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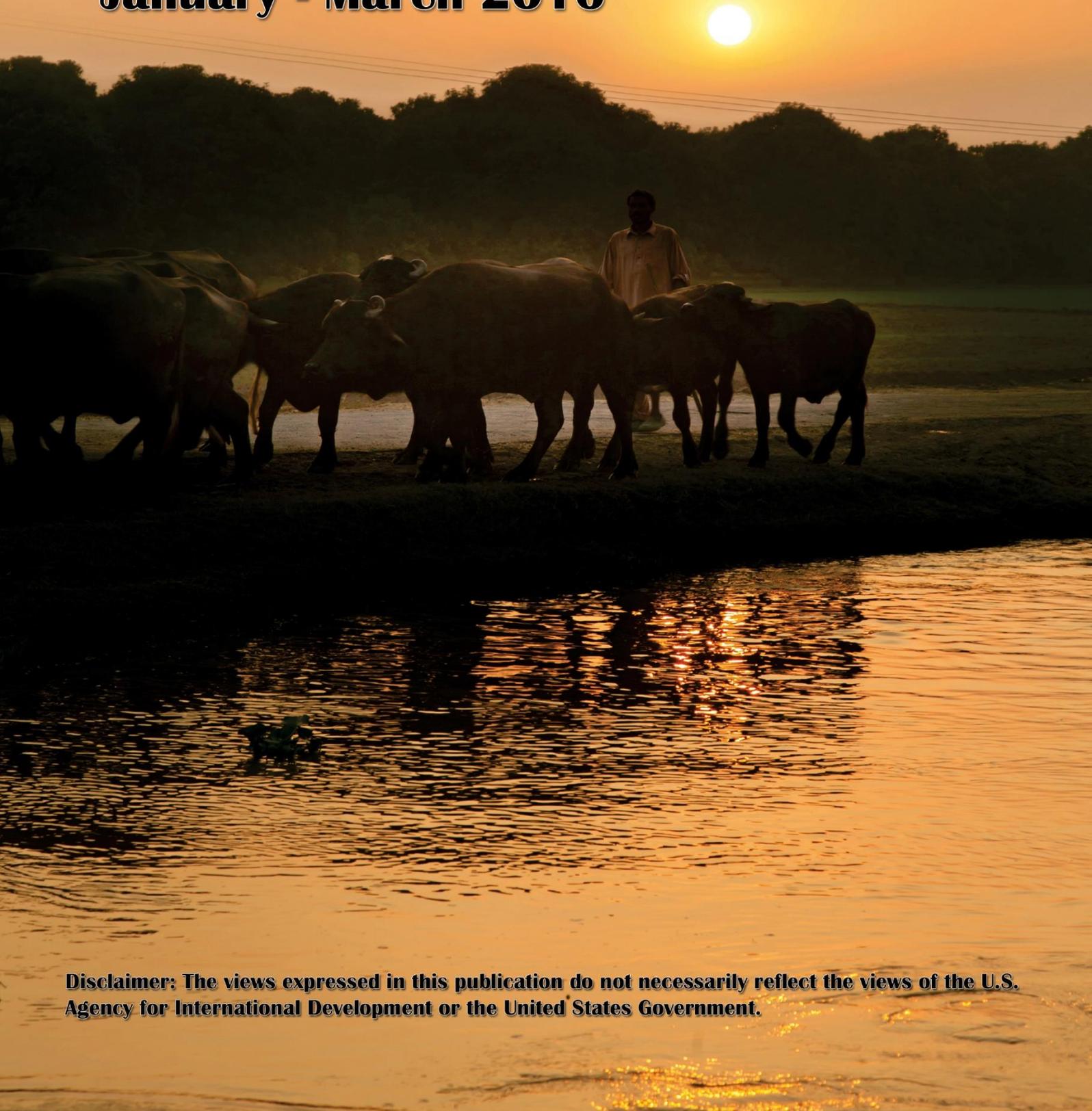
Dairy and Rural  
Development  
Foundation



# **DAIRY PROJECT**

## **QUARTERLY PROGRESS REPORT**

### **January - March 2016**



**Disclaimer: The views expressed in this publication do not necessarily reflect the views of the U.S. Agency for International Development or the United States Government.**

# 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**



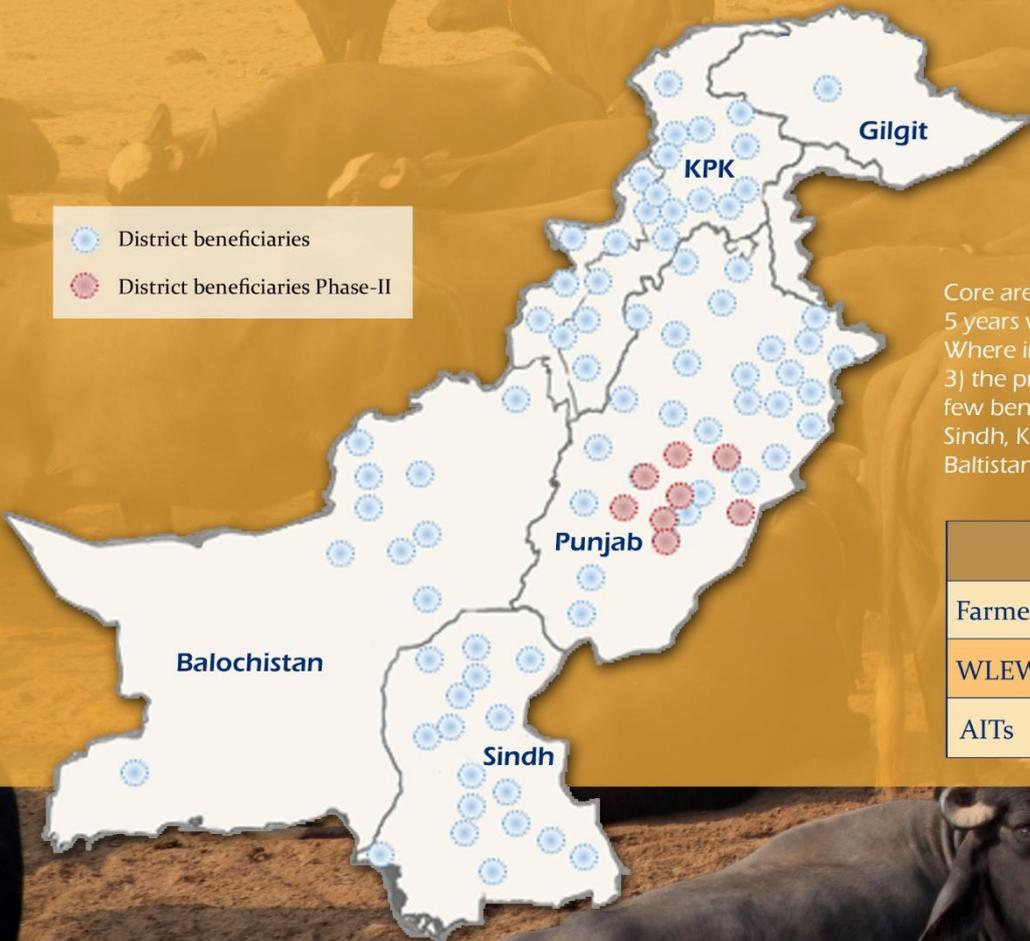
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Good Food, Good Life

**PMU**  
**Lahore**  
**Field Offices**  
**Vehari**  
**Bahawalpur**



● District beneficiaries  
 ● District beneficiaries Phase-II

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	41,013
WLEWs	5,783
AITs	1,993

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

## INPUTs

Over 1,749 dairy training and awareness classes provided people from rural areas

8,926 rural extension service providers awarded with start up kits

1,841 motorbikes awarded to AITs for large geographical coverage

Co-Financing for farm-upgradation

Silage making teams facilitating farmers

## Output:

Over 49,986 trained beneficiaries making dairy farming sector efficient and providing extension services

84 farms upgraded with more than PKR 37 million (USD 0.35 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



FARMERS



WLEWS



AITs



FARM  
UPGRADED

## Contents

List of Tables .....	v
List of Figures .....	v
List of Acronyms .....	vi
Executive Summary .....	1
Financials.....	3
Progress & Performance .....	5
Farm Upgradation and Biogas plants.....	5
Training and Support for Dairy Farmers.....	7
Training and Support for Artificial Insemination Technicians (AITs) .....	10
Training and Support for Women Livestock Extension Workers (WLEWs) .....	14
Other life of project targets .....	17
Communication, Awareness Campaign and Other Activities:.....	18
Issues, Lessons Learnt and Way Forward .....	21
Annexures:.....	22
Annex 1: Project Overview .....	22
Annex 2: Environmental Compliance .....	24
Annex 3: Performance Evaluation Sampling Methodology .....	27
Success Stories .....	29

## List of Tables

---

<i>Table 1: Financial Summary</i> .....	3
<i>Table 2: Expenditure Summary</i> .....	3
<i>Table 3: Up-gradation Summary (March 2016)</i> .....	5
<i>Table 4: Number of Farmers Trained and Training Type</i> .....	7
<i>Table 5: Training Targets and Achievement (Jan-Mar, 2016)</i> .....	7
<i>Table 6: Performance Indicators for Project Trained Farmers</i> .....	8
<i>Table 7: Performance Indicators for Project Trained AITs</i> .....	10
<i>Table 8: Target vs Achievement - WLEWs</i> .....	14
<i>Table 9: WLEW Performance Indicators</i> .....	14
<i>Table 10: Additional life of project targets</i> .....	17
<i>Table 11: Administrative Issues/Challenges and Remedies</i> .....	21
<i>Table 15: Sampling population and Sample sizes</i> .....	28

## List of Figures

---

<i>Figure 1 Quarterly Growth in the Number of Trained Beneficiaries</i> .....	2
<i>Figure 2: Percentage of farmers adopting best practices</i> .....	8

## 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 second 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 recently launched the 3:1:7 strategy which primarily focuses on optimal herd composition.

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

As of 30 March, 2016, the project has provided training to **41,899** 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 **4,129** farmers. Our recent survey data reveals an increase in milk yield per animal of the project trained beneficiaries by **17%**. A total of **84** farms have been upgraded till 30 March, 2016 which serve as training and learning centers. A total of **3,856** farmers received one-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 March, 2016, the project has trained **2,304** AITs. In this quarter, **110** AITs were enrolled into the six-month training program after a methodical selection process duly monitored by the Monitoring and Evaluation Department. **70** AITs completed the six-month training during this quarter. The AITs were examined by the University of Veterinary and Animal Sciences (UVAS) with successful candidates awarded start-up kits and motorbikes. So far, **1,841** 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. On average, keeping all other factors constant, an additional one month experience results in an increment of **PKR. 600/- (USD 5.72)** per month in income.

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 March 2016, the project has trained **5,783** 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 **839** such WLEWs with refresher training. As per our recent 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 will begin soon.

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 published a full-page newspaper supplement, produced two training video modules on Mastitis, Deworming and Vaccination topics, and participated in the Dawn Agri Expo. Moreover, the project used the popular medium of street theatre to inform farmers about the farming practices and their resultant outcomes. The project launched its mass awareness mobile float campaign with the name “Dairy Laway Khushian the Dheri (Dairy brings happiness to your life)”. In the campaign a total of **88** street theatre shows have been conducted till now in vicinity of upgraded farms in Vehari and Bahawalpur zones. This activity not only helped spread awareness on dairy farming in rural traditional farmers, but also increased the mobilization for one-day training. A total of **40,000** farmers have participated in these shows.

### Beneficiary Growth

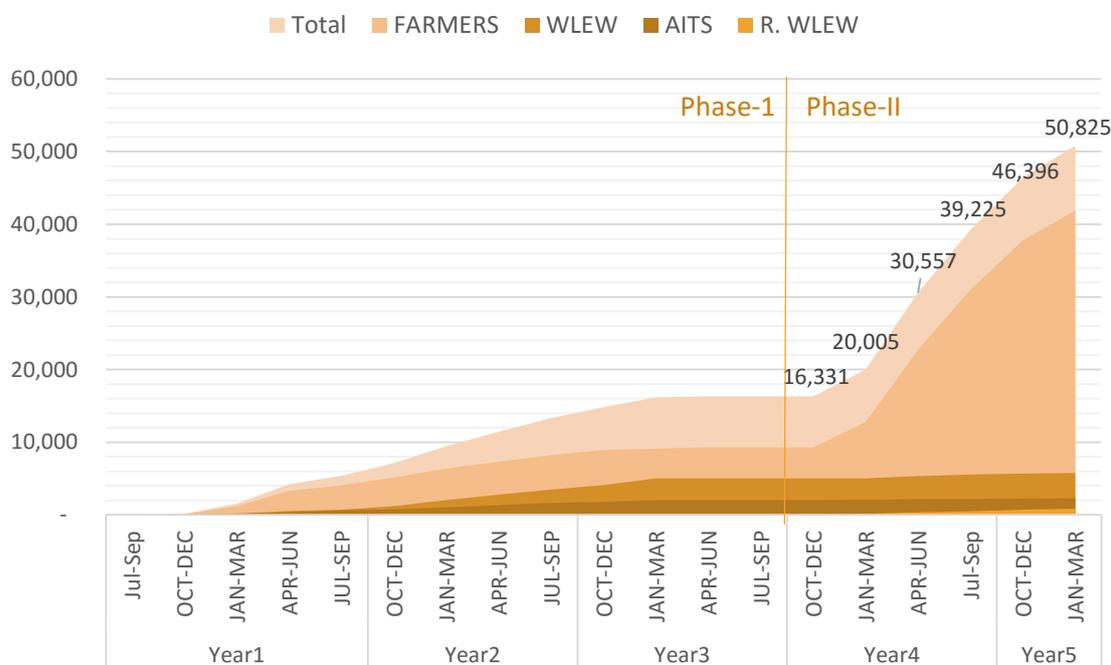


Figure 1 Quarterly Growth in the Number of Trained Beneficiaries

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

## Aid for Sustainable Development

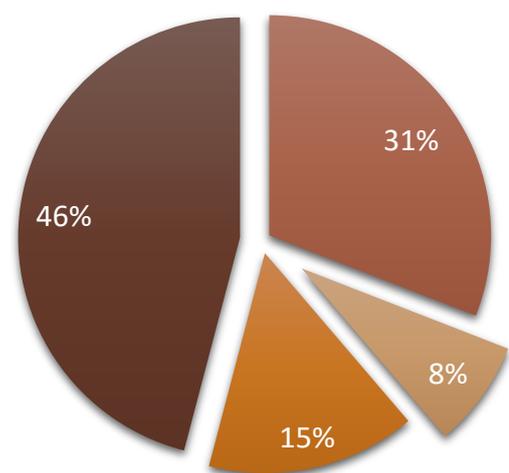
Table 1: Financial Summary

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 March-2016):	18,809,749
Project Funds Expended During the Reporting Quarter (Jan-Mar 2016):	902,055
Obligated Project Funds Remaining Available:	2,108,544
Project Funds Allocated for the Next Quarter (Apr-Jun, 2016):	898,593

Table 2: Expenditure Summary

Expense Categories Under Cooperative Agreement	Expenditure during Jan-Mar 2016 (US \$)
Personnel Cost	279,123
Travel	70,913
Equipment and Supplies	137,631
Other Direct Costs	414,388
<b>Total</b>	<b>902,055</b>

Expenses Jan-March, 2016



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

“Preservation of the environment, promotion of sustainable development and particular attention to climate change are matters of grave concern for the entire human family. No nation or business sector can ignore the ethical implications present in all economic and social development. With increasing clarity scientific research demonstrates that the impact of human actions in any one place or region can have worldwide effects”

- Pope Benedict XVI



Photo: Dairy Project



## 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 targets.

This progress report describes the operations and progress of the project for the period January 2016 to March 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 102 farms for upgradation. Construction/upgradation of 84 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 27,202,191** for 89 farms while farmers have contributed/committed a total of **PKR 37,479,411**<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 (March 2016)*

Upgradation Type	Total	Completed
Calf Pen	1	1
Calf Cages	1	1
Sand Bunker	2	2
Fencing of Farm	4	3
Farm Soiling	4	4
Milking Machine	13	13
Shed Construction	68	58
Flooring	1	0
Silage Machine	14	14
Silage Bunker	8	6
Cooling System	3	3
<b>Grand Total</b>	<b>119</b>	<b>105*</b>
<i>*A farm under upgradation may have more than 1 facility being upgraded</i>		

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

<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.

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 Data Specialist analyzes the data and proposes areas of improvement for each farm. 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.



USAID

خوشحالی کی بات  
3:1:7

Farm Name: CAPT Ismail  
Village Name: 35788  
Farm Number: 50-04

Particulars	Baseline	Mar15	Apr15	May15	Target
Total Animals	60				70
Milking Animals	33				50
Program & Milking	18				
Non-Program & Milking	15				
Program & Dry	9				
Non-Program & Dry	0				
Program Heifer	3				
Non-Program Heifer	15				
Average Daily/Animal Milk Production	11				16
Feed Cost Per Liter	23				
Cost of Production Milk Per Liter	36				

Recommendations: Silage Feeding, Extension, Replacement of Low Yielders

Photo: Dairy Project



### Bio Gas

Instead of installing small 10 biogas units, 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 farm. This biogas unit will not only fulfil the requirement of this farm but will also provide power to surrounding community. 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 USAIDs environmental considerations.

### 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 March 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	30,900
Seven-day Training	1,614
<b>Total</b>	<b>41,889</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 4,129 farmers were trained in the current reporting period. To mobilize the farmers and WLEWs, a total of 199 community/corner meeting were conducted by social mobilizers in both zones.

*Table 5: Training Targets and Achievement (Jan-Mar, 2016)*

Type of Training	Targets	Achievement	Variance
One - Day Training	7,200	3,856	(3,344)
Seven - Day Training	400	273	(127)
One Month Training for commercial farmers and farm managers	Target Achieved		
<b>Total</b>	<b>7,626</b>	<b>4,129</b>	<b>(3,497)</b>

With respect to the overall training targets, the project is on track to achieve its set targets. However, in the reporting quarter, the project trained a lower number of farmers as compared to the set target. 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.

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, 4,743 female farmers have been trained through one-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](#)).



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. Awareness among the rural farmers about the best dairy farming practices have improved. 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.

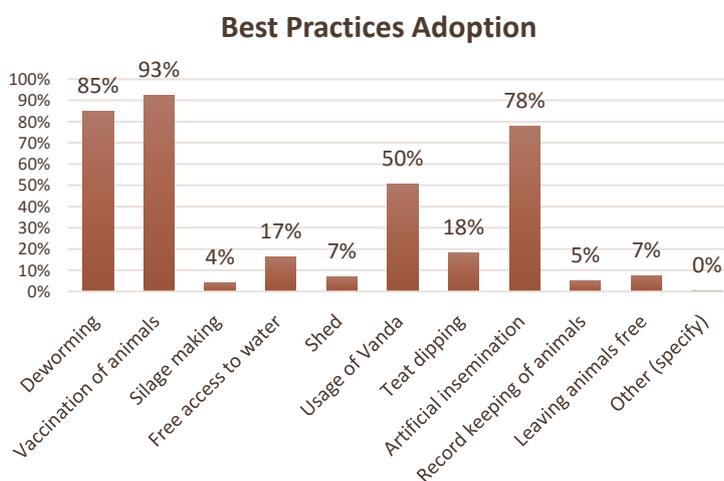


Figure 2: Percentage of farmers adopting best practices



Milking Cows

Photo: Dairy Project



## 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 70 trainees completed the six month training program under batch 31 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 95 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.

Moreover, the mobilization team mobilized three batches of four groups at two training centers namely Burj Attari and Bahawalpur. These four groups were selected from Bahawalnagar, Vehari, Lodhran, Multan, Sahiwal, Rahimyar Khan, Pakpattan, Muzaffargarh, Hafizabad and Rajanpur districts. Currently, a total of 137 AITs are undertaking training at Burj-Attari while 52 AITs are at Bahawalpur training center (batches 32, 33 and 34).

The follow-up team conducted 8 follow-up meetings for batch 30 and 31, in which issues relating to their work were discussed. Participation rate of AITs in these meetings was 90%. In the current reporting period, 114 induction meetings were held in respective villages of AITs in which follow-up team introduced the AITs to the village community. Motorbike validation team conducted motorbike evaluation survey of batch 28 and 29. A total of 45 AITs were surveyed, out of which 17 qualified to receive motorbikes.

Reevaluation (second chance for AITs to improve their performance) of 63 AITs was also carried out in the current reporting period. As a result 11 AITs qualified for the motorbike award. Motorbike distribution ceremonies were held at UVAS, Nestle Pakistan milk collection centers and project field offices. A total of 98 Motorbikes were handed over to qualified AITs in this quarter. The project has awarded 1,841 motorbikes to qualified AITs as of March 31, 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%

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

Indicators	Targets	Achievement
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%
Average Number of farmers served	-	78
Number of AITs successfully trained in book-keeping and business management	100 percent	100%

*Note: 1-Calculated from Bike-Validation Survey*

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.

From the table above and our regression analysis, we observe that experience and time has effect on AITs' income. As they gain more experience and confidence of the community, their earnings increase; on average, one additional month of experience results an increment of PKR 600 in their income.



Photo: Dairy Project



Road to sustainability

# Dairy Cluster formation

CALF  
FATTENING



AITS



VMC

FARMERS



WLEWS

BIO GAS





SILAGE  
MACHINE



MOBILE  
VET



INPUT  
SUPPLY MART



UPGRADED  
FARMS



FARMERS  
TRAININGS



## 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 project continued its WLEW training and refresher training programs in Vehari and Bahawalpur zones. In the current reporting period, the project trained 114 new WLEWs and provided refresher training to 116 (previously trained) WLEWs. To mobilize rural men and women for Dairy Project training programs, the mobilization team conducted 199 community/corner meetings which were attended by 6,802 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 70 help camps for WLEWs in which 5,115 cases were treated by the women under the supervisor of their master trainer. The training summary for the reporting period is given below:

Table 8: Target vs Achievement - WLEWs

Month	WLEWs Training			WLEWs Refresher		
	Target	Achievement	Variance	Target	Achievement	Variance
Jan, 2016	25	19	(6)	70	24	(46)
Feb, 2016	35	53	18	70	47	(23)
Mar, 2016	40	42	2	60	45	(15)
<b>Grand Total</b>	<b>100</b>	<b>114</b>	<b>14</b>	<b>200</b>	<b>116</b>	<b>(84)</b>

To assess the performance of trained WLEWs, the M&E Department conducted a performance survey 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 below.

Table 9: 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 6,682 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 clusters, 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. The project has initiated a pilot cluster in Vehari district where the team is working on modality, standard operation procedures, governance of structure, establishment of milk collection center and an Agri-mart.



Photo: Dairy Project

In the current reporting period, the follow-up team provided follow-ups to WLEWs from batch 24 to batch 30. To introduce the WLEWs as a reliable extension worker, the follow-up team conducted 96 induction meetings, in which 4,923 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 183 meetings in which 897 WLEWs participated and discussed technical and input supply issues they faced.

The Dairy Project has realized the value of creating market linkages between trained WLEWs and suppliers. It conducted 55 meetings with various suppliers who showed interest in making WLEWs a part of their supply chain. Further, they promised to provide continuous supply of inputs required by WLEWs in the cluster.

Simultaneously, the project is also working with ITU University to develop a *demand aggregation* software which aggregates the demand of surrounding WLEWs in order to make it feasible for suppliers to supply inputs through the cluster head.



Photo: Dairy Project



Other life of project targets

Table 10: Additional life of project targets

Progress Indicators	LOP Target	Progress
Number of subsidized imported semen provided to farmers	2015-16: 25,000 (Revised Target)	2,000
Number of new clusters formed	100 clusters	Clusters were reshaped in Vehari while were formed in Bahawalpur Total: 118
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	326
Number of inter-beneficiary meetings conducted	100 meetings to be conducted (LOP Target)	10
Number of farmers reached through media campaign	2014-15: 500,000 farmers 2015-16: 500,000 farmers	1,00,561
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:

- Provided support in the production and designing of certificates, training modules for seven-day farmer training, record register and AI module. Promotional material and giveaways including Brochures, factsheet, branded shirts and caps, backdrop, standees, table cards, skins and artwork, ear tagging books and brochures were also developed for the event 'Valuing Lives through Dairy Development, FMD round-table discussion, semen subsidy campaign and the Dawn Agri Expo respectively.
- Developed and disseminated Dairy Project's diary & calendar 2016 among all major stakeholders including dairy industry, Livestock department, district administration, NGOs, academia, dairy farming community and partners. The diary focused on Dairy Project's interventions and commitment in terms of sustainable dairy model, economic profitability, and cluster formation, social and economic equity for the dairy farming community.
- The second-round of street shows with Mobile Float announcements was organized in the months of December and January, 2016. During this round, 31 shows were conducted in Vehari, Multan, Khanewal, Bahawalpur and suburbs to raise awareness about best farm practices, project interventions and to enroll them for different training programs, carried out under Dairy Project. More than 14,000 dairy farmers with a sizeable portion of rural women were in attendance during these shows.
- Provided support in organizing the event 'Valuing Lives through Dairy Development'. Its purpose was to showcase USAID-DRDF Dairy Project and its commitment in terms of sustainable dairy development, economic profitability, and social and economic equity for the dairy farming community. It provided public – private stakeholders and guests with an opportunity to interact with the project beneficiaries, visit their stalls and model sheds, attend the cattle breed exhibit, and examine the mobile float used for mass awareness activities. Further, it also helped Dairy Project highlight USAID's assistance to unemployed rural youth by skills based AI training, small entrepreneurship opportunities and increased incomes.
- The Dairy Project published a newspaper supplement in Jang Lahore and Multan editions. The supplement gave the project an opportunity to publicize USAID – DRDF Dairy Project's interventions, achievements and impact on the dairy sector with an estimated reach out of 215,000. The supplement was published on Thursday, January 28, 2016.
- USAID-DRDF Dairy Project successfully participated in UVAS Job Fair on January 27, 2016 and LUMS Job Fair on January 30, 2016. Dairy Project's stalls attracted over a total of 250 students who showed a keen interest in joining our growing team.
- Completed shooting and post production work of two Training Video Modules during the months of January, February and March 2016. The video modules covered the topics of De-worming & Vaccination and Mastitis Control. Pre-production activities such as concept note, script finalization, storyboard, presenter selection etc. took place in January, while the shooting/production was carried out in the month of February followed by post-production activities in March. The purpose of the video module(s) is to create a presentation/walkthrough that takes the audience through each step of best dairy farm practice/process in detail and explains its significance.
- The Communications team supported Dairy Project organize a round-table discussion on Foot and Mouth Disease (FMD) in collaboration with Punjab Livestock and Dairy Development Department (L&DD), University of Veterinary and Animal Sciences (UVAS) Lahore, and USAID PEEP Project. The round-table discussion was held on February 24, 2016 at UVAS, Lahore. The discussion revolved around the prevalence of FMD in Pakistan's livestock sector. The discussion revolved around the prevalence of FMD in Pakistan's livestock sector. The participants, hailing from the public and private



sectors, believed that scaling the production of local strains and aligning with the Government of Punjab's policy objectives would go a long way in combating the threat of FMD. There was unanimous agreement that public-private sector collaboration would pave the way to mitigate and/or solve the issue.

The round-table discussion was extremely successful and highly appreciated by the attendees, which included notable personalities such as Naseem Sadiq, Secretary L&DD; Dr. Miles Toder, Director USAID Punjab; Professor Dr. Talat N. Pasha, Vice Chancellor UVAS; Sajjad Moghal, Senior Development Advisor, USAID Punjab; Jack Moser, Chief of Party USAID –DRDF Dairy Project; and Muhammad Junaid, Chief of Party USAID PEEP project. Representatives from the Livestock and Dairy Development department (L&DD), Engro Foods, ICI Pakistan, University of Agriculture, Faisalabad, FAO and private enterprises were also present.

- On February 25, 2016 a delegation from Nestlé comprising of Mr. Robert Erhard, Agricultural Material Specialist, and Dr. Sobia Naheed, Manager Dairy Policy and Development, visited the Dairy Project office in Lahore. The Project Management gave an overview of the project's interventions, achievements, impact and the way forward. The Communications team assisted with the preparations for the visit and designed the project presentation and photoshoot.
- The Communications team assisted in the creating and designing the project presentation for the USAID Portfolio Review.
- As an integral part of Dairy Project's Mass Awareness Component, the Communications Team designed, printed and disseminated its newsletter, Dairy Project Portal (Volume IV, Issue 1). In this respect, 430 copies of the newsletter were distributed among public and private stakeholders and key project staff, reaching out to 43 organizations. Furthermore, the newsletter was shared on the Dairy Project website and Facebook page, as well as with USAID DOCS.
- The Dairy Project published two newspaper articles in Pakistan Observer and Daily Times on February 28 and March 06, respectively. The first article focused on farm upgradation and the 3:1:7 strategy, while the second article highlighted the role of the Dairy Project in promoting gender empowerment in rural communities, and coincided with the International Women's Day (March 08, 2016).
- Through our Social Media Campaign, the Dairy Project successfully increased its Facebook audience to 20,244 users during this quarter (January – March). Moreover, the Dairy Project website was regularly updated with news, success stories and pictures.
- A third-round of street shows with mobile float announcements were conducted in the months of March and April, 2016. The third round of street shows will consist of 20 shows that will raise awareness about the DRDF Semen Subsidy Campaign which seeks to promote subsidized supply of semen to Artificial Insemination Technicians. Moreover, it also seeks to encourage dairy farmers to learn and implement best farm practices for improved milk yield and higher income. Five shows were organized in March with an attendance of about 2,000 rural men and women. The remaining shows will take place in April in Chichawatni, Multan, Vehari and surrounding suburbs.



USAID

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ڈیری لاکہ خوشیاں دی ڈی

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میل کرنا ہے ہیں روشن پاکستان

کڑیری پراکٹ کی فخر پیشکش

USAID

Photo: Dairy Project



## Issues, Lessons Learnt and Way Forward

### Gaining From Experience

Table 11: Administrative Issues/Challenges and Remedies

Issues/Challenges	Remedial Measures
<b>AI-Training</b>	
It was challenging to conduct open air training on live animals at farms in the later part of the day due to severity of weather.	The Operations team changed the training schedule of live animals training to give relief to trainees by not exposing them to severe weather
<b>Farm Upgradation</b>	
During farm construction, unskilled labor was big issue to ensure timely and quality work took place.	The vendor gave orientation to the labor to improve work quality.
Ear-tag applicator were provided to upgrade farms for ear tagging of animals for identification and record keeping purpose. However, farmers were unable to find tags corresponding to project provided applicator.	The project procurement team asked the vendor to provide tags to farmers which could be fixed with these applicators.
<b>Farmer Training</b>	
Some of the upgraded farms are located at the outer boundary of villages and therefore pedestrian access to these farms is an issue. Moreover, there wasn't enough space to accommodate all the trainees.	The project arranged vehicles farmers' transportation to these farms and community came forward to provide space/room for training.
Security is real concern in field operational activities. It was not possible to gather farmers in open space for street theatre shows in current security situation.	The project immediately stopped the street theatre shows. They may be shifted to some contained environment where better security checks could be applied.
<b>WLEW Training</b>	
Due to the <i>carpeted vaccine</i> campaign launched by the Punjab Livestock Department, there is a limited supply of vaccines available in the market for WLEWs and therefore less opportunity for vaccination services.	The project is in discussion with the Punjab Livestock department to include project trained WLEWs as vaccinators in upcoming vaccinations program.
Supply chain of Vanda and medicine is a real challenge for project trained WLEWs since its inception of the project. Companies are only present in dense populous areas while WLEWs are spread across a geographically extensive area. . Therefore supplying Vanda and medicine to WLEWs is difficult, and in some cases impossible.	The project is working on this issue very seriously. Project has invited and discussed this issue with suppliers. After discussions, project decided to move to ICT solution of demand of aggregation so that enough order of quantity is there for suppliers.
Population in South Punjab is distributed in small pockets call <i>bastis</i> . It was not feasible to train two WLEWs from the same <i>basti</i> .	The project only trained a single WLEW from one <i>basti</i> , rather than two WLEWs,
Teams faced problems in handling the beneficiary registration software as there were delays in data transfer and updates.	The issues in data processing were discussed with the software developer and duly resolved.



## 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 monitors operational processes to ensure the compliance with health, safety and hygiene standards. Team developed various guidelines on these standard and conducted staff trainings. The focused area is adoption of best management practices to ensure health and safety related to semen, liquid nitrogen gas and organs handling, proper disposal of waste such as semen straws, sheaths and animal organs, syringe handling & 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.

### Component 1: Farmer Training

There is one module on environmental awareness in curriculum of one day- training farmer 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

Environmental officer 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.

#### Seven Day Training:

Seven-day farmer training module includes a chapter on safety measures. It has clear safety guidelines on treatment stall or restraining methods for pregnancy examination, vaccination, medication, deworming, artificial insemination, teat sanitization, organoleptic and surf test. Staff and trainees are advised to use dust mask while going in field or outside practical work. Department provided safety training to silage technician on machine handling and necessary measure while its operation.

In farmer training, farmers/farm managers are being briefed on how to handle manure and utilize in their farm field after fermentation as fermentation reduces the pathogens significantly as well as make nutrients readily usable by the soil consequently enhancing soil fertility.

Significance of appropriate storage of concentrate feed is also demonstrated and described to the farmers so that they could maintain the quality of feed because moisture from the ground surface and side walls can result in aflatoxins in the feed which is carcinogenic material.

#### Upgraded Model Farm:

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 quality of hygiene, bio-security measures, milk hygiene, disposal of waste, drinking water quality, health and safety measures at the upgraded farm. Issues has been 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 taken into account 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



## Component 2: Artificial Insemination Technicians' Training

Safety and health measure are taken during the training. Certain protocols are defined, educated and followed on the ground ensuring high quality of training. Following are measure taken at training centre and animal AI-training farm.

- Use of Dangri (overalls), gum boots and gloves during practical training on live animals to minimize the chances of disease transfer to human beings.
- Use of one glove for the one animal only to avoid transfer disease from animal to animal
- 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.
- Health safety measures like liquid nitrogen handling, storage of semen and semen straw handling are taught theoretically as well as practically demonstrated.
- Safety measures with respect to liquid nitrogen handling like significance of use of personal protective equipment (safety goggles & cryogenic gloves) are described to the AI technicians.
- 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.

## Component 3: Women Livestock Extension Worker (WLEW) Training

WLEW training takes place at designated training centers in two districts namely, Bahawalpur and Vehari where WLEWs are trained on basic livestock extension practices along with health safety measures while interacting with animals. Health and safety module is a part of their curriculum.

Environmental awareness sessions are conducted for each batch of WLEWs by Environmental Officer to give handy knowledge of handling medicines, concentrate feed storage, disposal of syringe and empty medicine/vaccine bottles.

Medicines are protected from the sunlight during outdoor sessions by use of kit bag thereby complying with the product specifications. Moreover, expiry date is checked before use of medicines at both sites which eliminates the chances of expired medicine usage. Furthermore, Environment Officer also perform quarterly stock checking to see that material and medicines are stored appropriately and to verify the medicines expiry date. Medicines expiry date is quiet far and found to be fine.

Hands are washed with soap after animal treatment. Moreover, restraining methods have also been taught to the WLEW's so that they could prevent any possible injury from the animals during treatment.

Needle cutters were available on both sites for immediate disposal of needles after injection so that chances of needle prick injuries are minimized.



## WAY-FORWARD AND CONCLUSION:

During the quarter, significant working has been done of EDF document for biogas plant and semen quality check for the imported semen doses. EDF document is just about to be approved by the USAID and in coming days strict compliance will be observed against EMMP mentioned in EDF document and will be reported to USAID on Quarterly basis. Random quality checks will also be carried out to ensure the quality of the semen being imported and distributed to the farmers. By and large, Dairy Project is observing compliance in most of its activities. However, there were some instances, where improvement was required. In such cases, necessary directions and support were provided to Operations Department for remedial measures.

## 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 12: Sampling population and Sample sizes

	Farmers		WLEWs		AITs	Total
	one-Day	Two/four/seven-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>72</b>
<b>90% &amp; 5%</b>	269	262	198	258	216	<b>1,203</b>

### 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 STORY

### Enabling Rural Youth to Improve Socio-economic Conditions

**Through USAID – DRDF Dairy Project’s AI training, the rural youth can maximize their livelihood by providing breed improvement services to dairy farmers.**



**“Thanks to the USAID’s Dairy Project, I was able to earn enough to send my children to good educational institutes and provide the basic necessities of life.”**

Muhammad Jamshaid, Artificial Insemination Technician (AIT)  
Chak #19 WB, District Vehari

Muhammad Jamshaid, a resident of Vehari, worked in a mill earning limited wages (daily wages amounting to PKR 300). With his paltry income, it was really hard for Jamshaid to make ends meet. Fortuitously, he heard about the USAID – DRDF Dairy project’s AIT training program while attending the project’s farmer training session held in his village.

The USAID – DRDF Dairy Project Artificial Insemination Technicians (AITs) training aims to provide the unemployed or underprivileged youth with in-house training that enables them to kick start their business. The trainees are imparted with the knowledge and skills pertaining to breed improvement, heat detection and insemination of quality semen. The six months long AI training is carried out in line with the Government of Punjab regulations as per the new Livestock Breeding Act.

Furthermore, USAID provides support kits and motorbikes to the young technicians upon completion of their training on a 50 percent cost-share basis. The motorbikes enable the technicians to commute to distant villages and provide their communities with breed improvement services.

Jamshaid came to know about the AITs training during the Dairy Project’s one-day farmer training where a social mobilizer provided Jamshaid with relevant information. He showed keen interest towards the training program and was selected according to the set criteria.

*“During my training, I have learnt the advanced skills of artificial insemination such as palpation on reproductive organs, rod passing, thawing procedure, gun loading, internal reproductive anatomy and pregnancy diagnosis. I have earned PKR 3,250 from pregnancy diagnosis of 40 animals while the expenditure was only PKR 1,200. I have seen a significant improvement in my income which has increased from PKR 9,000 (per month) to PKR 11,400 for only fifteen days!”* says Jamshaid proudly.

After being trained as an AI technician, Jamshaid is able to provide his community with quality AI services, quality semen, and guidance about food management of animals. The village communities appreciate his efforts. He now plans to put his increased income to good use:

*“Thanks to the USAID’s Dairy Project, I was able to earn enough to send my children to good educational institutes and provide the basic necessities of life. My future plan is to ensure my children have the opportunity to pursue higher education.”*



## SUCCESS STORY

### Improving Lives of Rural Women

**USAID – DRDF Dairy Project aims to facilitate rural women with skills and techniques to improve their socio-economic status.**



**“Now I’m a self-employed, independent woman, and earned PKR 47,000 within the last three months, which has brought significant improvement in my socio economic status”**

Najma Bibi, Woman Livestock Extension Worker (WLEW)

183 WB, Tehsil Mailsi, District Vehari

Najma Bibi, a young, energetic resident of Vehari, was an unemployed member of her family and considered as a burden. Since she was living an aimless existence, she was unsatisfied with her life. It wasn't until she became a trained Women Livestock Extension Worker that her life took an upturn. She heard about the USAID-DRDF Dairy Project in a community meeting through a social mobilizer.

Najma first heard about the USAID – DRDF Dairy Project at a community meeting held at her village. After fulfilling the requirements of set criteria by the project team, she was selected for the training. The Dairy Project, a joint effort of United States Agency for International Development (USAID) and Dairy and Rural Development Foundation (DRDF), aims to empower unemployed and marginalized rural women by training them in basic animal healthcare and extension services. Through these training sessions, rural women are provided with skills and knowledge about de-worming, vaccination, basic health care and record keeping. After successfully completing the WLEW training, Najma received a start-up kit to help initiate her business.

*“I was living an uncertain life, dependent on my family and was unable to fulfill my basic needs. The Dairy Project’s WLEW training has transformed my life. Now I’m a self-employed, independent woman, who has earned PKR 47,000 within the last three months, which has brought significant improvement in my socio economic status,”* remarks Najma.

Najma Bibi is now satisfied with her life. The profit she has gained from her services is being spent on her siblings’ education. Her community is satisfied with the timely services she willingly provides in her village community. Moreover, she is not merely providing services in her own village but in adjacent villages as well.

*“I am extremely grateful to the Dairy Project for providing me with this opportunity. Not only am I contributing towards the household income, but I’m now also considered a valuable member of my community,”* says Najma proudly.



## SUCCESS STORY

### Progression through Best Farming Practices

**USAID-DRDF Dairy Project aims to transform the livelihoods and encourage socio-economic empowerment of rural communities through trainings and skills-based development programs.**



**“I have purchased more animals and spent money on my children’s education with the profit I gained by adopting best farming practices.”**

Farrukh Bashir from 115/10R, Tehsil Jahania, District Khanewal

It was never easy to live a satisfied life with the stagnant source of income. Farrukh Bashir, resident of Khanewal, a young and energetic man couldn’t find the ways to improve his livelihoods with the traditional farming practices until he heard about the USAID-DRDF Dairy Project’s key component of Training and Support for Dairy Farmers.

USAID-DRDF Dairy Project aims to transform the livelihoods and encourage socio-economic empowerment of rural communities through skills-based training programs. Owing to farmers’ requirements and their herd size, the project helps them gain increased awareness on best dairy farm practices through hands-on theoretical and practical trainings for better milk yields and incomes. So far, the Dairy Project has trained over 39,297 dairy farmers in last four years. Farm Up-gradation is the another notable component of the Dairy Project that enables trained farmers to improve their farm economics through better infrastructure, technical and 50 percent cost share assistance. These up-graded farms serve as a model farm for neighboring villages, where farming community can frequently visit and learn implement best dairy farming practices.

*“I came to know about USAID-DRDF Dairy Project’s farmer training through at a community meeting and selected through a set criteria to attend farmers’ seven day training”, remarked Farrukh.*

*“I have learnt the skills such as teat dipping, silage making, de-worming, better nutrition, improved breeding, healthcare and management of dairy animals. Implementation on these best dairy farming practices has brought a significant increase in my livelihood”. Says Farrukh*

*“Furthermore, it is worth mentioning that I have purchased more animals and spent money on my children’s education with the profit I gained by adopting best farming practices”. Mentioned Farrukh.*

He further explained that before training, he had 29 animals with only seven lactating animals yielding 70 liter milk in total, which increased to 34 total animals, with 12 milking animals and 135 liters milk yield. I plan to continue sharing learnings and experiences with my community members, who aspire to emulate me for improved livelihoods”, Farrukh asserts happily.



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**Dairy and Rural  
Development**

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