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Dairy and Rural  
Development  
Foundation



# DAIRY PROJECT

Quarterly Progress Report

January – March 2014



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## List of Acronyms

<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 Programme
<b>DRDF</b>	Dairy and Rural Development Foundation
<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

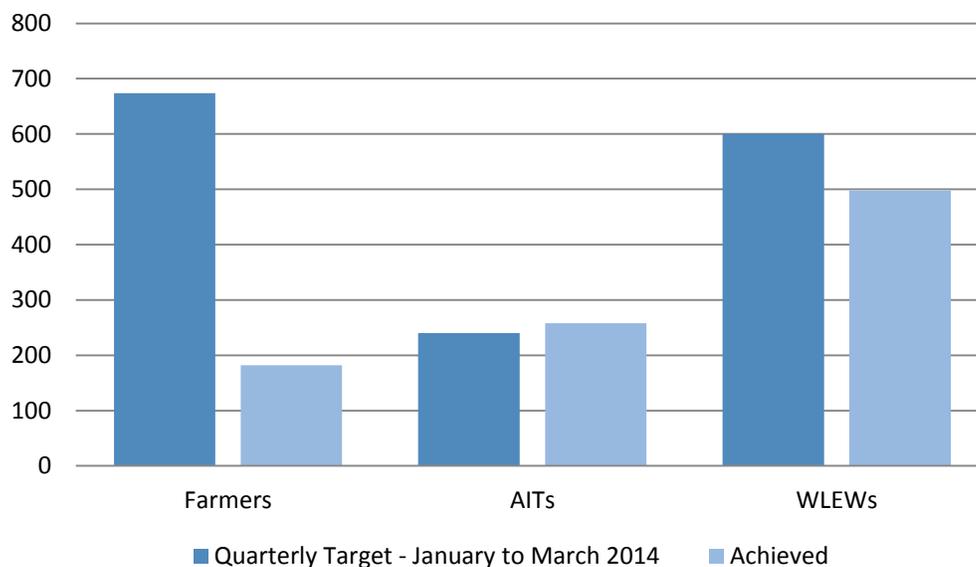
## Executive Summary

# High Rural Incomes, Increased Livestock Productivity

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The Dairy Project is a joint effort of the United States Agency for International Development (USAID) and Dairy and Rural Development Foundation (DRDF) for enhancing rural incomes through increased livestock productivity. The project is providing training to 9,000 dairy farmers and 100 farm managers in best dairy practices to help them increase milk productivity, which leads to increase in their income. The project is also providing training to 2,000 rural, unemployed youth as Artificial Insemination Technicians (AITs) and 5,000 rural, unemployed women as Women Livestock Extension Workers (WLEWs) to assist rural dairy farmers in provision of dairy breed improvement and extension services at their doorstep. The Dairy Project is establishing AITs and WLEWs as self-employed entrepreneurs once they are trained and certified by the University of Veterinary and Animal Sciences (UVAS), Lahore. In the reporting period, 194 farmers, 498 WLEWs and 258 AITs received Dairy Project's training. Out of the 194 farmers trained, 116 received the four-day training and 66 farmers received the 30-day training. During the quarterly period, the set targets for AITs were achieved; however, since the project had previously over achieved the set targets for the farmer and WLEW training, it trained 194 farmers as opposed to the 674 that were initially targeted and 498 WLEWs compared to the target of 600. A comparison of the quarterly targets and the achievements are shown in the figure below:

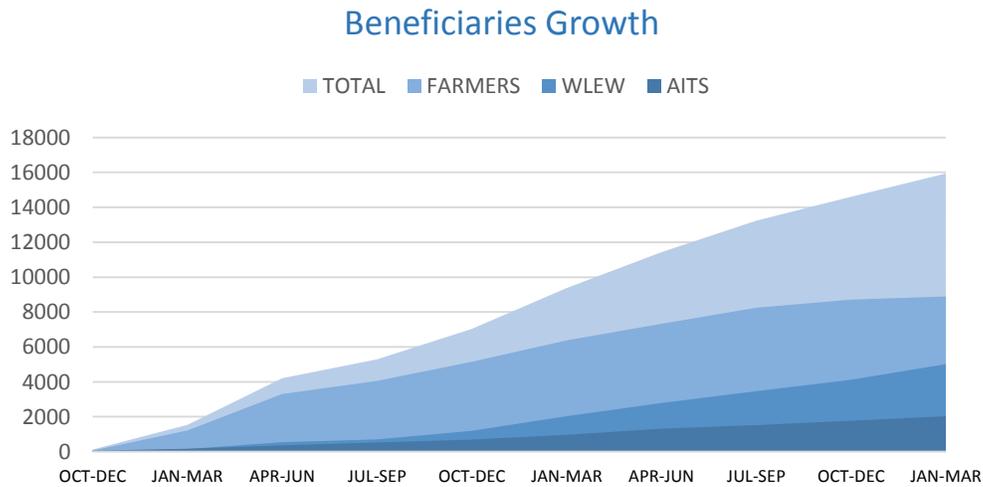
Figure 1 Beneficiaries Targeted Vs Achieved



The project-trained AITs earn a profit of Rs. 7,027 on average per month. The follow up data of WLEWs reveals that their profits are relatively volatile and this is the only component that does not meet the project's income target. This is because of the social barriers and extensive market competition, mainly from their male practitioner, which results in low profit margin. According to the quarterly survey conducted in April 2014, their average monthly profit is approximately Rs. 1,524. However, with the

passage of time, WLEWs are proving themselves in their line of work and gaining the trust of farmers, which will help boost their incomes in near future. Dairy Project is also continuing with strict environmental compliance and monitoring in its trainings. An environmental compliance report is given in Annexure-2: Environment Compliance Report.

Figure 2 Quarterly Beneficiaries' Growth



***In the last three years  
the Dairy Project has  
empowered over 15,500  
families***

# Financials

## Aid for Development

Foreign assistance is not a giveaway. It's not a charity. It is an investment in a strong America and in a free world. Foreign assistance lifts other people up and then reinforces their willingness to links arms with the U.S. in common endeavors.

**JOHN KERRY**  
 U.S. SECRETARY OF STATE  
 FEBRUARY 20, 2013

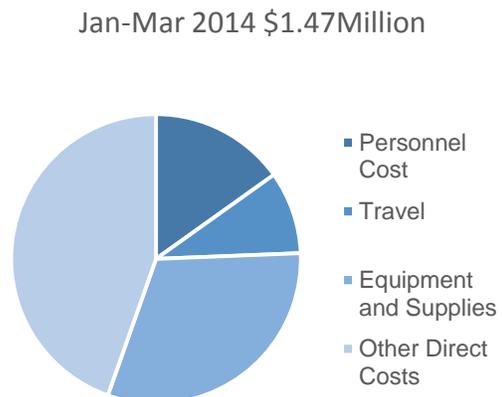
Table 1 Financial Summary

Description	Amount
Total estimated USAID amount	\$14,018,777
Amount obligated (As of March 31, 2014)	\$14,018,777
Leveraged amount (Non-Federal)	\$3,407,059
Total project funds expended to date (As of March end, 2014)	\$12,546,581
Project funds expended during the reporting quarter (January-March, 2014)	\$1,473,583
Obligated project funds remaining	\$1,472,196
Project funds allocated for the next quarter (April-June, 2014)	\$1,094,480

Table 2: Expenditure Summary:

Expense Categories Under Cooperative Agreement	Expenditure during January-March 2014 (US \$)
Personnel Cost	222,941
Travel	136,159
Equipment and Supplies	457,244
Other Direct Costs	657,239
<b>Total</b>	<b>1,473,583</b>

Figure 3: Expense Distribution



## Progress & Performance

# Charging Forward

The Dairy Project is a joint effort of the United States Agency for International Development (USAID) and Dairy and Rural Development Foundation (DRDF) 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. Due to the vital importance of the livestock sector in Pakistan, the Dairy Project's extensive training programs for Dairy Farmers, Women Livestock Extension Workers (WLEWs) and Artificial Insemination Technicians (AITs) are playing an important role in transforming livelihoods of rural communities. The Dairy Project is being implemented in all four provinces, with a major focus on Punjab with a time frame of three years (July 2011- July 2014). This progress report describes the operations and progress of the project in the period January 2014 to March 2014. For a detailed overview of the project, please refer to Annex 1:

### Project Overview.

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## Training and Support for Dairy Farmers

Since the comprehensive target for the two-day training program was fully achieved in the third reporting quarter, the project's focus in this reporting period was on the four-day training program for dairy farmers and 30-day training program for farm managers. During the reporting quarter, the Dairy Project provided four-day training to 128 dairy farmers mainly trained at Nestlé Sukheki/Sarsabz training facility. A total of 66 farm managers (30 from District Vehari, and 36 from District Multan) were provided 30-day training under the Farm Management Program. The following table illustrates the different farmer trainings conducted between January and March 2014:

Table 3 Farmer's Training - Quarter's Summary

Month	Two-Day Training	Four- Day Training	One Month Training	Total
January 2014	0	23	38	49
February 2014	0	0	13	13
March 2014	0	105	15	120
Quarterly Total	0	128	66	194

As of March 31, 2014, the Dairy Project has trained a total of 8,904 farmers. Out of these farmers, 5,118 received the two-day training, 3,356 received the four-day training and 418 received the 30-day training.

Table 4 Farmer's Training - Grand Summary

Indicator	January-March 2014
Beneficiaries targeted during the reporting period <sup>1</sup>	674
Beneficiaries reached during the reporting period	194
Beneficiaries targeted to date <sup>2</sup>	8,890

Beneficiaries reached to date	8,904
1. Quarterly targets are as per AIP 2013 2. Till date target	

With regards to the farmer training component, the Dairy Project has overall achieved most of the project targets. However, target set for the quarter, January-March, 2014 were not completely met. This is because of poor weather conditions, as well as administrative issues that halted the mobilization and selection activities at field level. Therefore, training targets for the next quarter have been adjusted accordingly.

Table 5 below shows progress on indicators from the Monitoring and Evaluation Activity Plan. These indicators are calculated on the basis of a quarterly follow up survey, which was conducted in April 2014. For this purpose a random sample of farmers was selected from the Punjab region. Refer to Annex 4: Performance Evaluation Sampling Strategy for detailed sampling and evaluation methodology.

Table 5 Farmers' Performance Indicators

Indicators	Targets	Achievement
Average increase in the project assisted household real annual income from dairy activities relative to the baseline*	At least 10 percent increase in the household's income from dairy activities.	70 percent
Incidence of Hemorrhagic Septicemia (HS) and Foot and Mouth Disease (FMD) in: A) Dairy animals owned by project-assisted households and B) Dairy animals of farmers assisted by WLEW relative to the baseline	At least 20 percent reduction in the incidence on average.	Number of animals having HS: Before training-175, After training -54 Number of animals having FMD: Before training-420, After training-675
Average monthly (per animal owned by project-assisted household) quantity of milk produced relative to the baseline	At least 10 percent increase in milk yield.	27 percent
Percentage of farmers using services of Women Livestock Extension Workers (WLEWs) relative to the baseline	At least 10 percent farmers using services of WLEWs.	19 percent
Percentage of project-assisted farmers using at least three best practices relative to the baseline (disaggregated by farmers/farm managers)	60 percent farmers adopted three or more best practices	89 percent
Number of villages reached with TV and/or Radio sketches	At least 700 villages per year	Nationwide 88 districts and 238 tehsils were reached during Phase Two of the TV/Radio campaign
Number of project-assisted farmers trained in business practices, and book-keeping	97.7percent	100 percent

During this quarter, milk yields of milking animals owned by the project-trained beneficiaries presented an increase of 27 percent. This is an exceptionally high increment and may also be factored due to the flush season along with the project impact. Months starting from January and leading till March are generally considered as flush season in Pakistan, as during these period milk yields of animals rise due to an increase in rainfall and cooler weather. The number of farmers getting services from the project-trained WLEWs has also increased. Before training, on average four percent of farmers were using the services



## ***Increase in Milk Yields of 29 percent***

of WLEWs, whereas, after the training, 19 percent of the farmers have started using their services. In the reporting quarter, the incidence of Hemorrhagic Septicemia (HS) has declined by 69 percent, however, the incidence of Foot and Mouth Disease (FMD) in animals owned by farmers trained by the Dairy Project increased by 61 percent in comparison to the baseline. A historic overview of the FMD outbreaks that occurred in Pakistan between the period of 2002 and 2007 shows that outbreaks were usually more prevalent between the months of January and March (Jamal et al, 2008). Please refer to figure 6 in Annexure 4. During the reporting period, there was massive outbreak of FMD among the dairy animals in rural areas of Pakistan, which is why there was an increase in the reported cases of FMD among the project trained beneficiaries. There has been a positive hike in the adoption rate of best dairy practices

and on average, 89 percent of our trained farmers have adopted at least three or more best practices, which is above the set target of 60 percent.

Other than training, project follow-up teams continued to disseminate awareness on silage preparation. Individual farmers within the community were visited and motivated to make silage. During the reporting period, around 51 acreage of fodder was converted into silage through the project's silage campaigns, whereby 474 farmers participated and learnt the techniques of silage making. Dairy Project's follow up teams continued to hold individual as well as group meetings with project-trained farmers, WLEWs and AITs to provide technical assistance. A total of 76 such community-based inter-beneficiary meetings were conducted in this reporting period. Furthermore, farmers brought their dairy animals for free of cost treatment at farmer help camps organized by the project as part of the WLEW training session. At these camps, all WLEWs worked under the supervision of project's master trainers. 211 such farmer-help camps were organized during the reporting period, which were attended by 605 farmers and nearly 17,301 animals were treated within these camps.

Follow-up activities help to ensure optimum use of the support kits received by the farmers and help them to adopt best dairy farming practices. Follow-up teams also provided technical support to the project-trained farmers at their respective farms, to educate them on better shed designing and other technicalities regarding dairy farming and silage making.

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

During the reporting quarter, the project provided Artificial Insemination Technician trainings to 258 young, unemployed rural men. Month-wise distribution of the AIT trainings is given below:

Table 6 AIT Training - Quarter's Summary

Batch #	Training Dates	Certified
24	January 2014	64
25	February 2014	86
26	March 2014	108
	Quarterly total	258

A total of 254 motorbikes were also distributed among the AITs who fulfilled the set criteria, which included 57 AITs from Sindh, while a bike evaluation survey is in progress in KPK and Balochistan. To date, the project has awarded 1,251 bikes to trained AITs. Furthermore, a total of 33 induction meetings were conducted by master trainers to introduce the newly trained AITs within their communities. These meetings were attended by 1,244 participants.

The Dairy Project field operations team also continued follow-up activities. Follow-up teams organized 42 monthly meetings in different localities across four zones to provide follow-up support to trained AITs. Eight AITs who were initially lagging behind, were individually visited by the master trainers to help them overcome their professional challenges and to foster the growth of their businesses.

Table 7 AIT Training - Grand Summary

Indicators	Jan-March 2014
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Beneficiaries targeted during the reporting period <sup>1</sup>	240
Beneficiaries successfully trained during the reporting period	258
Beneficiaries targeted to date <sup>2</sup>	2,000
Beneficiaries successfully trained till March 31, 2014	2,032
1. Quarterly targets are as per to AIP 2013	
2. Life of Project targets	

The table below shows progress on indicators from the Monitoring and Evaluation Activity Plan, based on the quarterly follow up survey conducted in April 2014:

Table 8 AIT Performance Indicators

Indicators	Targets	Jan-March 2014
Average monthly income of AITs from providing AI services relative to the baseline	Income of at least Rs. 3,000 (US\$ 32) per month	Rs. 7,027
Number of insemination procedures performed per AIT/ per month	-	23
Average number of inseminations per AIT per day	At least one insemination case per day	0.8
No. of pregnancy tests performed per AIT per month	--	56
Percentage of trained AITs providing professional services to community	60 percent of AITs	97 percent
Ratio of insemination procedures to pregnancy	At most 1.7 insemination per pregnancy	1.6
Number of AITs trained (January-March, 2014)	240	258
Percentage of project-trained AITs introduced to input suppliers	100 percent	100 percent
Number of AITs successfully trained in book-keeping, business management	100 percent	100 percent

The above table shows that the project is continuing to achieve its set target for the given component. This quarter has shown an increase in the incomes of the project trained AITs with an average income of 7,027 PKR per month. Project trained AITs are conducting 23 insemination cases on average per month with a conception rate of 64 percent<sup>1</sup> which is higher than the national average, that is, 60 percent.

<sup>1</sup> Conception rate is calculated from AITs Evaluation Survey. In this survey 330 Pregnancy Tests, of animal inseminated by project trained AITs, were carried out randomly in current reporting period.

*Improved Breeds of  
Dairy Animals  
through Artificial  
Insemination*



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

Training of WLEWs is one of the most important components of the project as it not only aims to improve the potential of the livestock sector through better animal health and extension services at the village level, but also contributes in empowering rural women. The project trained a total of 498 WLEWs during the reporting period; detailed break-up is in the table below:

Table 9 WLEW's Training - Quarter's Summary

Batch #	Month	Number of WLEWs trained
18	January 2014	357
19	February 2014	141
20	March 2014	0
	Total	498

For the selection of beneficiaries to be trained, 86 meetings were organized and were attended by 3,675 participants. In order to spread awareness about the availability of project-trained WLEWs in their areas, 130 induction meetings were organized, which were attended by 19,757 participants. In order to ensure better linkages between the project-trained beneficiaries, 78 meetings were arranged to link WLEWs to AITs and trained farmers within their respective areas. Around 211 farmer help-camps were also organized in which 17,301 animals were treated.

Table 10 WLEW Training - Grand Summary

Indicators	January-March 2014
Beneficiaries targeted during the reporting period <sup>1</sup>	600
Beneficiaries successfully trained during the reporting period	498
Beneficiaries targeted to date <sup>2</sup>	5,000
Beneficiaries successfully trained till March 31, 2014	5,015
1. Quarterly targets are as per to AIP 2013	
2. Life of Project targets	

Table 11 WLEW Performance Indicators

Indicators	Targets	January-March 2014
Average monthly income of WLEWs from livestock services relative to the baseline	Income of at least Rs. 3,000 per month	Rs. 1,524 <sup>1</sup>
Average number of farmers served by WLEWs per month relative to the baseline	-	20
Number of villages served by the WLEWs	2,000 villages	3,707 <sup>2</sup>
Number of project-trained WLEWs providing services as self-employed extension workers	At least 60 percent of the trained WLEWs providing services	64 percent

Number of WLEWs operating / managing project-supported milk collection points in project-assisted communities	At least 20 milk collection points	16
Number of WLEWs offering feed, nutrient, and other inputs for sale to farmers	60 percent	78 percent
Percentage of project-trained WLEWs introduced to input suppliers	100 percent	100 percent
Number of the WLEWs trained in business practices, book-keeping, and milk collection	100 percent	100 percent

1: Combined income of both Livestock Health Workers (LHWs) and Livestock Business Entrepreneurs (LBEs).  
 2: Estimated Number of villages. According to the survey every WLEW visited 1.8 villages on average and we have trained 4,119 WLEWs (till November 2013). As per the project SOP of WLEWs' selection, we assume that at most two WLEWs are from one village.

The table above provides a comparison of the project's progress with regards to the targets mentioned in the Annual Implementation Plan of year 2013-2014. The project exceeded its expectations in coverage and training of the WLEWs since the target was 5,000 and 5,015 were actually trained. In addition to this, all of the trained WLEWs were introduced to suppliers and were trained for book-keeping and other business practices. On average, the project-trained WLEWs provide services to 20 farmers per month.

Moreover, the combined income of WLEWs continues to show an upward trend in their monthly income with this quarter showing an average of Rs. 1,524 (approx.). This figure is still below the project's income target; however, it is reflective of an increasing trend compared to the past. This is due to the efforts of the field operation teams in the form of constant follow up, WLEW cluster formation, improved supply channels and availability of rotating funds at cluster level.

Figure 5: Income trend of WLEWs

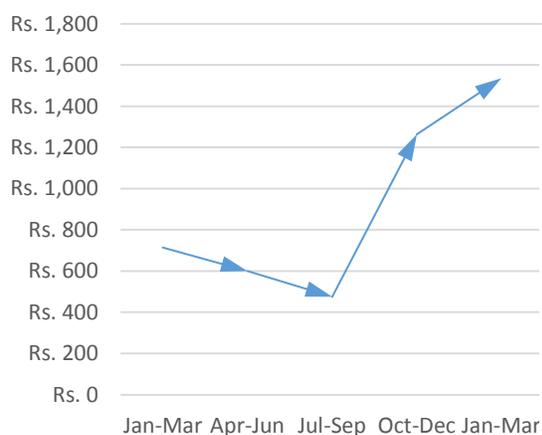
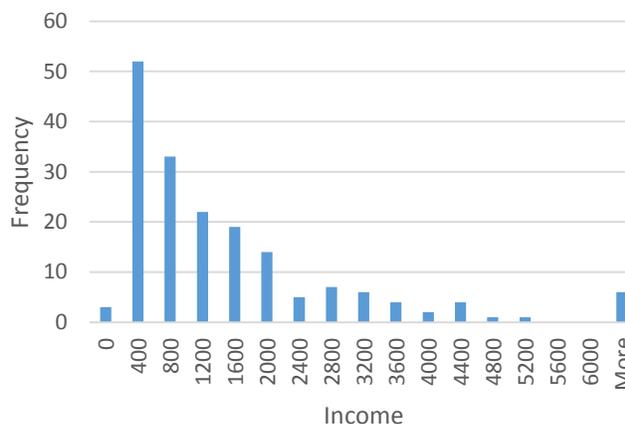


Figure 4: Income Histogram for the sample



Reasons for WLEWs not meeting their income targets are related to cultural barriers prevalent in rural Pakistan (also shown in the following table). Women are dependent on men for their mobility, and due to cultural restrictions do not have the necessary independence to freely undertake their work commitments. On the other hand, the profit margins for the WLEWs selling Vanda – high quality concentrated feed -- are quite low as most of the farmers prefer their traditional feeding methods and continue to feed 'Khal' to their animals. We also see a high attrition rate of 34 percent among the WLEWs, which is mainly due to having declining support from their family and villages to encourage them to continue with their business.

Table 12 Social Constraints for Rural Working Women

Social Barriers	Working WLEWs	Non-trained Rural Women
My family thinks that the primary responsibility of woman is to take care of the house	61 percent	77 percent
I have to face a lot of restrictions from my family to step outside the house	33 percent	47 percent
In my family it is seen as unethical for a woman to step outside the house alone	65 percent	68 percent
My villagers think that male can do better work of extension workers than woman	66 percent	80 percent
My family thinks that woman should not be talking outside the house with any male	47 percent	63 percent
My family thinks that male are more capable of running a business than woman	76 percent	82 percent
My family thinks that the woman of the house should not go outside village without a male member	62 percent	68 percent

Table 13 Reasons for leaving extension work

Reason for Leaving Work	Percentage
Illness	7 percent
No support from family	35 percent
Social barriers	15 percent
Got married	2 percent
Other	41 percent

However, monthly income is not a gross measure of the impact of trainings that the project provides because there are indirect effects that are hard to quantify. The impact of the WLEW training received by rural women is multidimensional and empowers them not only in financial terms but also socially and culturally. This can be seen in Table.12 where a comparison is shown between the responses of project trained WLEWs and other non-trained rural women. When they were asked questions related to social barriers the project clearly played a key role in empowering female beneficiaries as their percentages of agreeing to such barriers are less than other non-trained rural women.

During this quarter, the average number of cases treated monthly by project-trained WLEWs (180 WLEWs) is 44, whereas, the average number of animals treated by project-trained WLEWs are 40 animals per month per WLEW. These stats show that WLEWs are significantly contributing in animal health improvement through their timely services provided to farmers at their door step.

Table 14 Medical Services Provided By WLEW

Indicator	Jan	Feb	Mar	Monthly Average
Average Animals Treated by WLEW	39	41	40	40
Average Cases Treated by WLEW	42	45	45	44



## *Improving Lives of Rural Women*

## Communication/Awareness Campaign and Other Activities

The Dairy Project completed Phase Two of its TV/Radio Campaign highlighting best dairy practices in December 2013. Adjacent to this activity, the Communications Department setup a response and monitoring unit through which the project acquired a toll free number '0800-44556'. The activity completed on January 6, 2014 and was managed by leading international call center The Resource Group (TRG). The helpline received over 700 calls and the highest numbers of question asked were regarding breeding followed by queries and feedback on balanced nutrition and free access to water, deworming and vaccination, Feed storage (Aflatoxins) and fodder planning and preservation. The results revealed that over 70 per cent of the total calls received were from dairy farmers.

A delegation of American journalists visited the Dairy Project's artificial insemination training facility at Burj Attari, Sheikhpura on February 7, 2014. The aim of the visit was to assess the overall scale, scope, and impact of the U.S. assistance delivered through the trainings offered under the Dairy Project for Dairy Farmers, Artificial Insemination Technicians (AITs) and Women Livestock Extension Workers (WLEWs). During the visit, the delegation gained an insight through one-to-one interaction with Dairy Project-trained beneficiaries.



On March 2, 2014 two USG VIPs -- Anne Arnes, Deputy Director, OAPA, USAID/ Washington and Jeffery Bakken, Director USAID Provincial Mission, Lahore -- visited Sukheki Farm where they were briefed

about the projects progress. During the visit they interacted with project beneficiaries and discussed the role Dairy Projects training are playing in empowering rural communities. The two VIPs were also given a tour of the dairy shed and observed best practices including best breeds, ear tagging system, free access to water, silage making and feeding and bio-gas energy generation.



The Dairy Project setup its stall at the Dawn Sarsabz Agriculture Expo on March 13-14, 2014. The Dawn Expo is Pakistan's largest agricultural exposition and brought together participation from all business sectors

involved with agriculture. The Dairy Project setup a stall at the expo with the objective of disseminating

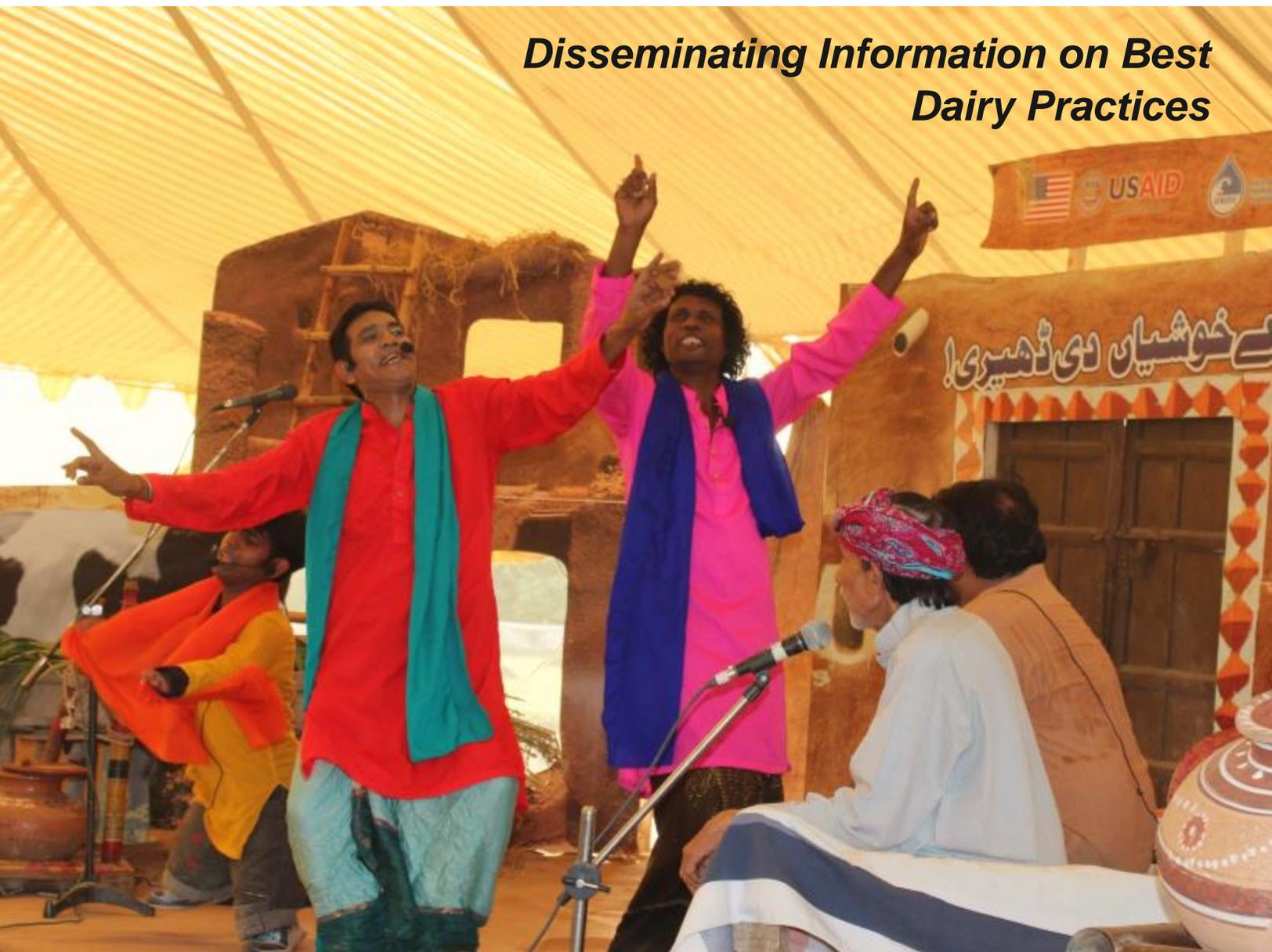
information on best dairy practices, and to create awareness about the project's various capacity building initiatives. The stall was visited by over 575 people who received briefing from master trainers and project beneficiaries along with brochures of silage making, aflatoxins and literature summarizing the project. People from all four provinces including districts of Lahore, Bahawalpur, Multan, Sahiwal, Gujrat, Sheikhpura, Kasur, Faisalabad, Jang, Vehari, Sialkot, Rawalpindi, Peshawar, Quetta, Karachi, Muzzafarabad, Rahimyar Khan and Bahawalnagar visited the stall and expressed interest in the Projects training. Out of a total of 575 visitors, 435 were farmers and 140 were from other professions.

As per USAID EGA office's request, the communication team also printed, funded and installed the backdrop for all of USAID projects which showcased at the expo. The design and construction of USAID's pavilion was also undertaken by the communications department.

At present the procurement process for Dairy Project's Street theatre activity is underway. Street theatre shows are organized and conducted in rural dairy farming villages to create awareness of best dairy practices and help farmers increase their incomes. These shows will be carried out in the districts of Multan, Vehari, Bahawalpur and Bahawalnagar from May 2014.

The communications department is also working on installing 25 awareness boards in villages present in the districts of Multan, Vehari and Toba Tek Singh. The boards will help ensure effective outreach to dairy farming communities on best farming practices as well as on USAID's assistance in the dairy sector.

## ***Disseminating Information on Best Dairy Practices***



## Issues, Lessons Learnt and Way Forward

### Gaining From Experience

Component	Challenges	Solution
Artificial Insemination Technician	During follow up, teams learnt that few AITs were unable to read the straw properly e.g. bull number etc.	One day lecture was arranged in training classes to make trainees skilled to read semen straw so that they could inseminate cows with the semen of farmer's choice.
	LNG containers given to beneficiaries were in need of repair and maintenance.	Initially, Dairy Project supported AITs for repair of kits, however, contact numbers of concerned stakeholders were provided to AITs to deal with repair and maintenance matters on their own in the future.
	Unsatisfactory quality of AI training material at AIT training centers e.g. AI gloves, sheets, etc.	Feedback on low quality of products was shared with the procurement department to resolve concern.
	Project staff faced disciplinary issues from first batch of AI trainees from Balochistan at training sites	Project staff consulted head person of BRSP (who referred trainees from concerned area). As per recommendation of BRSP head person (Dr. Naemat), second group of trainees selected from Balochistan was split at all AIT training center to ensure discipline.
	At the time of insemination, farmers demanded Bull brochure from AITs to see phenotypic and genotypic traits of their selected bull.	Project team shared concern with stakeholders (semen suppliers). DRDF developed some brochures (in Urdu) for AITs in field so that they could motivate farmers to select semen of their own choice.
	Some AITs from Balochistan could not pass final exam due to language barrier.	Keeping in view the language barrier faced by these AITs, the project team re-arranged exams and assigned one AIT to assist an external examiner to conduct viva in local language (Balochi/Pashto).
Women Livestock Extension worker	Most WLEWs changed their mobile phone numbers due to which follow up teams faced difficulty in inviting them to monthly meetings.	Follow up team made individual visits to take data and new number of WLEWs and also guided WLEWs not to change their mobile phone numbers frequently or to inform the project team in case they do so.

	Lack of strong market linkages for sustainability of beneficiaries.	Project has assigned concerned task to specific marketing people to resolve market issues WLEWs were advised to purchase required items from Nestle one stop shops or order in groups. Project teams arranged meetings with Vanda dealers to resolve this concern
	Some WLEWs got married outside their village and as a result their village could not benefit from their services.	Project ensured continuous supply of livestock extension services as from each village two WLEWs are trained. In villages where one WLEW got married outside her village, follow up teams assisted the other WLEW to take over the responsibility of the whole village.
	Follow up teams faced difficulty in finding home and villages of beneficiaries after changing team formation.	Concern resolved after inner team communication was strengthened.
	Vanda price issues arose because farmers did not know about tagged vanda	Follow up teams created awareness in area about tagged and aflatoxins free vanda and demerits of local vanda  Project team sent different vanda samples to UVAS laboratory so that they could scientifically explain to farmers about the importance of quality of vanda
	Few of the trained WLEWs were facing issues in areas such as, applying injections on animals, calculating profit, and in marketing their products	Project teams provided refresher of marketing tools where needed and also arranged farmer help camps to give WLEWs confidence.
	Lack of proper resources for silage campaign e.g. farmer steamers, fodder book let, silage brochures, aflatoxin brochures	Required items were provided to silage team for smooth activity within time line.
	Farmers and local community were not very cooperative with WLEWs.	Team arranged inter-beneficiary meetings and visited them individually
	Due to very cold weather, the number of WLEWs and farmers in community meetings & follow up meetings decreased.	Project teams conducted meetings on small scale; small gathering and household visits done.
Farmer	An additional attendant was required for calf shed's nursing during the night time.	Project hired an additional attended.

	Training team had communication issues as some trainees from Balochistan were not literate and had difficulty understanding Urdu.	The issue was thoroughly shared with the partner organization responsible for assisting in selection of farmers from other provinces.
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## 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 three years (July 2011- July 2014). The project contributes to the USAID 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.

#### **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 project. The project targets to train 9,000 farmers and 100 farm managers. In addition to this, 800 farmers from Khyber Pakhtunkhwa, Sindh and Balochistan are supported in attending 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. Trainings for farm managers include separate components on basic bookkeeping 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 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 trainings 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, 2,000 young individuals from rural Punjab, and 300 from Khyber Pakhtunkhwa, Sindh and Balochistan 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 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, 5,000 WLEWs will be trained. 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 bookkeeping and business skills as well as linkages to service (including financial) and input suppliers along the dairy value chain.

Extension worker training 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).

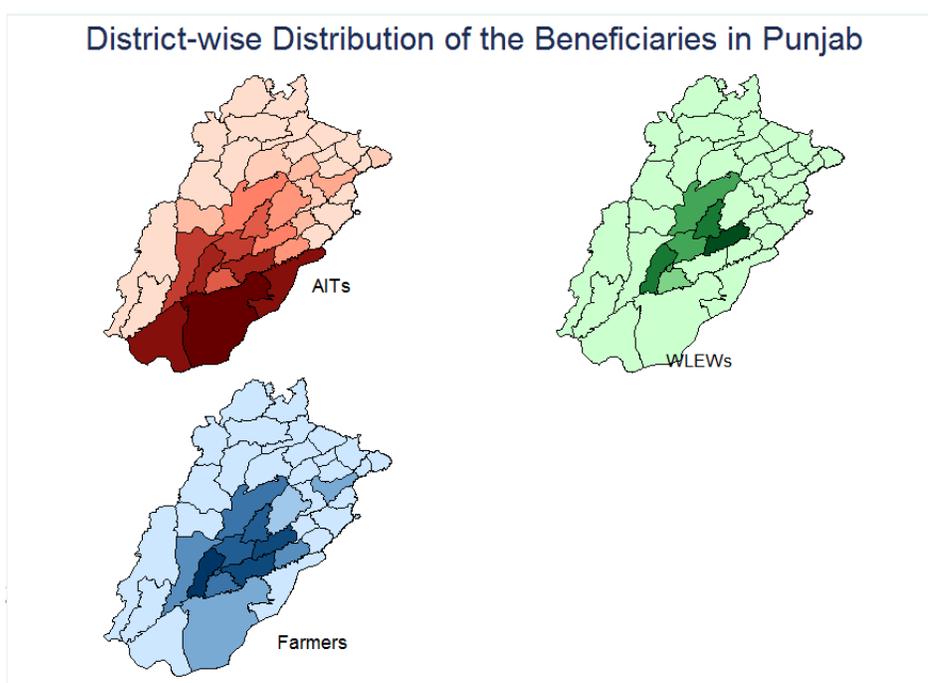
Upon completion of the course, WLEWs selected for animal nursing are given a veterinary kit, while WLEWs doing concentrates businesses are supported by a stock of animal feed. The program also provides workers with basic mobile phones to enable easy communication with clients and input suppliers.

## Awareness Campaign

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

## Geographic Focus and Target Groups

Dairy project's current site of locations of project trained beneficiaries is shown on the maps below:



## Annex 2: Environmental Compliance Report

The findings in this report are based on training curriculum review, physical inspection of sites and random visits to classrooms by the Environment Specialist.

In order to fulfill requirements under EMMP, guidelines were developed for safe disposal of animal organs, medical waste and syringes etc. Additional guidelines include health and safety measures to avoid any harm or injury to the trainees.

A component-wise description of environmental compliance is given below.

### Farmer Training

Farmer training component is covering best farm management practices like breeding and treatment, calf-rearing, milking, feeding, housing system, agronomy, biogas, heifers and buffalo management and heat spotting.

Safety measures like treatment stall or restraining methods for pregnancy examination, vaccination, medication, deworming, and artificial insemination are demonstrated and communicated to the dairy farmers to ensure their personal safety. Organoleptic and Surf field mastitis test are taught to the beneficiaries to make them aware of mild udder infections so that milk from the infected animal could be separated.

Biosecurity measures are adopted at the entrance of the farm to avoid any disease from the outside environment from entering. Feet are disinfected at the entry of the farm to prevent contagious viral/bacterial diseases.

In the farmer training component, farmers are being briefed on how to handle manure and its best utilization. Significance of renewable energy like biogas is also communicated to the dairy farmers so that they take into account the significance of biogas as a source of energy at their farms as well. Personal and environmental safety measures associated with biogas plant are also described to the beneficiaries.



Taking into consideration the significance of biogas plant, Dairy Project has established a biogas plant in Vehari. This plant has been handed over to the farming community at Vehari and is working properly and effectively.

Teat dipping process is described to the farmers so that they can avoid diseases occurring in animals after milking.

Storage of the animal feed is very crucial because proper storage minimizes chances of moisture in the feed from the ground surface and side walls. Moisture is one of the main causes of moldiness and mycotoxins in animal feed so racking (a storage practice to avoid moisture) is recommended to the farmers to avoid these hazards.



Farmers are also briefed on environmental considerations and safe handling of the equipment during silage making.

## **Artificial Insemination Technicians (AIT) Training**

Project trained AITs are taught about best AI practice like proper heat spotting & semen handling. Safe handling of liquid nitrogen had been communicated to the beneficiaries including the use of personal protective equipment (safety goggles & cryogenic gloves). Transportation of liquid nitrogen has been done in such a way that no one sits in the same container in which liquid nitrogen cylinders are transported so that asphyxia and cold burns are avoided. Proper storage of liquid nitrogen has also been described to avoid asphyxia. Master trainers were refreshed about the safety measures associated with liquid nitrogen handling.

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. During table practice, gloves face masks and aprons are worn by the trainees' invariably. Animal organs are stored in refrigerator after usage till ultimate disposal so that further bacterial growth could be inhibited.

During artificial insemination practice, live animals often tend to get out of control as they are in an abnormal condition and may harm humans. Therefore, crush is used at artificial insemination sites to control animals. Hands are washed with antibacterial soap after insemination practice.

It was observed during field visit to Burj Attari training center that Sheaths and contaminated polythene gloves were not kept covered.

As far as disposal of the animal organs, sheaths and contaminated gloves is concerned, mixed behavior have been observed, organs are disposed-off properly at Faisalabad and Burj Atari site but Rawalpindi site has not been able to comply due to the unavailability of the land for disposal.

## **Women Livestock Extension Worker (WLEW) Training**

WLEW trainings take place at designated training centers in two districts namely, Multan and Vehari. Best basic livestock extension practices are taught to the WLEWs and health safety measures like handling of medicines and syringes have been incorporated in the training content.

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.

There have been incidences where empty medicines bottles have not been disposed of properly. Sometimes medicines bottles are not punctured before final disposal. However label of the medicines are crossed to eliminate the identification.

Needle cutters were available on sites for immediate disposal of needles after injection so that chances of needle prick injuries are minimized. Syringes are disposed of into the land along with their encapsulation. New syringe is used for each animal.

However, there has been observed non-compliance in restraining the animals before treatment, most of the time,



beneficiaries were not restraining the animals before treatment but as a whole most of their activities were in compliance.

**Conclusion:**

Overall, the Dairy Project is in compliance in most of its activities and project beneficiaries have been well instructed on safe disposal of waste generated a result of their practices.

### Annex 3: Key Events Held During the Reporting Period

Sr. No	Date	Event	Location	Remarks
1.	January 16, 2014	Graduation/Inaugural Ceremony of 18th batch of WLEWs	Shah Jahan Hotel, Multan	Representatives from government administration, NGOs, livestock department, dairy and pharmaceutical companies and rural community participated in this ceremony.
2.	January 17, 2014	Graduation/Inaugural Ceremony of 18th batch of WLEWs	Joy Land Hotel, Vehari	Representatives from government administration, NGOs, livestock department, dairy and pharmaceutical companies and rural community participated in this ceremony.
3.	January 18, 2014	Graduation/Inaugural Ceremony of 18th batch of WLEWs	Millan Banquet Hall, Hasilpur	Representatives from government administration, NGOs, livestock department, dairy and pharmaceutical companies and rural community participated in this ceremony.
4.	February 7, 2014	Visit of U.S.-based Journalists	Punjab Vocational Training Council, Burj Attari	A group of U.S.-based Journalists and USAID officials visited the AIT site and were briefed about the projects activities and achievements.
5.	February 17, 2014	Graduation/Inaugural Ceremony of 19th batch of WLEWs	Joy Land Hotel, Vehari	Representatives from government administration, NGOs, livestock department, dairy and pharmaceutical companies and rural community participated in this ceremony.
6.	February 18, 2014	Graduation/Inaugural Ceremony of 19th batch of WLEWs	Shah Jahan Hotel, Multan	Representatives from government administration, NGOs, livestock department, dairy and pharmaceutical companies and rural community participated in this ceremony.
7.	February 19, 2014	Graduation/Inaugural Ceremony of 19th batch of WLEWs	Millan Banquet Hall, Hasilpur	Representatives from government administration, NGOs, livestock department, dairy and pharmaceutical companies and rural

				community participated in this ceremony.
8.	February 21, 2014	Motor Bike Distribution for AITs from other provinces	Raheem Yar Khan	AITs and Project team attended the event.
9.	March 2, 2014	Visit of Anne Arnes – Deputy Director, OAPA, USAID/Washington	Nestle Sukhekhi Training and Dairy Farm	Anne Arnes – Deputy Director, OAPA, USAID/Washington, Jeffrey N. Bakken – Director USAID Provincial Mission, Lahore, Asad Ullah Khan, Agriculture Specialist, USAID/Punjab, Ms. Arshia Bano, DOC Specialist, USAID Lahore and project beneficiaries and staff participated in this visit.
10.	March 11, 2014	Motor Bike Distribution Phase 16	Hasilpur	Representatives from government administration, NGOs, livestock department, dairy and pharmaceutical companies and rural community participated in this ceremony.
11.	March 13-14, 2014	Dawn Sarsabz Agri Expo 2014	Expo Center Lahore	The Dawn Sarsabz Agri Expo is Pakistan's largest agricultural exposition and brought together participation from all business sectors directly or indirectly involved with agriculture. The Dairy Project setup a stall at the expo with the objective of disseminating best dairy practices, and to create awareness about the projects various capacity building initiatives. Visitors received briefing about the project from master trainers and project-trained beneficiaries along with brochures of silage making, Aflatoxins and literature on the overview of the project.
12.	March 20, 2014	Motor Bike Distribution Phase 17	Raheem Yar Khan	Representatives from government administration, NGOs, livestock department, dairy and pharmaceutical companies and rural community participated in this ceremony.

## Annex 4: Performance Evaluation Sampling Strategy

The primary objective of the evaluation activity conducted in April 2014 was to get a reliable indicator of the project's performance in three components vis-à-vis farmer, AIT and WLEW training. Given logistical constraints, it was not possible to cover all districts from where the Dairy Project has trained beneficiaries. Therefore, for sampling purposes, the beneficiaries trained in Punjab were picked as approximately 85 percent of the project trained farmers and AITs are from there. On the other hand, the entire project trained WLEWs are from Punjab.

For sampling purposes proper statistical methods were adopted to determine the sample size for the survey. Confidence level of 90 percent and confidence interval of 5 percent were kept to gain more accurate insights to the impact of the project. For the AIT component, 12 districts were covered by the random sample, whereas for the farmer's component, 10 districts were covered. In case of WLEWs, 11 districts were covered by survey sample. The evaluation sampling was also handicapped by the unavailability of baseline data, especially for the farmer component. Hence, an evaluation design was adopted that allowed us to get both baseline and end line values. Detailed evaluation designs of each component are given below.

### **Farmer**

In order to evaluate performance of the farmers, the strategy was designed keeping in view data limitations. Pre and Post methodology was adopted for the impact evaluation. Information regarding performance indicators was obtained in April 2014 on recall basis. Total of 429 farmers were randomly picked for the purpose of evaluation, who had attained training till the month of September 2013.

### **Artificial Insemination Technician**

To evaluate the performance of AITs, a total of 228 AITs were randomly picked to be surveyed out of 1,567 AIT from Punjab province. This ensures 14.55 percent of sample which was drawn from the population of AITs trained till December 2013. AITs trained in Jan-Mar 2014 period were not selected as they get kits eight days after their training and it takes them time to start their business.

### **Women Livestock Extension Workers**

In case of WLEWs, a total of 291 WLEWs were sampled out of 4,119 WLEWS trained by the Dairy Project. This gives a sample of 7.06 percent. WLEWs trained till November, 2013 were selected for evaluation of performance after training. WLEWs trained in December 2013 - March 2014 period were not selected as these WLEWs get their kits 10 -15 days after receiving the training and it takes them time to start their business.

### **Methodology:**

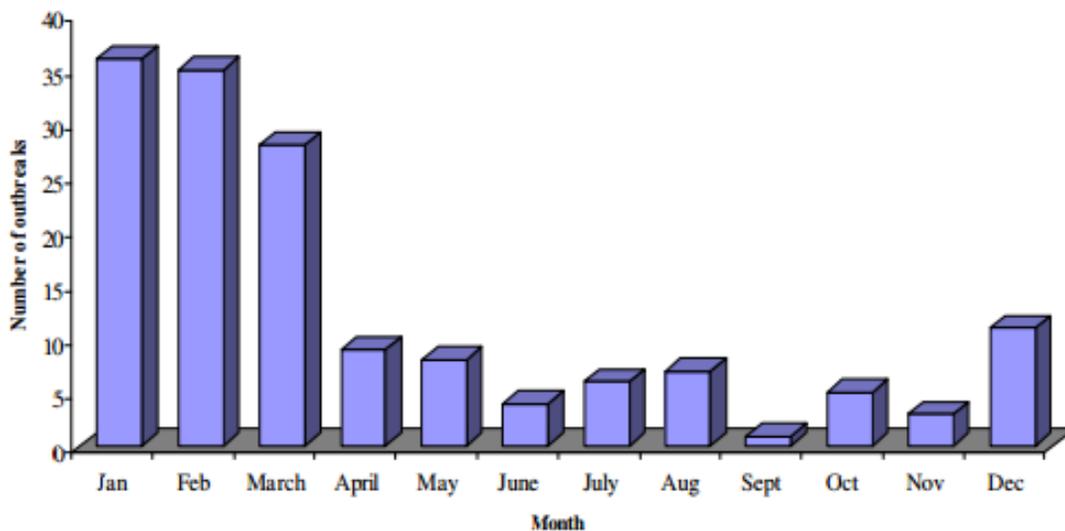
Survey tools were designed in accordance with the projects key outcome indicators illustrated in Monitoring and Evaluation (M & E) Activity Plan. Keeping in view the experiences of last quarterly survey, some survey tool were refined and necessary questions were added to gather more insights into the impact of trainings provided by Dairy Project. Enumerators' training is an essential part of quality data fetching. Hence, for this reason, a complete training session was organized in Multan for all the enumerators conducting the survey. Enumerators were introduced to the probing methods. All research instruments were briefed one by one to all enumerators. After complete orientation on probing

techniques and survey instruments, mock sessions were held which were observed by trainers. Trainers provided their feedback on mock sessions one by one to each participant for improvement.

With the questionnaires being finalized and well briefed to enumerators, a pilot test was carried out in Multan zone. This not only refined the tool even further, but also helped the enumerators to get first-hand experience in applying the survey tool in the field. After successful pilot testing and planning, the survey was carried out by four main working zones of the project which are namely Multan, Vehari, Kamalia and Hasilpur.

To ensure the quality of data, M & E chalked out a complete monitoring plan which was implemented with the help of M & E zonal staff. M & E officers made random checks on the interview sessions carried out by the enumerators to ensure accuracy of the data collected. Complete data flow procedures were documented with all the data quality and verification checks explicitly mentioned. After receiving the questionnaires from the enumerators and before it was entered in the database, the data was verified by Monitoring and Evaluation Officer and Assistant Zonal Manager at two different stages to ensure the quality of data. Even though the data was received after rigorous scrutinization, the analyst further cleaned it and checked for errors and outliers to have a refined data set for analysis.

Figure 6: Seasonal Distribution of laboratory confirmed FMD outbreaks during 2002-2009





## Success Stories

### A Hero's Victory

#### Dairy Project trained WLEW earns a profit of Rs 57,863 in one month



Photo by USAID-DRDF Dairy Project

Rukshanda preparing to vaccinate an animal as preventative medicine

*“When I started the training, I had no assets, job or family support; however, in a matter of two years, I have proudly married two daughters, bought four cows as well as a motorbike to make work-related travel easy.”*

Rukshanda Naz, Dairy Project trained WLEW from 35WB, Vehari.

Rukshanda Naz, a single mother of four daughters is a project trained Woman Livestock Extension Worker (WLEW) who defines the attributes of prudence, persistence and practicality. Having lived in a small village of 35WB in Vehari, 34 year-old Rukshanda has single handedly brought up her family and battled financial difficulties that came her way in the absence of a male supporter. She heard about the Dairy Project's training through the project's social mobilization team that visited her village and sought an introduction of educated females in the area to enroll them in the training. The *Numberdar* (community leader) of the village connected the team to Rukshanda and she immediately signed up for the WLEW training.

“Throughout the training my trainers and the field team guided and counselled me. Often my family had no food to eat while I was taking the month long training, however, I chose to make short-term sacrifices for long term gain,” says Rukshanda. After receiving the training and graduating at the top of her class, she was excited to start her own business and began informing villagers of her newly acquired skill. After receiving the free medicine kit given by the Dairy Project to its beneficiaries, she rented a small shop in her neighborhood and started selling medicines to the dairy farmers in her area.

Soon after, she started visiting dairy sheds and vaccinating, treating and deworming animals not only in her own village, but also in neighboring villages. Her profit in December 2013 was Rs 57,863 and her average quarterly profit is Rs 30,755 per month. “When I started the training, I had no assets, no job or family support, however, in a matter of two years, I have proudly married two daughters, bought four cows as well as a motorbike to make work-related travel easy,” says a beaming Rukshanda.

These goals have not been easy for her to achieve. Often farmers she worked with would tell her that she wouldn't be able to control and restrain an animal. “Sometimes it seemed like farmers would wait for me to fall or get hurt while I was treating their animal. However, I believed in myself and did not stop working which is why I am successful.”

Rukshanda is a firm believer of gender equality and is very grateful to the USAID Dairy Project for empowering her and giving her a steady source of income. “When there was nothing and no one whose support I could count on, the Dairy Project's training gave me a beacon of hope for my family's future. Today I own assets, can talk confidently to anyone and make all my decisions myself.”



## SUCCESS STORY

### Increasing Household Incomes

#### Dairy Project trains artificial insemination technician to improve livestock productivity



Photo by USAID-DRDF Dairy Project

Zahid Iqbal with his family

*“By becoming an Artificial Insemination Technician I feel confident of my family’s future.”*

Zahid Iqbal from Chak No. 36 WB Tehsil and District Vehari.

Zahid Iqbal is a project trained Artificial Insemination Technician (AIT) from Chak 36WB, District Vehari. He is 27 years old and supports a family of four dependents. The Dairy Project’s social mobilization team conducted a survey in his village to find interested candidates to participate in the Dairy Project’s training. When Zahid interacted with them, he immediately decided to get enrolled in the training and after taking a proficiency test and an interview, he was finally selected as a trainee.

Through the AI training, Zahid learnt about heat detection, semen handling and the process of artificial insemination. He graduated from the training in February 2013 in Batch 14. The Dairy Project provided him with a kit to kick start his business and after reviewing his work, he was also awarded a motorbike so that he could provide breed improvement services to other remote villages.

Zahid’s average monthly profit is Rs. 10,000. Through this income he sustains his family and has also bought a buffalo, one sheep and a goat. “By becoming an Artificial Insemination Technician I have not only increased the capital reserve of dairy farmers by improving their animal breeds, but also created a reliable source of income for myself and my family,” he says.

Zahid has inseminated over 400 animals and his animal conception rate is nearly 65 percent. In the future, he wishes to grow his business and provide his services to a greater number of dairy farming villages.



## SUCCESS STORY

### Expanding Horizons

#### Dairy Project's training helps dairy farmer grow his business



Photo by USAID-DRDF Dairy Project

*"I am grateful for the USAID-DRDF Dairy Project's farmer training. In the future I will continue to invest in my dairy business and keep modernizing my farm for improved milk yields."*

Muhummad Naeem Akhtar from village 115/10-R, Tehsil Jahaniya, District Khanewal

Mohammed Naeem Akhtar from village 115/10-R, Tehsil Jahaniya, District Khanewal, took part in the Dairy Project's four day farmer training in December 2013. His family has always been in the dairy farming business; however, they were practicing traditional dairy farming methods, which resulted in low milk yields of their animals.

USAID-DRDF Dairy Project's social mobilization team visited village 115/10-R and informed the dairy farming community about the Dairy Project's capacity building initiatives. Naeem signed up for the four day farmer training as he was interested in modernizing his dairy shed. Through the training he learnt best practices such as deworming, vaccination, Vanda feeding, free access to water, silage making etc. "It was very beneficial to learn about the advantages of breed improvement as it is an inexpensive way to increase milk yields" he says.

Soon after Naeem received the training, he adopted the practices he had learnt. He used the services of the project's Artificial Insemination Technicians to inseminate 10 cows he owned. He also started deworming and vaccinating his animals and now gives them free access to water. By implementing these practices, the daily average milk yield per animal increased from 8 liters to 13 liters. This results in an additional profit of Rs 35,000 per month.

"I am proud of my growing dairy business. In the future I will continue to modernize my dairy farm to ensure that my animals are healthier and more productive," says Naeem.