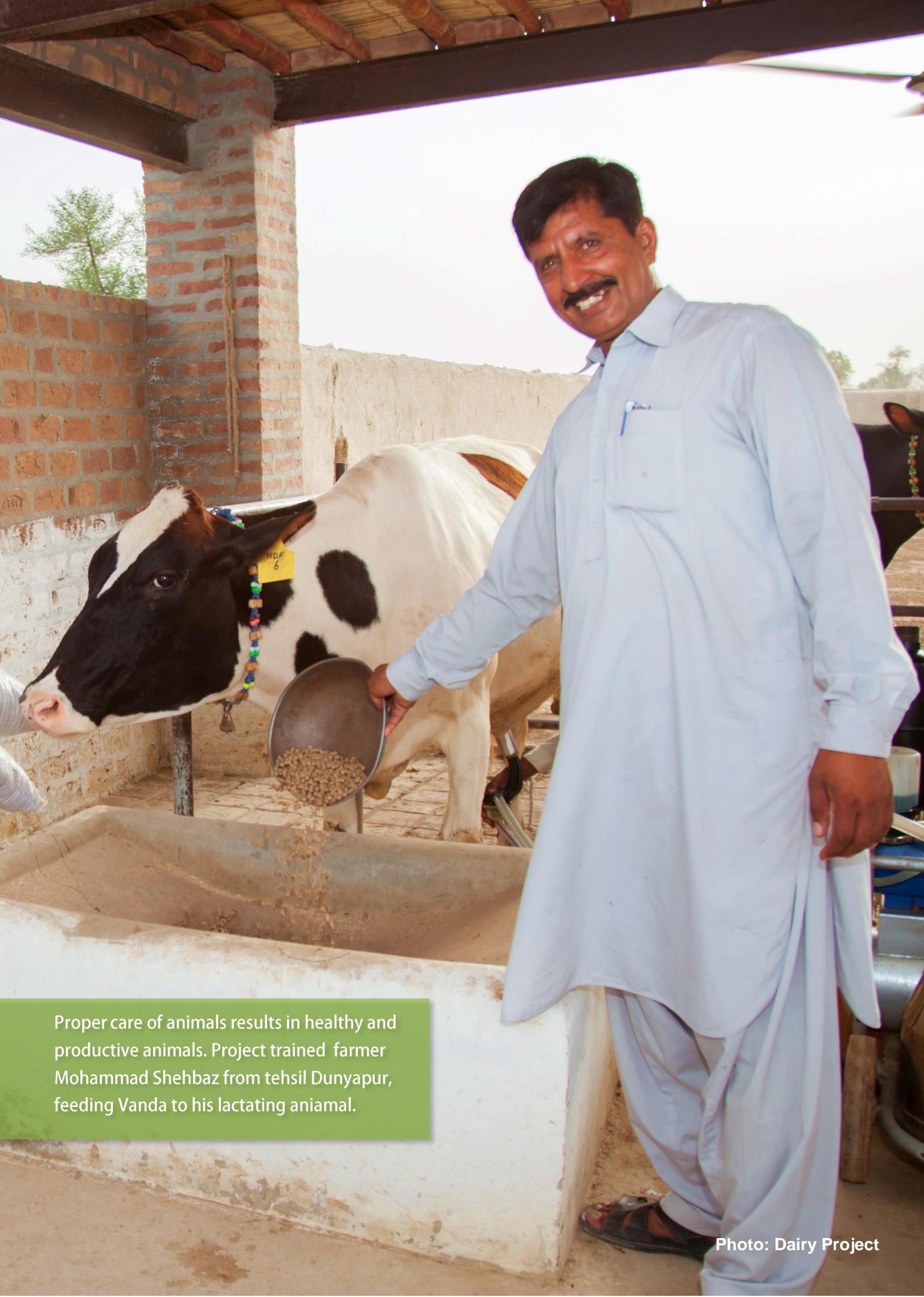
*Table 5: Training Targets and Achievement (Apr-Jun, 2016)*

Type of Training	Targets	Achievement	Variance
One - Day Training	2,853	5,068	+2,215
Seven - Day Training	195	263	+68
One Month Training	Target Achieved		
<b>Total</b>	<b>3,048</b>	<b>5,331</b>	<b>2,283</b>

With respect to the overall training targets, the project is on track to achieve its set targets. In previous quarter the project lagged behind in achieving its quarter targets. This was due to the wheat harvesting season which reduces the participation of farmers in training sessions since harvesting needs to be completed right away. Hence in this quarter the project placed extra effort in mobilizing and training the beneficiaries and achieved the training numbers well above the set target for the quarter.

In Punjab, women are actively involved in livestock management but their role is widely ignored and underestimated. To address this issue and recognize the role of women in livestock management, the project is providing farmer training for women. So far, 6,840 female farmers have been trained through one-day and seven-day training sessions.

Table 6 shows the progress made on Monitoring and Evaluation indicators. These indicators are calculated on the basis of a survey conducted by M&E Department in March-April, 2016. For this purpose, a random sample of farmers trained by the project were selected from the project intervention area (see detailed survey methodology in [Annex-3](#)).



Proper care of animals results in healthy and productive animals. Project trained farmer Mohammad Shehbaz from tehsil Dunyapur, feeding Vanda to his lactating animal.



**Table 6: Performance Indicators for Project Trained Farmers**

Indicators	Targets	Achievement
Average increase in the project assisted household annual income from dairy activities relative to the baseline*	At least 10 percent increase in the household income from dairy activities.	Reported annually <sup>1</sup>
Percentage of project trained farmers access to extension services provided by project trained WLEWs	At least 20% of project trained farmers using WLEWs services	32%
Percentage of farmers getting vaccination done, for FMD and HS, for their dairy animals	At least 40 percent of farmers	FMD-97%
		HS-97%
Percentage increase in milk yield of dairy animals of trained farmers	At least 10 percent increase in milk yield.	17% <sup>2</sup>
Percentage of project-assisted farmers using at least three level 1 best practices relative to the baseline	60 percent farmers adopted three or more level 1 best practices	67% <sup>3</sup>
Percentage of project-assisted farmers using at least three level 2 best practices relative to the baseline	40 percent farmers adopted three or more level 2 best practices	
Number of villages reached with TV and/or Radio sketches	-	No radio/TV campaign was launched in this year
Number of project-assisted farmers managers trained in business practices, and book-keeping	100 Percent of Farm Managers	100%

Note: 1-As per EGA office memo, the dairy project will report this indicator annually.

2- The data is not adjusted for seasonality

3-Percentage of trained farmers adopting three or more than three best dairy farming practices

In the current reporting period, follow-up meeting were conducted on 21 training centers by the follow-up team, with 1,146 farmers participating in these meetings. Along with these meetings, a telephonic follow-up was also conducted for seven-day farmers. The project activities have increased the awareness among the rural farmers about the best dairy farming practices at farm level. With project targeting a huge group of small dairy farmers (1-day farmers), who never knew about the benefits of adopting even 1 of the many best farming practices, after getting the awareness show an increasing trend in the percentage of these farmers adopting best farming practices. Figure 2 shows the percentage of the farmers adopting a particular best practice.



Figure 2: Percentage of farmers adopting best practices



## Training and Support for Artificial Insemination Technicians (AITs)

Pakistan is the 8<sup>th</sup> largest holder of cattle population with 0.18 cattle per person<sup>3</sup>; however the average milk yield (1,800 liter per lactation) per animal is quite low compared to other countries. One of the reasons for low milk yield is non-descriptive, low yielding animals. The project is making an effort to train and equip artificial inseminators who can provide insemination services with high quality semen to farmers on their door step.

In the reporting period, a total of 79 trainees completed the six month training program under batch 32 at Burj Attari and Bahawalpur zones. The six month training includes three month class room training and field survey and three month apprenticeship on large dairy farms where AITs assist or perform insemination on animals under the supervision of a farm manager/supervisor. On average, one AIT assisted/performed 115 AI cases during the three months field training. Along with the theoretical knowledge, AITs improve upon their skills required for performing insemination procedures. Upon the successful completion of final examinations conducted by the University of Veterinary and Animal Sciences (UVAS), the AITs receive certificates, start-up kits to help launch their business and motorbikes to provide services within a greater geographical area.

As the Project would be completing its training targets by next quarter. No more mobilization of AITs took place in the reporting quarter. The final batch of AITs will be passing out in the month of September 2016. Currently, a total of 107 AITs are undertaking training at Burj-Attari training center (batches 33 and 34).

AITs passing out in the reporting quarter along with few of the previously trained AITs, who still had to receive bikes, were presented with bikes on 50 percent cost sharing basis. A total of 162 Motorbikes were handed over to qualified AITs in this quarter. Motorbike distribution ceremonies were held at Nestle Pakistan Bohawana center, Okara and project field offices. The project has awarded 2,007 motorbikes to qualified AITs as of June 30<sup>th</sup>, 2016.

The M&E department conducted a comprehensive performance survey of AITs in March-April 2016. The survey focused on various indicators of quality of service, coverage and income. AITs performance against set indicators is given in table 7 below.

**Table 7: Performance Indicators for Project Trained AITs**

Indicators	Targets	Achievement
Average monthly income of AITs from providing AI services relative to the baseline	Income of at least PKR. 3,000 (US\$ 32) per month	1-month PKR. 11,078 6-month PKR 13,992
Number of villages served by AITs	On average 4 villages per AIT	9
Number of insemination procedures performed per AIT/ per month	On average 20 insemination per month per AIT	45
No. of pregnancy tests performed per AIT per month	On average 20 pregnancy tests done by project trained AITs	35
Conception rate of services provided by project trained AITs	Conception rate of 60%	60% <sup>1</sup>
Percentage of AITs providing their services as insemination technicians	80 percent of AITs	79%
Percentage of imported semen used	At least 20% of the total semen's applied/used by an AIT	13.29%
Percentage of AITs attending Follow-up Meetings	At least 70 percent of the AITs attending such meetings	72%

<sup>3</sup> Source: FAO; EIU The Economist (<http://www.economist.com/blogs/dailychart/2011/07/global-livestock-counts>)



Indicators	Targets	Achievement
Average Number of farmers served	-	78
Number of AITs successfully trained in book-keeping and business management	100 percent	100%
<i>Note: 1-Calculated from Bike-Validation Survey</i>		

The indicators show a satisfactory performance of project trained AITs. The AITs, on average, are earning PKR 12,012 per month, performing 45 inseminations and 35 pregnancy test on average per month. Usage of imported semen is also increasing over the time; 13.29% of the semen used was imported. The AITs who underwent 6-months of training are earning PKR 13,992 per month; three months apprenticeship and extensive village survey provides them with a great opportunity to market their services in the field.

During the quarter the follow-up team conducted 26 follow-up meetings, in which issues relating to their work were discussed. A total of 595 AITs were benefited by this activity. Also 83 induction meetings were held in respective villages of AITs in which follow-up team introduced the AITs to the village community. In these meetings about 3,900 community members were present.

Project trained AIT, Mohammad Awais from tehsil Yazman providing Artificial Insemination services to a local dairy farmer.



## Training and Support for Women Livestock Extension Workers (WLEWs)

Women play a vital role in our society in all fields of life. They help steer the household economy by actively participating in agricultural activities. However, their participation in dairy and agriculture is undervalued and widely ignored. To address this issue, the Dairy Project has made an effort to train young, rural women in basic animal extension services to help them become independent entrepreneurs in the dairy sector. These women are providing much needed extension services in their local villages. The following table shows the number of beneficiaries who received WLEW trainings till date:

*Table 8: Number of WLEWs Trained and Training Type*

Type of Training	WLEWs Trained
WLEW new	5,932
WLEW refresher	1,000
<b>Total</b>	<b>6,932*</b>
<i>*Total females trained are 5,932, out of which 1,000 were given refresher.</i>	



The project continued its WLEW training and refresher training programs in Vehari and Bahawalpur zones. In the current reporting period, the project trained 149 new WLEWs and provided refresher training to 161 (previously trained) WLEWs. To mobilize rural men and women for Dairy Project training programs, the mobilization team conducted 128 community/corner meetings which were attended by 2,851 men and women. The selected women were trained at training centers established by the project in their nearby vicinity. During the training, the field teams organized 65 help camps for WLEWs in which 4,301 cases were treated by the women under the supervisor of their master trainer. The training summary for the reporting period is given below:

*Table 9: Target vs Achievement - WLEWs*

Type of Training	Targets	Achievement	Variance
WLEW new	65	149	+84
WLEW refresher	110	161	+51
<b>Total</b>	<b>175</b>	<b>310</b>	<b>135</b>

To cope up with the training targets the projects WLEWs team worked hard and was able to mobilize more than the targeted beneficiary number for the quarter and trained 135 females above target. This brings project back on track after the issues it faced in the last quarter. WLEW refresher training target has been achieved but the project has decided to make one more batch of females to undergo this training in the coming months.

To assess the performance of trained WLEWs, the M&E Department conducted a performance survey in March-April 2016 of WLEWs trained in the extension phase as well as of those who were trained during the first phase. The results of this survey are given on next page.

Ishrat Bibi, a project trained WLEW, from village 3/BC in tehsil Bahawalpur has a well-established livestock health clinic in her village. She is contributing towards a healthy and effective dairy chain in her and near-by villages.





Table 10: WLEW Performance Indicators

Indicators	Targets	Achievement
Average monthly income of WLEWs from livestock services relative to the baseline	Income of at least PKR. 2,000 per month	PKR. 1,316 <sup>1</sup> With Refresher: PKR. 2,138
Average number of cases done by trained WLEWs	On average 30 cases per month per WLEW	30
Number of villages served by the WLEWs	On average 1 village per WLEW	2
Number of project-trained WLEWs providing services as self-employed extension workers	At least 60 percent of the trained WLEWs providing services	WLEWs Training: 27% WLEWs Refresher:79%
Number of WLEWs operating / managing project-supported milk collection points in project-assisted communities	At least 20 milk collection points (LOP Target)	16
Number of the WLEWs trained in business practices and book-keeping.	100 percent of the WLEWs	100%

*1: Combined income of both Livestock Health Workers (LHWs) and Livestock Business Entrepreneurs (LBEs).*

There are many social and cultural constraints that prevent rural women from working in the dairy and livestock sector. Under such circumstances, the project has trained 5,932 WLEWs which earn an average monthly income of PKR 1,648 and perform 30 cases per month. Although, the WLEWs are not high earners, they actively serve farmers in rural communities; on average they cover 2-3 nearby villages.

Taking into account the issue of steady input supplies, the project has created market linkages to maintain a steady supply of inputs. In case clusters are made, WLEWs will be connected with the farmers, meat exporters, milk processors and other stakeholders in the value chain. These women will be earning commission on the services provided. These services include milk buying, identification of animals for meat processors and calf rearing support to farmers.

In the current reporting period, to introduce the WLEWs as a reliable extension worker, the follow-up team conducted 153 induction meetings, in which 7,797 local farmers were briefed about the rigorous training of WLEWs to reinforce their capacity to provide basic treatment to animals. Moreover, the follow-up team conducted 35 meetings in which 189 WLEWs participated and discussed technical and input supply issues they faced.



## Other life of project targets

Table 11: Additional life of project targets

Progress Indicators	LOP Target	Progress
Number of subsidized imported semen provided to farmers	2015-16: 25,000 (Revised Target)	25,000 distributed, to be verified by M&E
Number of new clusters formed	100 clusters	Clusters were reshaped in Vehari while were formed in Bahawalpur Total: 141
Number of suppliers introduced to clusters	At least 10 suppliers introduced	Two or more suppliers were introduced in every help camp
Number of input supply points in a cluster	At least one supply point	At least 2
Number of follow up meeting conducted	250 scheduled meetings	378
Number of inter-beneficiary meetings conducted	100 meetings to be conducted (LOP Target)	244
Number of farmers reached through media campaign	2014-15: 500,000 farmers 2015-16: 500,000 farmers	1,78,289
Number of media/mass awareness products developed by communication department	At least 10 products (LOP Target)	07
Number of Silage shows conducted with average 2 acreage of land covered per show	2014-15: 80 shows 2015-16: 80 shows	84 shows
Number of farmers observed silage shows	On average 100 farmers in a silage show	51 farmers

Note: 1-Cluster is geographical demarcation of area for facilitation of operations.

## Communication, Awareness Campaign and Other Activities:

The Communications department is instrumental in creating awareness among masses and providing support to other departments on branding and communication material. In the current reporting period, the communications department provided support in the following activities:

1. Provided support in the printing and designing of Dairy Project Employee and Visiting cards, certificates (Burj Attari), Project Factsheets and giveaways such as Mugs, USBs, penholders, file folders.
2. On April 5th and 6th, the Dairy Project participated in the Dawn Pakistan Food & Agri Expo 2016. The project showcased its four-year achievements to a large audience, with more than 400 persons visiting the project stall. The project-trained beneficiaries donned traditional clothes and the stall was decorated with promotional material, branded skins and traditional rural props, which added to the stall's charm. The project master trainers (from Vehari and Bahawalpur zones) ensured that all questions and queries received from the visitors were answered meticulously. Furthermore, a live theatre performance on best farm practices was also organized at the Expo Center. This activity was a crowd puller and was deemed a huge success by the visitors. Visitors' reach out was maintained through visitor record forms; over 400 forms were filled out.
3. The final version of the Training Video Modules on the topics of Mastitis and Vaccination & Deworming were highly appreciated by the Project Management and USAID and subsequently approved. The Dairy Project will be producing six more training video modules in the coming months. The draft scripts preparation and preliminary auditions took place in June. Pre-production activities will be finalized in July, followed by the filming of the modules.
4. The team helped design and develop awareness boards for project-upgraded farms. These boards are installed in rural areas of South Punjab to help ensure an effective outreach to key project stakeholders including project-trained beneficiaries, farming communities, NGOs, etc., for increased awareness on USAID-DRDF Dairy Project interventions in the dairy sector.
5. As part of the project's mass awareness campaign, a flyer on Brucellosis was designed and shared with Project Management. Brucellosis, otherwise known as undulant fever, is a disease which affects animals and humans, causing late term abortions and stillbirths, fever, weakness, and infertility. The flyer will be disseminated among rural communities to increase awareness and will also be incorporated into the dairy guides.
6. An advertisement requesting Expression of Interest (EOI) and Technical/Financial Proposals from interested parties (vendors) for Training Video Modules activity and Event Management companies was released in Jang Lahore newspaper on May 08, 2016. The EOIs and proposals were collected and technical evaluations were submitted to the Procurement department.
7. As part of the third-round of street shows with mobile float announcements, 12 shows were conducted in the month of May, focusing on breed improvement and DRDF's semen distribution plan. The average turnout for each show was approximately 400 persons.
8. The Biogas Inauguration Ceremony will provide the local community and relevant stakeholders the opportunity to learn more about the biogas intervention, construction and potential benefits. Concept was shared and relevant TORs were processed in June. The event will take place on July 26, 2016.
9. On May 11, 2016, a team of consultants representing Japan International Cooperation Agency (JICA) visited the Dairy Project office in Lahore. The purpose of the meeting was to give an overview of the Dairy Project, specifically focusing on the interventions, impact and challenges faced to help the representatives gain a better understanding of the dairy and livestock sector in Pakistan, specifically

South Punjab. The representatives were also invited to join the Dairy Project team in the field, so that they could witness the interventions first-hand and interact with the beneficiaries. On May 25 & 26, the JICA representatives visited an upgraded farm and attended a WLEW follow-up meeting.

10. The Communications team is planning to organize a *Kisan Mela* event in the month of August focusing on the 3:1:7 Strategy and Gender Mainstreaming through Dairy Development. A revised concept note for the event was composed in June; final approval and preparation will begin in July.
11. Content compilation for the Dairy Project Portal (Volume 4, Issue II) was finalized in June 2016. Final design, printing and dissemination of the newsletter will take place in July.
12. The Communications team provided support in the composing and/or editing of the Environment Documentation Form (EDF) for biogas unit(s), the Quarterly Progress Report (QPR) and Dawn Agri Expo 2016 Report.
13. The Communications team conducted a Photoshoot at Nestle Sukheki Farm and Bahawalpur to augment the project's photo bank with respect to trainings and beneficiaries.
14. An advertisement requesting Technical/Financial Proposals from interested parties (vendors) for financial audit was released in Jang Lahore and Jang Rawalpindi newspapers on June 14 and 15, 2016.
15. Through our Social Media Campaign, the Dairy Project successfully increased its Facebook audience to 33,220 likes (an increase of 12,886 likes) during the reporting period. Moreover, the Dairy Project website was updated with statistics, success stories, pictures and news.



Australian High Commissioner, Ms. Margaret Adamson is introduced to the project beneficiaries in Dawn Pakistan Food & Agri Expo 2016.

## Issues, Lessons Learnt and Way Forward

### Gaining From Experience

Table 12: Administrative Issues/Challenges and Remedies

Issues	Suggestions
Due to hot weather condition and Holy month of Ramadan AITs were facing difficulty at farm on second half.	We have planned to shift the farm activities in morning at 5.30 AM to 7.30 AM.
Electricity Issue in field to conduct trainings at upgraded farm.	High Power of UPS or generators with change over can be arranged during training sessions.
Input supplies are not available at door step of WLEWs. Which affects the profit margins of WLEW.	Different input stores address have been given to WLEWs and negotiation have been done with suppliers to try maximizing the profits of WLEWs. But there is a need for WLEWs to have direct link with companies so that they negotiate and suppliers should facilitate them.
Wheat harvesting and hot season In april and may makes it hard to mobilize local community members.	During wheat harvesting field team extended their efforts to select farmers and WLEWs during hot weather as well. Team planned their activities such that they could incorporate follow ups of 1 day and 7 day farmers in this time period.
Issue of Farmers availability due to Cotton sowing season in May and June.	Teams advice to conduct school going and female farmer classes.
Difficult to find nearby vacant area for WLEWs new batch selection. Teams had to move a bit away from operational area which causes wastage of time in travelling.	Teams given more time for area racky for selection of WLEWs to work effectively and remain in their operational area.
Beneficiaries (WLEWs, Farmers,) as well as community are unable to get good quality semen, Vanda, medicine, and proper market for milk sale and purchase.	There is need to facilitate them in terms of making Super veterinary stores in clusters or at community level for Inter beneficiary link between them and market .
Getting permission from DCO/DPO Sahiwal was time taken for street shows.	Manage by project team and also take timely approval from DCO/DPO for conducting shows at district Sahiwal
Sometimes upgraded farm beneficiaries do not cooperate and they are not ready to adopt 3:1:7 strategy.	Upgraded farm owners should be given 7 day or 1 month training before upgrading their farms, so they understand benefits better and to avoid such issues.
WLEWs working suffered due to free mass vaccine campaign by livestock department in the project area.	Proper collaboration and support required from livestock department.



## Annexures:

### Annex 1: Project Overview

The Dairy Project is a joint effort of the Dairy and Rural Development Foundation (DRDF) and the United States Agency for International Development (USAID) to foster sustainable increase in dairy and livestock productivity through adoption of best dairy farming practices, breed improvement, availability of timely extension services, and promotion of livestock businesses. The Dairy Project is being implemented in all four provinces, with a major focus on Punjab with a time frame of five years (July 2011- October 2016). The project contributes to the USAID's strategic objective of creating job opportunities and increasing income. The project objectives are aligned with Pakistan's development agenda, and its goal and objectives reflect national and regional priorities.

#### Farm Upgradation and Biogas plants

The first objective of farm upgradation is to provide an on-the-ground model for small dairy holders at village level, where they can observe the implementation of best dairy farming practices. Secondly, since access to the large mega farms for small dairy farmers in a village is not possible, the universal training coverage is achieved by upgrading these farms and providing training access for the village and the surrounding area. Thirdly, these upgraded model farms serve as a meeting point and input supply hub for project-trained beneficiaries. The project aims to upgrade 100 farms with herd size of 5-25 dairy animals over the project life.

Animal nutrition is an essential part of animal health and milk productivity, and fodder is one of the important nutrients for these animals. Cost of production of fodder is a major concern for the farmer. The objective of establishing biogas plants is to shift irrigation tube-wells running on fuel/electricity to manure biogas units. The slurry produced from these bio gas units will also improve the fertility of the land which is another benefit accrued to the farmer. The project aims to develop such 5 biogas units during its extension phase.

#### Training and Support for Dairy Farmers

The primary objective of providing training and support to dairy farmers is to improve prevalent dairy farming practices for improving livestock productivity and enhancing incomes of rural households assisted by the Dairy Project. The project aims to train 48,600 progressive farmers and 500 commercial farmers and farm managers. From these, 800 farmers from Khyber Pakhtunkhwa, Sindh and Baluchistan are encouraged to attend the project's training courses in Punjab. These trainings cover several topics, including improved feeding and animal nutrition, importance of improved breeds, basic animal health, and farm equipment and shed management. Training for farm managers includes separate components on basic book keeping and business skills. Knowledge of basic business know-how adds to the skills of farm managers. Consequently, all trained farmers have a better understanding of the milk value chain and they know how to profitably create linkages within it.

Classroom trainings are being conducted at model dairy farms, where modern dairy farm-management techniques are implemented. After successful completion of the training course, participants are provided with basic equipment kit that helps them to put into practice the newly learnt farming practices. Trained farmers are visited frequently for support and follow up.

#### Training and Support for Artificial Insemination Technicians (AITs)

The objective of AI training is to improve the provision of AI services to foster good quality breeds that will improve livestock productivity and enhance income of rural youth. Under this component, 3,000 young individuals from rural Punjab, from which 300 from Khyber Pakhtunkhwa, Sindh and Baluchistan will be supported in attending the project's AI training courses in Punjab. AITs receive five weeks of training with two months follow up support. Trainings include a mix of theory, demonstration and practical exercises related to insemination, safe handling and maintenance of insemination guns, liquid nitrogen cylinders for transporting semen and other equipment. Classroom trainings take place at AIT Centers, established by the Dairy Project, and the Government of Punjab's Vocational Training Institute (PVTI).

Each AIT receives initial support to establish him as an entrepreneur. This support includes an AIT kit (including Nitrogen Cylinders, Semen, Semen Straws, and basic AI related equipment). A motorbike is also provided upon meeting certain performance criteria.



### Training and Support for Women Livestock Extension Workers (WLEWs)

The objective of this component is to increase the use and availability of livestock services provided by WLEWs for improving livestock productivity and enhancing income of rural females. Under this component, 6,000 WLEWs will be trained out of which 1,000 will receive refresher and advance training course. WLEWs receive one-month training on basic animal health management, basic preventive animal health measure, identification of the most common diseases, immunization, basic treatment, animal nutrition and animal hygiene. The curriculum is updated in collaboration with University of Veterinary and Animal Sciences (UVAS). WLEWs are also trained in feed supply and milk collection to give them the expertise to further grow their businesses. They also receive training in book-keeping and business skills as well as how to develop linkages with service (including financial) and input suppliers along the dairy value chain.

Extension worker trainings are conducted in village clusters, so that women can attend training near their homes. A training camp is set up on a temporary basis at each site. The project arranges for transport to and from the site. All master trainers are women veterinary graduates. The program is certified by the University of Veterinary and Animal Sciences (UVAS).

Upon completion of the course, WLEWs selected for animal nursing are given a veterinary kit, while WLEWs doing concentrate business are supported by a stock of animal feed. The program also provides workers with basic mobile phones to enable easy communication with clients and input suppliers.

### Awareness Campaign

The overall objective of the Dairy Project's mass awareness campaign is to increase awareness about the best dairy farming practices with a focus to improve livestock productivity in Pakistan. Under this component, TV, radio and print infomercials, on subjects such as de-worming, vaccination, mastitis control, breeding, and feeding practices, are being developed. The awareness campaigns through TV, radio and print media are to be aired in about 2,000 villages' across Punjab and other provinces. Farmer days and silage-making days are organized to motivate farmers to adopt improved animal husbandry practices.

## Annex 2: Environmental Compliance

### INTRODUCTION

Environmental team of the Dairy Project carried out the monitoring for operational activities of the project to ensure the compliance with health, safety and environmental guidelines. Various guidelines on compliance have been developed to ensure safety health and environmental compliance during trainings and other project activities. The focused area is adoption of best management practices, health safety measures related to semen, liquid nitrogen gas and organs handling, proper disposal of waste such as semen straws, sheaths and animal organs, syringe handling and disposal, compliance to product specifications, proper disposal of waste such as empty medicine bottles, syringes, bio-security measures at upgraded model farms and so on.

### REPORT ON COMPLIANCE

This report is for period April-June, 2016. Environmental team used methodology of physical inspection of sites, visit to class rooms and interviews of trainees to evaluate the level of compliance of environmental procedures and understanding of the beneficiaries regarding environmental awareness. Component-wise findings of this report are given in subsequent sections.

### Farm Upgradation and Bio Gas

#### Upgraded Model Farm:

Basic Environmental mitigations are adopted at upgraded farms so that trainees could be demonstrated and aware about environmental best practices. Trainees can visualize and better understand the practices and implement these value adding practices at their farms as well.

Dairy project intervention and training has improved the quality of hygiene, bio-security measures, milk hygiene, disposal of waste and health and safety measures at the upgraded farm. Issues are shared on regular basis with field staff in case of non-compliance and well addressed in due course of time which helped to improve the compliance.

During the site selection for upgraded model farms, certain criteria were established to avoid frequent ponding as ponding causes diseases. Further, a year round supply of clean drinking water and construction of water channels for liquid manure handling in case of shed construction was ensured. Following are issues observed in this reporting period regarding to this component.



Table 13: Environmental concerns on up graded farms

Issue	Observations	Remarks
Cutting of trees was observed at site.	315-WB Basti Soley Wali	At 315-WB, message was not communicated to farmer properly even farmer planted some trees at his own. Now farmer has been communicated and is committed to plant konoo trees. Basti Soley wali trees were cut during farm construction but tree plantation is still pending.
Bio security is not present at up-graded farms	Nafs-E-Nabi Farm, Basti Siyalan	Issue still pending at these farms.

#### Bio Gas plant:

EDF document and EMMP for biogas plant have been prepared and got it approved from USAID. Design of the plant was also approved by the USAID and during the construction phase all the recommendations in approved EDF document are observed and all the safety health and environmental related issues are monitored by the environment field on periodic basis. During the construction phase all the safety related

issues like provision of PPE and limiting the particulate matter in contamination through water sprinkling is kept within the prescribed limiting values of NEQS. Moreover, area was barricaded during excavation to avoid any untoward incident and compliance is being observed in its true spirit during the construction phase. Construction is going on at present at the biogas plant site and plant is in its construction phase now.



### Farmer Training

There is one module on environmental awareness in curriculum of farmer training which includes bio-security measures at the farm, milk hygiene, milk quality test, restraining or crushing for personal safety, appropriate feed storage to ensure the maintenance of the concentrate feed quality and general hygiene at the farm. In addition to this, knowledge was imparted to the beneficiaries about the quarantine period for new animals at the farm. Moreover it contains safety measures like treatment stall or restraining methods for pregnancy examination, vaccination, medication, deworming, and artificial insemination. Teat sanitization, organoleptic and surf test are well described to check the milk quality so that milk from the infected animal could be separated. Safety measures like dust mask usage, safety guard importance and maintenance of the silage machine for silage shows are being taught to the trainees.



Environmental officers carried out visits at the training center to observe/monitor the process of knowledge transfer from trainer to trainees on environmental best practices. Compliance with standards was observed on most of the training centers; however, there were few training centers which had some issues. The details of these issues are given below:

Table 14: Environmental concerns in farmer trainings

Issue	Dairy Farm	Remarks
Biosecurity measures were not implemented in true spirits.	13-BC, 47-DB, 68-DB, 56-DB, 369-WB, Vega Mahal, Rang Wala, 379, Sheikh Dildar farm.	Bio security should be ensured by providing lime tray or solution of disinfectant at the entry of the farm premises because this practice saves animals from different diseases that may come from other farms.
Surf test and Teat dipping was not performed at farm during one day training	18-WB (VEH)	Concerned master trainer has been asked to be in compliance in future.



## Artificial Insemination Technicians’ Training

AI-training curriculum has one module on safety measures of handling LNG, semen and allied apparatus which is well taught and demonstrated in the class. Also the project team takes the following measures to ensure the safety and environmental compliance on its training sites and practical areas:

- All AI trainees wear Dangri (overalls), gum boots and gloves during practical training on live animals to minimize the chances of disease transfer to human beings.
- Organs are stored inside refrigerator in enclosed container to inhibit the bacterial growth so that pathogens are not spread in the environment after usage.
- Either crush or restraining is used to control the animals during live animal practice to prevent the injuries during insemination practice.
- Sheaths and contaminated polythene gloves are kept covered in dust bin at site till further disposal so that pathogens are not spread in the environment.
- Organs are disposed of inside limed pit for biodegradation and safe disposal. Lime is utilized for the disinfection purpose at Bahawalpur site however, to ease the process and to improve the efficiency of the process; heat treatment prior to the ultimate disposal in the land has been introduced at Burj Attari site for organs disposal. After heat treatment, organs are converted into municipal solid waste and so could be easily disposed of along with city waste management system.

Table 15: Environmental concerns in AIT trainings

Issues Observed	Mitigation Measures Proposed
Restraining of Animal is not done properly	This is a serious safety hazard and restraining should be done before practicing on animals.
AITs were not wearing face masks	Everyone should use mask and it should be changed with new one after regular intervals
Organs are not handled well as water drips to the ground from organs consequently resulting in contamination.	They should be handled in such a way that breeding place for bacterial growth is not developed.

## Women Livestock Extension Worker (WLEW) Training

WLEW training takes place at locally (Village level) established training centers in two districts namely, Bahawalpur and Vehari. As a part of training, SHE officer conducts environmental awareness sessions to demonstrate WLEWs about the safe safety health and environmental practices mainly covering the area of handling medicines, concentrate feed storage and appropriate disposal methods of syringes and empty medicine bottles. Further the project takes the following measure to ensure the environmental compliance

- Medicines are protected from the sunlight during outdoor sessions by use of kit bag. Moreover, expiry date is checked before use of medicines at both sites which eliminates the chances of expired medicine usage.
- SHE officers perform quarterly stock checking to ensure that material and medicines are stored appropriately and no expire medicine is place in the store
- Recapping needle enhances the chances of needle prick injuries as well as zoonotic diseases occurring as a result. Hands are washed with soap after conducting surgery of an animal.

There were some issues observed in this quarter related to the compliance which need attention from management, so the issues were discussed with zonal management for their redress like:

Table 16: Environmental concerns in WLEW trainings

Issue	Mitigation Measure
There was no arrangement of washing hands after treatment of animals at field camp	This practice can infect WLEW’s through cross contamination. Hand washing facility should be available at site with anti-bacterial soap.



Issue	Mitigation Measure
Restraining the animals practice was not in place for treatment at most of the time.	This practice leads to safety hazard for WLEWs
Mineral Mixture blocks are stored in unhygienic condition. Some blocks are openly stored without box on bare floor. The water is also present near to these blocks and cleaning is also done daily on this floor which is degrading their quality.	Proper racking should be done in order to ensure degradation of the quality.

### WAY-FORWARD AND CONCLUSION:

By and large, Dairy Project is observing compliance in most of its activities; the Project has minimal environmental adverse impact. However, there were some instances, where improvement was required. In such cases, necessary directions have been given to Operations Department for remedial measures.

Dairy project believes in continual improvement and efforts will be made to improve the environmental conditions even further in future.

### Annex 3: Performance Evaluation Sampling Methodology

The primary objective of the evaluation activity conducted in March-April 2016 was to get a reliable indicator of the project's performance in three components vis-à-vis farmer, AIT and WLEWs trainings. Given logistical and financial constraints, it was not possible to cover all districts from where the Dairy Project has trained beneficiaries. To maintain the quality of the assessment, keeping in view the constraints Monitoring & Evaluation department (M&E) faced, M&E ensured the best sampling strategy was adopted. For this survey, M&E decided to include the beneficiaries trained in Phase 1 of the project along with the beneficiaries trained in Phase 2. However, considering the spread of beneficiaries in Phase 1, not all of the beneficiaries could be considered in the population for sampling.

#### Sampling Population

For sampling purposes, the districts of beneficiaries trained in Phase 2 were selected first. Since the project performance is evaluated component wise, and M&E indicators are also set accordingly, the M&E team adopts a stratified sampling technique where the beneficiaries are first stratified into their corresponding components and then randomly sampled. It is important to note that only beneficiaries trained till December 2015 were considered for sampling since it takes at least 3 months for beneficiaries to set up their business or adopt best practices. Therefore, the beneficiaries trained after December 2015 were excluded from the sampling to ensure that an accurate impact can be determined. The selection criteria for the districts and beneficiaries are given below.

#### One-day and seven-day farmers:

**More than 95% of the farmers trained in one-day and 7-day farmer training sessions came from five districts**, namely Vehari, Lodhran, Khanewal, Multan and Bahawalpur. Due to logistical and financial constraints, the sampling was kept limited to these five districts. Nonetheless, the sample from these districts was a good representative of the total farmers trained. A total of 26,049 one-day and 1,341 seven-day farmers were trained as of December 2015, excluding the school trainings.

#### WLEW (New/Refresher)

In Phase 2 of the project, the Dairy Project's main geographical areas of intervention for WLEW training program were in districts Bahawalpur, Lodhran, Vehari, Khanewal, Multan, Bahawalnagar and Pakpattan. All of the beneficiaries trained in Phase 2 were considered in the sampling population. **In Bahawalpur zone, the newly trained beneficiaries in Phase 2 were also given refresher courses.** Hence, to **avoid double counting** and sampling, these WLEWs will only be considered in refresher training and not in the regular training. A total of 655 WLEWs were trained out of which 51 were also given refresher training (**excluded from new WLEWs**) and 723 old WLEWs (i.e. trained during Phase 1) were given refresher/advance training till December 2015.

#### AITs

AITs trained by the project are not limited to the regional coverage of the zonal field office. In Phase 2, the project has trained AITs from districts Jhang, Chiniot, Faisalabad, Pakpattan, Bahawalpur, Lodhran and Vehari. For sampling **purpose, all of the beneficiaries were considered** and since the spread of the sample was geographically wide, a separate team was assigned to collect data from beneficiaries sampled from Jhang, Faisalabad and Chiniot region. A total of 198 AITs were trained till December 2015.

#### Phase 1

The M&E selected districts Bahawalnagar, Bahawalpur, Chiniot, Faisalabad, Jhang, Khanewal, Lodhran, Multan, Pakpattan and Vehari for the population of sampling of Phase 2. **The evaluation for the Phase 1 beneficiaries was limited to these districts** and the result **generalized only on these district beneficiaries.** For farmers, **one-month trained beneficiaries** were not considered in the evaluation while as far as AITs are concerned, **CDF, FMT and volunteers** were not considered in the sampling population.

#### Sample Size

The beneficiaries were stratified into five categories namely one-day farmers, two/four/seven-day farmers, WLEWs, WLEW refresher trainees and AITs. Sample size for each type of beneficiary, except for WLEW



refresher, was computed using MACORR sample size calculator (<http://www.macorr.com/sample-size-calculator.htm>). Confidence Level of 90% and confidence interval of 5% was kept for computation. In case of WLEW refresher subjective sampling technique was used and 10% of the WLEWs given refresher were randomly selected. The following table shows the population size and the corresponding sample size which was computed using the calculator.

Table 17: Sampling population and Sample sizes

	Farmers		WLEWs		AITs	Total
	one-Day	Two/four/sev en-Day	Refresher	Regular		
<b>Total Population</b>	26,049	6,965	723	4,835	1051	<b>39,623</b>
<b>10% subjective</b>			72			<b>1,077</b>
<b>90% &amp; 5%</b>	269	262		258	216	

### Sampling Procedure

First the population was stratified and the corresponding categories to the option were constructed for sampling. In case of farmers from Phase 1, no baseline data was available. Hence, to minimize the recall error, the beneficiaries who were interviewed before in the previous surveys were only randomly picked. This did not cause any selection bias as in the previous surveys these beneficiaries were also randomly picked. However, to keep the sampled population representative of the two-day, four-day and seven-day category, a random sample of 262 beneficiaries was selected from the total population of the mentioned category, and the distribution among the three types of beneficiaries was noted. Then the same distribution number was picked randomly from the seven-day farmer population and the two-day and four-day farmers who were already interviewed. For one-day farmers, AITs and WLEWs the sampling was straight forward. The beneficiaries were randomly picked from the population available for sampling according to the sample size computed. For randomly sampling, STATA was used to randomly pick the beneficiaries for survey.

### Survey Methodology:

Survey tools are designed in accordance with the project’s key outcome indicators illustrated in Monitoring and Evaluation (M&E) Activity Plan. Keeping in view the experiences from the past quarterly surveys, survey tools are refined and necessary questions are added to gather more insights into the impacts of trainings provided by the Dairy Project. Enumerators’ training is an essential part of quality data fetching. A complete training session was organized in Vehari and Bahawalpur for all the enumerators conducting the survey. Enumerators were introduced to the probing methods and all research instruments were briefed one by one. After complete orientation on probing techniques and survey instruments, mock sessions were held which were observed and later on, trainers provided their feedback on mock sessions one by one. After the finalization of the questionnaire and providing required briefing to the enumerators, a pilot survey was carried out in both the regions. This not only refined the tool even further, but also helped the enumerators to acquire first-hand experience. After successful pilot testing and planning, the survey was carried out in Vehari and Bahawalpur.

To ensure the quality of data, the Monitoring & Evaluation department (M&E) implements a comprehensive monitoring plan with the help of M&E zonal staff. M&E officers make random checks on the interview sessions carried out by the enumerators to ensure accuracy of the data collected. Complete data flow procedures are documented with all the data quality and verification checks explicitly mentioned. After receiving the questionnaires from the enumerators and before entering it to the database, the data is verified by Monitoring and Evaluation Officer to ensure the quality and accuracy of data. Even though the data is received after rigorous checking, the analyst further cleans it and checks for errors and outliers to have a refined data set for analysis. Initially, the data is analyzed by generating explanatory graphs and doing cross tabulations, to get a better understanding of the facts and figures provided in the data. Afterwards, important ratios and percentages are computed against the performance indicators to calculate project’s success rate in comparison to the targets.



## SUCCESS STORIES

# Achieving Ambitious Goals

***Dairy Project's wide-ranging training programs for dairy farmers play a significant part in improving livelihoods and socio-economic conditions of rural farming communities.***



***"I learnt new best Dairy farming practices for maximum output, such as animal breed improvement methods, Vanda Feeding, preventive measures for contagious diseases, Silage making and fodder planning. These practices were completely new to me and have helped me a great deal", says Farooq.***

Farooq Doger, Dairy Farmer  
Dogarabad, Taulamba, Tehsil Mian  
Channo, District Khaniwal.

A 30 year old resident of Dogarabad, Taulamba, Tehsil Mian Channo, District Khaniwal, Farooq Doger works as a Dairy farmer in his village. He supports his family with a monthly income of PKR 75,000. With the growing expenses of daily life, Farooq wanted to expand his farm production.

The Dairy Project, an association between the United States Agency for International Development (USAID) and the Dairy and Rural Development Foundation (DRDF), provides training programs for people like Farooq in rural communities of Punjab, to acquire modern farming skills and techniques for the betterment of their farms.

Farooq got to know about the Dairy Project through the community meetings held at his village. He subsequently applied for the training program, and after undergoing the interview process, he was selected.

*"I learnt new best dairy farming practices such as animal breed improvement methods, Vanda Feeding, preventive measures for contagious diseases, Silage making and fodder planning. These practices were completely new to me and have helped me a great deal", says Farooq.*

Farooq is now able to practice deworming, vaccination, facility of free animals is now being provided, and he has access to imported semen for Artificial Insemination Techniques (AITs) instead of local semen. Moreover, he's able to make improvements in fencing, feeding tables, water trough and breed.

Since completing the seven-day training program, Farooq's farm productivity has improved. His total animals have increased from 21 to 25 in number, out of which 10 are now lactating instead of 6. The total milk production has also witnessed a significant increase of 29 liters, i.e. from 47 to 76 liters.

In the near future, Farooq plans to upgrade his farm, construct a silage bunker and focus on breed improvement.



## Improving Livelihoods through Breed Improvement

**USAID – DRDF Dairy Project provides employment opportunities for unemployed rural youth through its skills based training programs resulting in improved milk yield and rural income.**



**“I am now at ease since my family has access to better health and education facilities”**

Abid Hussain, Artificial Insemination Technician  
Chak 345 EB, Tehsil Arif Wala,  
District Pakpattan

Abid Hussain, 30, is an Artificial Insemination Technician living in a small village in district Pakpattan. Prior to his AIT training, Abid worked as a small scale farmer but, barely earned enough to take care of his family’s needs.

In 2015, Abid learnt about USAID’s Dairy Project from a friend. He contacted the Project’s mobilization team for more information about the initiative, and subsequently submitted an application to enroll in the AI training program. Upon passing the test and interview, he was selected for the training program.

The USAID – DRDF Dairy Project’s Artificial Insemination training component seeks to create income opportunities for the educated youth, and increase milk production for dairy farmers through improved breeds and access to insemination services.

The Artificial Insemination (AI) training provided Abid with basic knowledge and skills required to inseminate cows. Through the program, he learned skills such as palpation, vulva opening, rod passing, thawing, gun loading, internal reproductive anatomy, and pregnancy diagnosis. Since timely insemination services were not available in nearby villages, his village community appreciates the services provided.

*“I provide quality A.I services, semen and guidance about food management of animals to the farmers in my community. They are extremely satisfied with my services, and due to close proximity, my services are easily accessible and affordable,”* says Abid.

Since then, Abid has inseminated about 208 animals, achieving a conception rate of 76%. He earns around PKR 7,000/- (USD 70 approx.) per month from pregnancy diagnosis alone. In May 2016, his combined profit amounted to PKR 28,000/- (USD 280 approx.). By providing AI services, Abid is now able to meet his household expenditure and provide better health facilities for his family. He also plans to expand his AI business to nearby villages.

*“Thanks to USAID’s Dairy Project, I am able to afford better health and education facilities for my family. I plan to continue working in this field and expand my AI business to nearby villages as well,”* remarks Abid.



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## Dairy and Rural Development Foundation

<http://www.dairyproject.org.pk/>

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