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DAIRY PROJECT

ANNUAL PROGRESS REPORT – YEAR TWO

AUGUST 2013



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

August 30, 2013

Sajjad Moghal
Agreement Officer's Representative
US Consulate General
50, Shahrah-e-Abdul Hameed Bin Badees
(Old Empress Road) near Shimla Hill
Lahore

Subject: USAID DRDF-Dairy Project Year Two Annual Progress Report: July 2012
through June 2013

Dear Mr. Sajjad,

Dairy Project is pleased to submit this year two Annual Progress Report (APR) as per the Mission's request. This APR serves as a guide for project progress and links project activities, strategic objectives, and intended results in accordance with the funding available. It summarizes the achievement, challenges and lessons learnt in the past implementation year. It also briefly summarizes the way forward for the project.

This APR for year two covers the period of July 2012 through June 2013. The team looks forward to receiving notification of USAID's feedback and consequent approval.

Sincerely,

Jack Moser
Project Director
USAID Dairy Project

Table of Contents

| | |
|--|----|
| EXECUTIVE SUMMARY | 5 |
| BACKGROUND AND SCOPE | 7 |
| GEOGRAPHICAL COVERAGE..... | 13 |
| SECTION 1: FUNDS EXPENDED DURING REPORTING YEAR..... | 15 |
| SECTION 2: PROGRESS AND PERFORMANCE..... | 17 |
| SECTION 3: PROGRAM MANAGEMENT..... | 35 |
| SECTION 4: KEY PUBLIC/PRIVATE PARTNERSHIPS DEVELOPED | 40 |
| SECTION 5: ISSUES, LESSONS LEARNT, AND WAY FORWARD | 41 |
| SECTION 6: ENVIRONMENTAL COMPLIANCE..... | 46 |
| ANNEX. 1: OVERVIEW OF TRAINING COMPONENTS..... | 52 |
| ANNEX. 2: COMMUNICATION PRODUCTS DEVELOPED | 62 |
| ANNEX. 3: SUMMARY OF TRAININGS CONDUCTED | 70 |
| ANNEX. 4: PMP FOR DAIRY PROJECT..... | 72 |
| ANNEX. 5: PERFORMANCE EVALUATION SAMPLING STRATEGY | 77 |
| ANNEX. 6: PARTICIPANT SELECTION CRITERIA..... | 79 |
| ANNEX. 7: SUCCESS STORIES | 81 |

List of Tables

| | |
|---|----|
| Table 1: Quarterly Overview of Training Progress..... | 9 |
| Table 2: Farmer Training..... | 10 |
| Table 3: WLEWs Trainings..... | 10 |
| Table 4: Training of AITs | 11 |
| Table 5: Project Key Personnel | 14 |
| Table 6: Project Staffing (Including above)..... | 14 |
| Table 7: Project Financial Summary | 15 |
| Table 8: Development Task Budget and Variances | 15 |
| Table 9: Expense by Category (Planned)..... | 16 |
| Table 10: Farmers' Training Overview | 17 |
| Table 11: Training of Farmers..... | 18 |
| Table 12: Hay Test Result..... | 19 |
| Table 13: Farmers' Training Performance | 20 |
| Table 14: WLEWs' Training Overview..... | 22 |
| Table 15: WLEWs' Training..... | 23 |
| Table 16: Perception of Societal Barriers to WLEWs | 25 |
| Table 17: Perception of Social Empowerment | 26 |
| Table 18: AITs' Training Overview..... | 28 |
| Table 19: Motorbikes' Distribution | 29 |
| Table 20: Overview of AITs Training in other provinces..... | 30 |
| Table 21: AITs' Performance | 31 |
| Table 22: Issues, Lesson Learnt and Way Forward..... | 41 |
| Table 23: Communication Products Developed | 62 |
| Table 24: Summary AIT Training | 70 |
| Table 25: Summary of Farmer Training | 70 |
| Table 26: Summary of WLEW Training..... | 71 |
| Table 27: PMP for Dairy Project..... | 72 |
| Table 28: Calculation of Adjustment Factor..... | 78 |

List of Acronyms

| | |
|----------------|--|
| AI | Artificial Insemination |
| AITs | Artificial Insemination Technicians |
| AOR | Agreement Officer's Representative |
| BOG | Board of Governors |
| DRDF | Dairy and Rural Development Foundation |
| FM | Field Manager |
| FO | Field Operations |
| GM | General Manager |
| M&E | Monitoring and Evaluation |
| MSI | Management Systems International |
| MTs | Master Trainers |
| NGO | Non-Governmental Organization |
| NRSP | National Rural Support Program |
| OMB | Office of Management and Budgeting |
| PCP | Pakistan Centre of Philanthropy |
| PD | Project Director |
| PMP | Performance Monitoring Plan |
| PMU | Project Management Unit |
| RFP | Request for Proposal |
| LBEs | Livestock Business Entrepreneurs |
| LHW | Livestock Health Worker |
| LN | Liquid Nitrogen |
| SMs | Social Mobilizers |
| SOP | Standard Operating Procedures |
| TOR | Terms of Reference |
| TOTs | Training of Trainers |
| UAF | University of Agriculture Faisalabad |
| US | United States |
| USAID | United States Agency for International Development |
| UVAS | University of Veterinary & Animal Sciences |
| Vanda | Concentrated animal feed, locally known as “Vanda” |
| VTIs | Vocational Training Institutes |
| WLEWs | Women Livestock Extension Workers |
| ZM | Zonal Manager |

EXECUTIVE SUMMARY

The dairy and livestock sector shares 11 percent of the total Gross Domestic Product (GDP) of Pakistan. The country has a total population of 67 million cattle and buffaloes, with seven million families involved in traditional farming practices. More than half of the dairy farmers live in the Punjab province. Most of the dairy farmers with two to three dairy animals do not follow progressive dairy farming practices. In addition, the farmers have limited access to veterinary and breed improvement services, which if available, can improve dairy animals' milk yield and eventually livelihoods and incomes of rural communities.

It is in this context that the Dairy Project's extensive training programs for dairy farmers, Women Livestock Extension Workers (WLEWs) and Artificial Insemination Techniques (AITs) is playing an important role in transforming the livelihoods of rural communities. The Dairy Project is aimed at fostering 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 contributes to the USAID's strategic objective of creating job opportunities and increasing incomes in Pakistan.

The project has continued trainings for AITs, WLEWs and farmers in the second year of its implementation. During year 2, the Dairy Project covered districts Multan, Vehari and Bahawal Pur (Tehsil: Hasilpur) for Women Livestock Extension Workers (WLEWs) and farmer trainings. Artificial Insemination Technicians (AITs) were trained from districts Bahawalnagar, Bahawalpur, Jhang, Lodhran, Multan, Khanewal, Muzaffargarh, Pakpattan, Sahiwal, Vehari, Sheikhupura and Toba Tek Singh in Punjab. AITs were also selected from other provinces including Khyber Pakhtunkhwa (KPK)¹, Sindh² and South Waziristan Agency (FATA). Selection of farmers, AITs and WLEWs is carried out through community mobilization in each village besides screening of the candidates against the set criteria.

Based on internal and external evaluations, it is found that the project has performed better in its second year. Awareness about better farming practices has been raised in 67 districts through TV/Radio infomercials. Classroom training is also provided to select beneficiary farmers. Indicators suggest that an increasing number of such trained farmers are adopting best practices imparted in the training. As a result of increased awareness and trainings, beneficiaries have achieved on the average 20 percent more income.

Furthermore, AITs are performing very well. Number of insemination procedures performed each day per AIT is increasing gradually. This can be attributed to the rise in demand for imported semen and increased awareness in the community for better breeds to improve milk and meat production. Furthermore, success of such techniques is also

¹ KPK districts: Buner, Charsadda, DI Khan, Dir, Lakkimmarwat, Mardan, Nowshera and Tank

² Sindh districts: Dadu, Ghotki, Khairpur, Larkana, Matiari, Naushero Feroze, Shaheed Benazirabad and Shikarpur

improving overtime in the last four quarters. As a result of contributing factors, AITs are able to earn a decent livelihood for themselves.

However, the same trends in income increase are not true for WLEWs. The prime reasons are social barriers to working in the village environment. Of the WLEWs who had completely given up work, 15% women stated that they could not work because of family restrictions and 18.75% stated that they could not work because of societal restrictions. Another 3.1% stopped working after they got married.

This annual progress report describes the operations and progress in the second year i.e. July 1, 2012 to June 30, 2013, of the project implementation. The report also highlights achievements towards the intended results, major challenges faced in implementation, lessons learnt and the way forward. A few success stories from the field have also been added to highlight the project's success in achieving the envisioned results. Figure 1 below demonstrates targets and achievements for the said reporting period.

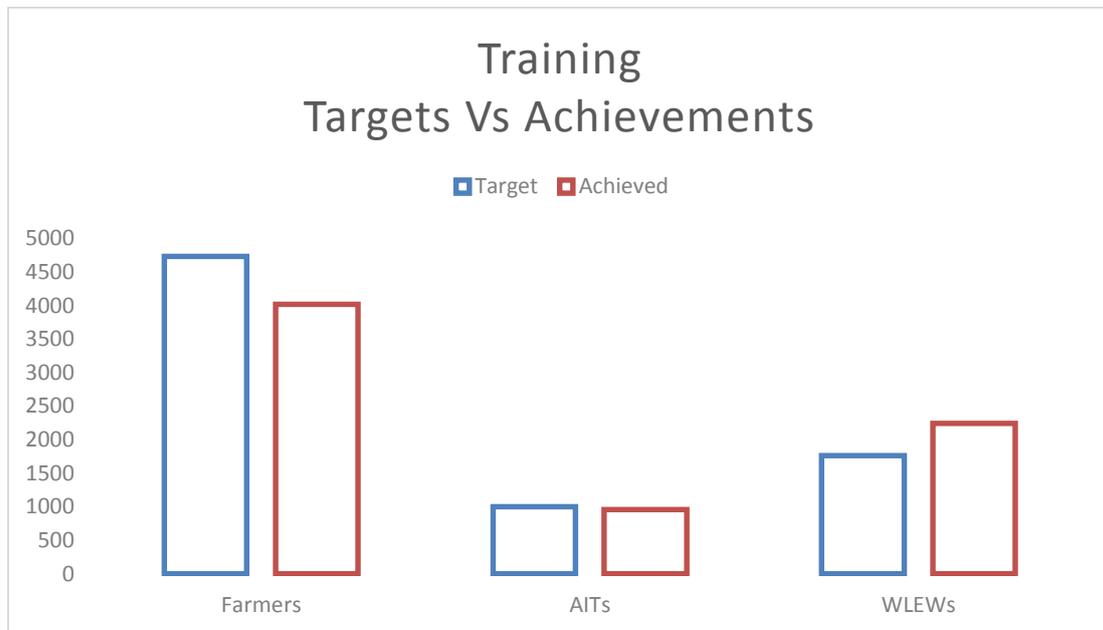


Figure 1: Training Targets and Achievements for Reporting Period (July, 2012 to June, 2013)

BACKGROUND AND SCOPE

The Dairy Project commenced in July 2011 under USAID Pakistan's Economic Growth Strategy with Dairy and Rural Development Foundation (DRDF) as implementer. DRDF is a not for profit, non-government entity established in 1996 by progressive cattle breeders, extension workers, and the milk processing industry. DRDF has worked extensively with dairy producers across Punjab on various activities including breeding, feeding, management and health improvement.

The Dairy Project contributes to the USAID strategic objective of creating job opportunities and increasing incomes. The activities of the Dairy Project are aligned with Pakistan's development agenda, and its goal and objectives reflect national and regional priorities. The Dairy Project is being implemented in all four provinces, with major focus on Punjab. The project is based in Lahore with zonal offices in Kamalia, Vehari, Burj Attari and Multan. The Project has a three year implementation time span, from July 2011 to July 2014.³

The dairy and livestock sector presents immense possibilities as it contributes 11 percent of the total GDP. Around 7 million families of Pakistan are associated with this sector and most of them having only 2 to 3 animals. More than half of the dairy farmers belong to Punjab province and, like small farmers of other provinces, they have very limited access to the techniques of progressive dairy farming practices, which can significantly improve the yield and hence income levels of rural communities.

In this context, the project is aiming 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's mission comprises of the following key objectives:

- a) train and build the capacities of dairy farmers in best farming practices focusing on fodder, animal nutrition and breed improvement through the promotion of artificial insemination;
- b) develop human resource to provide basic veterinary services at village level through trained women extension workers capable of interfacing with rural women who rare and mange cattle stock; and
- c) Promote entrepreneurship through training and building linkages with input suppliers and clients.

In order to achieve the above mentioned objectives, the implementation strategy of the Dairy Project includes the following components:

³ For a detailed overview of training programme [see annex 1](#)

- i. Training and support for 9,000 dairy farmers. Out of these farmers, at least 800 farmers are to be trained outside Punjab i.e. in provinces of Khyber Pakhtunkhwa, Sindh and Baluchistan.
- ii. Training and support for 2,000 Artificial Insemination Technicians (AITs). Of these 2,000 AITs, 300 are to be trained outside Punjab i.e. in the provinces of Khyber Pakhtunkhwa, Sindh and Baluchistan.
- iii. Training and support for 5,000 Women Livestock Extension Workers (WLEWs).
- iv. Awareness campaign that will increase knowledge of best dairy farm practices within the dairy community

Due to the vital importance of livestock sector in the rural economy of Pakistan, the Dairy Project's extensive training programs for dairy farmers, WLEWs and AITs will play an important role in transforming the livelihoods of rural communities.

This annual progress report describes the operations and progress in the second year i.e. July 1, 2012 to June 30, 2013, of the project implementation. The report also highlights achievements towards the intended results, major challenges faced in implementation, lessons learnt and the way forward.

SUMMARY OF HIGHLIGHTS OF YEAR 2

The project continued trainings for AITs, WLEWs and farmers in the second year of its implementation. During year two, the Dairy Project covered districts Multan, Vehari and Bahawal Pur (Tehsil: HasilPur) for Women Livestock Extension Workers (WLEWs) and farmer trainings. Artificial Insemination Technicians (AITs) were trained from districts Bahawalnagar, Bahawalpur, Jhang, Lodhran, Multan, Khanewal, Muzaffargarh, Pakpatan, Sahiwal, Vehari, Sheikhpura and Toba Tek Singh in Punjab. AITs were also selected from other provinces including Khyber Pakthunkhwa (KPK)⁴, Sindh⁵ and South Waziristan Agency (FATA). Selection of farmers, AITs and WLEWs is carried out through community mobilization in each village besides screening of the candidates against the set criteria.

The table below presents quarter wise targets and achievements in each of the three training components. For batch-wise training summaries please [see annex 3](#)

Economic Contribution:

Milk yield increased by approximately 20.5% in flush season
About 3,200 entrepreneurs were established.

Best practice long term adoption rate was 90%

Training achievements in year

2012-13:

4,019 farmers, 959 AITs and 2,243 WLEWs

Training achievements from

2011-2013:

7,323 farmers, 3,247 WLEWs and 1,296 AITs

Table I: Quarterly Overview of Training Progress

| Description | Q1 July-Sep | | Q2 Oct-Dec | | Q3 Jan-Mar | | Q4 Apr-June | | Total | |
|---|----------------|-----|---------------|------|---------------|------|----------------|-----|-------|------|
| | T | A | T | A | T | A | T | A | T | A |
| Training and Support to Dairy Farmers | 650 | 751 | 1160 | 1094 | 1670 | 1126 | 1250 | 948 | 4730 | 4019 |
| Training and support to AITs | 220 | 253 | 160 | 161 | 350 | 269 | 270 | 276 | 1000 | 959 |
| Training and Support to WLEWs | 160 | 161 | 480 | 856 | 520 | 734 | 600 | 492 | 1760 | 2243 |
| Key: T=Targets, A=Achievement | | | | | | | | | | |
| Notes: Achievements data is from July 2012 to June 2013. | | | | | | | | | | |
| Targets are from AIP 2012. Targets are for July 2012 to June 2013 | | | | | | | | | | |

⁴ KPK districts: Buner, Charsadda, DI Khan, Dir, Lakkimarwat, Mardan, Nowshera and Tank

⁵ Sindh districts: Dadu, Ghotki, Khairpur, Larkana, Matiari, Naushero Feroze, Shaheed Benazirabad and Shikarpur

Table 2: Farmer Training

| Performance Indicators- farmer training¹ | Target | Apr 2013- June 2013 | Jan 2013- Mar 2013² | Oct 2012 – Dec 2012 | Jul 2012- Sep 2012 |
|---|---|---|---|--------------------------------|-------------------------------|
| Increase in milk productivity after applying at least three learned best practices | 10% | 31.4% ³ (After Seasonal Adjustment) | | | |
| Increase in the project-assisted household real annual income from dairy activities | At least 10 percent increase in the household's income from dairy activities. | 20.5% ⁴ | 3.19% | No data available | No data available |
| Percentage of project-assisted farmers using at least three best practices relative to the baseline | 60 percent farmers adopted three more best practices | 55.56% | 47.89% | No data available | No data available |

1. Results are reported on quarterly bases

2. Due to differences in lean and flush period, our follow up and selection data is not comparable. Hence, indicators are calculated on based of third party survey carried out in January 2013 and a special survey of 77 farmers carried out by M&E department in April 2013 that collected information for February, March and April 2013.

3. The calculation is made after adjusting the seasonal fluctuation by using a milk production adjusting factor based on milk collection data of Nestle from 2007-2009. For details [see annex 5](#)

4. The increase in dairy income is calculated on constant April 2013 milk selling prices. Furthermore, the proportion of milk sold in each month is kept constant to remove the effects of change in milk selling behavior.

Table 3: WLEWs Trainings

| Performance Indicators- WLEW training | Targets | Apr-Jun, 2013 | Jan -Mar 2013 | Oct – Dec 2012 | Jul -Sep 2012 |
|--|--|--------------------------|--------------------------|---------------------------|----------------------|
| Average per month income of WLEWs from livestock services relative to the baseline | Income of at least Rs. 3,000 per month (US\$ 32) ‡ | Rs. 600 ¹ | Rs. 714 ² | Rs. 983 ³ | |

| | | | | | |
|--|--|--|------------------------|------------------------|------------------------|
| Percentage of farmers using services of Women Livestock Extension Workers (WLEWs) relative to the baseline | At least ten percent farmers using services of WLEWs. | 48% of farmers surveyed have access to WLEWs | No data | No data | |
| Number of villages served by project-trained WLEWs | 465 villages | 2,153 ⁴ | 1,299 ⁵ | 406 | 148 |
| Number of project-trained WLEWs providing services as self-employed extension workers | At least 60 percent of the trained WLEWs providing livestock services. | 67.22% (2,182 WLEWs) | 100% (estimated) | 100% (estimated) | 60% (estimated) |
| Number of WLEWs trained in business practices, book-keeping, and milk collection | 1,328 WLEWs | 754 | 841 (pass=838, fail=3) | 494 (pass=490, fail=4) | 165 (pass=159, fail=5) |

1. Combined income of both Livestock Health Workers (LHWs) and Livestock Business Entrepreneurs (LBEs).
2. Based on data of 500 WLEWs for months of January and February 2013. Available data is not on calendar month basis, hence monthly income is estimated from average daily profit.
3. Based on limited data from batch 2 and 4 of WLEWs for the month of December 2012 only.
4. Estimated number of villages. It is estimated that on average one WLEW serves 1.55 villages. Villages served may not be unique.
5. 5 animals in the end-line survey had HS while no animal in the baseline had HS. Based on third party survey.

Table 4: Training of AITs

| Performance Indicators – AITs | Targets | Achievements | | | |
|--|---|------------------------|--------------|--------------|--------------|
| Average per month income of AITs from providing AI services relative to the baseline | (for each year): Income of at least Rs. 3,000 (US\$ 32) ‡ per month | Rs. 4,626 ¹ | Rs. 4,572 | Rs. 3,507 | Rs. 4,174 |
| Number of insemination procedures performed (disaggregated by semen type (local, imported/cross-bred)) | (for each year): At least one insemination per day | 0.82 Per day | 0.60 Per day | 0.62 Per day | 0.71 Per day |

relative to the baseline

| | | | | | |
|---|---|-------------------|-------------------|-------------------|--------|
| Number of villages served by project-trained AITs | 857 villages | | | 2,277 | 1,794 |
| Percentage of AIT trainees providing professional services to communities | 60% of AITs | 90.91% | 98.40 % | 98.44% | 98.03% |
| Ratio of insemination procedures to pregnancy | (for each year): At most 1.7 insemination per pregnancy | 1.34 ² | 1.12 ³ | 1.11 ⁴ | 1.36 |
| Number of villages served by project-trained AITs offering services to farmers | 756 villages | | | | |
| <ol style="list-style-type: none"> 1. Net of semen cost, LNG cost, transport and all other expenditures 2. Assumption: AIT uses one straw per AI and conducts one pregnancy test per AI. Calculated as ratio of pregnant animals to pregnancy tests 3. The ratio has been worked out using no. of animals impregnated divided by number of animals palpated instead of no. of animals impregnated divided by number of inseminations. This is due to non-availability of data, which is planned to be collected after revision of AIT performance survey methodology. 4. Same as above. | | | | | |

GEOGRAPHICAL COVERAGE

Dairy Project’s field offices/zones and training sites have been established at the following sites: Burj Attari (District: Sheikupura), Rawalpindi (District: Rawalpindi), Faisalabad (District: Faisalabad), Renala Khurd (District: Okara), Sukheki (District: Hafizabad), Kamalia⁶(District: Toba Tek Singh).



Figure 2: Geographical Coverage

⁶ Kamalia Office is established to provide support to beneficiaries of erstwhile Pir Mahal and Chichawatni zones.

Table 5: Project Key Personnel

| Sr. No | Name | Designation | Employment type | | Email address | Contact No. |
|--------|--------------------|------------------------------------|-----------------|------------|---------------------------------|------------------|
| | | | *Seconded | Contracted | | |
| 1 | Jakob Moser | Chief of Party | ✓ | | jack@dairyproject.org.pk | 0092-345-5055151 |
| 2 | Sheikh Waqar Ahmad | Technical Advisor | ✓ | | sheikh.waqarahmad@pk.nestle.com | 0092-300-8504699 |
| 3 | Dr. Sobia Naheed | General Manager (Field Operations) | ✓ | | sobia@dairyproject.org.pk | 0092-344-4476260 |
| 4 | Malik Ghulam Abbas | Financial Controller | ✓ | | abbas@dairyproject.org.pk | 0092-344-4476312 |
| 5 | Abdul Khaliq | Procurement Officer | | ✓ | akhaliq@dairyproject.org.pk | 0092-344-4476264 |
| 6 | Hassan Goreja | Manager Monitoring and Evaluation | | ✓ | goreja@dairyproject.org.pk | 0092-344-4476053 |
| 7 | Adil Sultan | Manager Communications | | ✓ | adil@dairyproject.org.pk | |

**Seconded: Staff From Nestle' Pakistan for Assistance to DRDF*

Table 6: Project Staffing (Including above)

| Sr. No. | Position types | *Seconded | | Contracted | | Outsource | | Internship | |
|---------|----------------------|-----------|----------|------------|-----------|-----------|----------|------------|----------|
| | | Male | Female | Male | Female | Male | Female | Male | Female |
| 1 | Hods (G.M /PD/FC/HR) | 3 | 1 | | | | | | |
| 2 | Managers | | 2 | 5 | 2 | | | | |
| 3 | Support Staff | 1 | | | | | | | |
| 4 | PMU support staff | | | 16 | 4 | 16 | | 4 | 3 |
| 5 | Field support staff | - | - | 78 | 35 | 82 | 1 | 6 | 1 |
| | Total | 4 | 3 | 99 | 41 | 98 | 1 | 10 | 4 |

SECTION I: FUNDS EXPENDED DURING REPORTING YEAR

I.1 PROJECT FINANCIAL SUMMARY

Table 7: Project Financial Summary

| Sr. No. | Expense categories under cooperative agreement | Amount in US Dollars | %age expended |
|--------------|--|----------------------|---------------|
| 1 | Personnel cost | 728,658 | 13% |
| 2 | Travel | 478,512 | 8% |
| 3 | Equipment and supplies | 2,228,162 | 38% |
| 4 | Other direct costs | 2,371,561 | 41% |
| Total | | 5,806,893 | 100% |

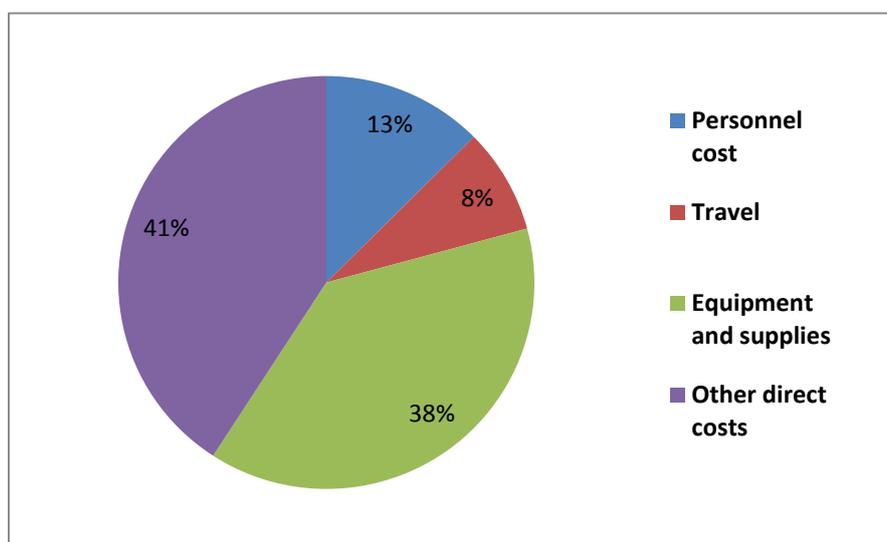


Figure 3: Expense by Category

I.2 DEVELOPMENTAL TASK BUDGET AND VARIANCES

Table 8: Development Task Budget and Variances

| Developmental Tasks | As of end of reporting period | | | |
|---------------------|-------------------------------|--------------------|---------------|------------|
| | Budgeted Expenditure | Actual Expenditure | Variance \$ | Variance % |
| 1 WLEW | 858,227 | 1,218,831 | (360,604) | (42)% |
| 2 AIT | 1,217,327 | 1,279,081 | (61,754) | (5)% |
| 3 Farmers | 427,676 | 405,130 | 22,546 | 5% |
| 4 Communication | 816,763 | 578,150 | 238,613 | 29% |
| 5 Others | 2,568,804 | 2,325,705 | 243,099 | 9% |
| TOTALS | 5,888,797 | 5,806,896 | 81,900 | 1% |

For year 3, the budget has already been adjusted with reference to planned activities of the Project. Broad outline of budget allocations/Projections, are as follows:

Table 9: Expense by Category (Planned)

| Sr. No. | Expense categories | Year 3 (July-13 to 14th July-14) |
|----------------|---------------------------|--|
| 1 | Personnel cost | 1,304,788 |
| 2 | Travel | 353,200 |
| 3 | Equipment and supplies | 1,859,267 |
| 4 | Other direct costs | 1,968,523 |
| | Total | 5,485,778 |

SECTION 2: PROGRESS AND PERFORMANCE

The Dairy Project team worked in three training components of program in the second year. Besides these trainings, a mass awareness campaign at different levels was run to promote awareness among farmer on best practices to enhance milk productivity and incomes. The detailed of this campaign is provided in a subsequent section. Apart from trainings and awareness, Dairy Project made liaison with public and private sector intuitions in developing and strengthening supply channels and to achieve goals identified in Annual Implementation Plan.

The project continued trainings for AITs, WLEWs and farmers in the second year of its implementation. Dairy Project covered districts namely Multan, Vehari and Bahawalpur for WLEWs and Farmers' training while AIT training component was covered in districts Bahawalnagar, Bahawalpur, Jhang, Lodhran, Multan, Khanewal, Muzaffargarh, Pakpattan, Sahiwal, Vehari, Sheikhpura and Toba Tek Singh in Punjab. Project covered AIT training component in Sindh Khyber Pakthunkhwa (KPK), Sindh and South Waziristan Agency (FATA)⁷ as well. Selection of trainees was made through mobilization and screening process against set criteria.

2.1 TRAINING AND SUPPORT FOR DAIRY FARMERS

Dairy project is creating awareness about best practices to farmers through various trainings. Adoption of modern farming techniques is resulting in increased milk production and long term development in the dairy sector. Trainings include two-days training of traditional farmers, four-days training of progressive farmers and one month training of commercial farmers. The table below shows the progress of these trainings over the reporting period (July 2012 to June 2013) against the targets set.

Table 10: Farmers' Training Overview

| Sr. No. | Indicators | Values |
|----------------|--|---------------|
| 1 | Beneficiaries targeted during July 1, 2012 to June 30, 2013* | 4,730 |
| 2 | Beneficiaries trained during July 1, 2012 to June 30, 2013 | 4,019 |
| 3 | Beneficiaries targeted till June 30, 2013 | 7,395 |
| 4 | Beneficiaries trained till June 30, 2013 | 7,323 |

*Target is based on revised Annual Plan 2012 and Quarterly Progress reports.

In current reporting period, a total of 4,730 farmers were targeted for training from four zones namely Multan, Vehari, Kamalia and Burj Atari. Out of which 4,019 were trained in three categories: 2203 traditional farmers were attendee of two-days while 1580 progressive farmers were attendee of four days training. Moreover, project trained 236 farm managers for commercial farming. After the successful completion of training all participants were provided with basic kits required for some modern practices.

⁷ Sindh districts: Dadu, Ghotki, Khairpur, Larkana, Matiari, Naushero Feroze, Shaheed Benazirabad and Shikarpur)
KPK districts: Buner, Charsadda, DI Khan, Dir, Lakkimarwat, Mardan, Nowshera and Tank

Furthermore, these farmers were supported by follow up teams that used to visit the trained farmers regularly. Dairy Project trained a total of 7,323 farmers till to date which is touching the target set i.e 7,395.

The table below reports zone-wise number of farmers trained till June, 2013.

Table 11: Training of Farmers

| Sr. No. | Zone | No. of farmers trained | | Total |
|---------|-----------------|------------------------|-----------------|--------------|
| | | 2 days training | 4 days training | |
| 1 | Pir Mahal | 1,286 | 177 | 1,463 |
| 2 | Chichawatni | 1,345 | 139 | 1,484 |
| 3 | Multan | 1,573 | 766 | 2,339 |
| 4 | Vehari | 914 | 581 | 1,495 |
| 5 | Other Provinces | | 306 | 306 |
| | Total | 5,118 | 1,969 | 7,087 |

In current reporting period, Dairy Project trained its two-day and four-day farmers on Nestle Sarsabz/Sukheki and project owned farms in Khanewal and Multan. In the training session Master Trainers (MTs) covered the topics on feeding, breeding, farm management, adoption of best practices and commercial dairy farming. Resource persons from organization like ICI, Lead Pharama, Sana lab, Preforms and UVAS shared their experiences in these trainings. Farm managers are selected for one month training from all over the Pakistan. So, due to logistic constraints it was difficult to visit to managers' door steps for follow up. However, a telephonic follow up of 164 farm managers was made, out of which 35 have their own dairy business, 30 are doing job on dairy farms, 17 are investors and 85 are seeking jobs.

After training, field teams are supporting the trained farmers through regular follow up visits. To assist farmers in silage making, project purchased two silage machines in Multan and Vehari districts. By using these machines 173 acres fodder was preserved. Farmers had a positive response to silage making as by adopting this practice milk production was increased by five percent and labor cost reduced by 40 percent. Moreover, fodder shortage period was decreased to 90 percent. In Kamalia, two farmers purchased their own silage machines.

Hay making was done by follow up teams in Vehari which was sent to UVAS Laboratory for different tests and the results of these test were excellent. Tests and their results are given in below table.

Table 12: Hay Test Result

| Test | Result |
|---------------|--------|
| Dry Matter | 91.67% |
| Moisture | 8.33% |
| Crude Protein | 19.36% |
| Ether Extract | 2% |
| Ash | 11.33% |

Dairy Project took initiative to install Bio gas plant at 569EB (Vehari). An agreement has been signed between Ghosia Corporation and DRDF for the construction of bio gas plant.

On 4th May, 2013, an agreement was signed between Win-Rock Int. and Dawood construction for starting bio gas unit in 569EB (Vehari). For this, Win-Rock International provided a subsidy of Rs 80,000 after validation of the quality of unit.

M & E department is actively conducting sample based quarterly survey from last two quarters to gauge the performance of project. In quarterly survey data is collected against performance indicators of three components of this program. One of these survey was conducted in July covering Apr-June, 13 quarter. On the basis of the recently designed survey, it is found that the project is performing considerably better than the values suggested in the first three quarterly progress reports. Dairy Project communication's team has raised awareness about better farming practices in 67 districts. In addition to awareness through TV/Radio, classroom training is also provided to selected beneficiaries. Indicators suggest that more and more such trained farmers are adopting best practices imparted in the training. As a result of awareness and training, beneficiaries on the average realize 20 percent more income. A quarter-wise performance of trained farmers against PMP indicator is given on next page.

Results on performance indicators (as per PMP)**Table 13: Farmers' Training Performance⁸**

| Performance Indicators-farmer training | Target | Apr 2013- June 2013 | Jan 2013- Mar 2013⁹ | Oct 2012 – Dec 2012 | Jul 2012- Sep 2012 |
|---|---|---|--|--------------------------------|-------------------------------|
| Increase in the project-assisted household real annual income from dairy activities | At least 10 percent increase in the household's income from dairy activities. | 20.5% ¹⁰ | 3.19% | No data available | No data available |
| Incidence of Hemorrhagic Septicemia and Foot and Mouth Disease 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. | Incidence of HS Apr, 2013=2 Animals Jun, 2013=3 Animals | 66.7% reduction in HS and 76.9% reduction in FMD. b)No data available | No data available | No data available |
| | | Incidence of FM Apr, 2013=1 Animals Jun, 2013=7 Animals | | | |
| | | b)No data available | | | |

⁸ Results reported in this table are based on quarterly and special surveys. Due to difference in sample strategy and evaluation design we can't merge these data sets.

⁹ Due to differences in lean and flush period, our follow up and selection data is not comparable. Hence, indicators are calculated on based of third party survey carried out in January 2013 and a special survey of 77 farmers carried out by M&E department in April 2013 that collected information for February, March and April 2013.

¹⁰The increase in dairy income is calculated on constant April 2013 milk selling prices. Furthermore, the proportion of milk sold in each month is kept constant to remove the effects of change in milk selling behavior.

| | | | | | | |
|--|---|--|--------|-------------------|-------------------|-------------------------|
| Increase in milk productivity | 10% | 31.4% ¹¹ (After Seasonal Adjustment) | | | | |
| Percentage of farmers using services of Women Livestock Extension Workers (WLEWs) relative to the baseline | At least ten percent farmers using services of WLEWs. | Jun, 2013=17.46% | 48% | No data available | No data available | |
| Percentage of project-assisted farmers using at least three best practices relative to the baseline | 60 percent farmers adopted three more best practices | 55.56% | 47.89% | No data available | No data available | |
| Awareness through TV and/or Radio sketches | 700 villages per year | 67 Districts ¹² | | | | Not aired ¹³ |
| Awareness through print media campaign | | | | | | 73 Districts |
| Training in business practices, and book-keeping | 3,150 farmers | 100% | 1,171 | 1,095 | 751 | |

2.2 TRAINING AND SUPPORT FOR WOMEN LIVESTOCK EXTENSION WORKERS (WLEWS)

WLEW's training duration is of one-month incorporating modules and lesson plans with 30 percent theoretical and 70 percent practical components to ensure transfer of skill to each WLEW. Training is followed by follow-up technical support up to one month. Dairy Project has focused on establishment of linkages to sustain extension workers. WLEW trainees are appearing in examinations conducted by accredited veterinary university/colleges in Punjab, preferably UVAS. The training courses are comprised of vaccination (mainly HS/FMD and poultry), deworming, animal health and management, importance of balance diet/nutrition of animals, Mastitis control,

¹¹ The calculation is made after adjusting the seasonal fluctuation by using a milk production adjusting factor based on milk collection data of Nestle from 2007-2009. For details see annex 4

¹² Number of district reached is based on the phone calls received on helpline. However, campaign is run through national TV channels which may cover the whole country. For details see annex 5.

¹³ TV radio campaign was not launched but in July-August 2012, a print campaign was launched that disseminated information through major newspapers in all four provinces.

Tympani, Diarrhea, temperature, cough, wound treatment, allergy reaction, tick and maggot therapy, common infectious and noninfectious diseases of dairy cow/ sheep goat and their basic level treatment at the village level. Farmer Help Camps were arranged in each of the selected villages to treat animals free of cost. Trainees demonstrated practically under supervision of Master Trainer.

During trainings, WLEWs were provided with awareness on milk business, breeds and breeding of dairy cows, record-keeping, profitability analysis, environment, and communication skills. To make WLEWs aware of modern farm practices and animal treatment visits of Model Dairy Farm, Veterinary Hospital and milk collection center are arranged. Each trainee is provided with an initial business support kit comprising of medicines and animal feed. Kit composition for WLEW has been revised during year 2. Two separate kits for animal feed and medicines were not found viable in achieving the desired income target. So, it was decided to change the composition of kit and both feed and medicine were included in same kit without exceeding the approved cost of the kit. It was implemented from 6th Batch of WLEW. Moreover; one week refresher training has been arranged for some groups of trained women livestock extension workers who are already working in the area to improve their efficiency, as a part of sustainability in livestock health work area. WLEWs have also been provided with a mobile phone for regular communication with local vets and input suppliers.

In current reporting period, 1,760 WLEWs were targeted in three Zones namely: Kamalia, Multan and Vehari. Targets for this year were achieved comprehensively. Project trained 3,226 WLEWs till June, 2013 which is higher than targeted i.e 2,928.

Table 14: WLEWs' Training Overview

| Sr. No. | Indicators | Values |
|----------------|--|---------------|
| 1 | Beneficiaries targeted during July 1, 2012 to June 30, 2013* | 1,760 |
| 2 | Beneficiaries trained during July 1, 2012 to Jun30, 2013 | 2,243 |
| 3 | Beneficiaries targeted till June 30, 2013 | 2,928 |
| 4 | Beneficiaries trained till June 30, 2013 | 3,226 |

*Target is based on revised Annual Plan 2012 and Quarterly Progress reports.

M & E department collected quarterly data on performance indicator of WLEWs. Surveys' results along with PMP targets are given in below table.

Results on performance indicators (as per PMP)**Table 15: WLEWs' Training¹⁴**

| Performance Indicators-WLEW training | Targets | Apr2013- June 2013 | Jan 2013- Mar 2013 | Oct 2012 – Dec 2012 | Jul 2012- Sep 2012 |
|---|--|---|---|--------------------------------|-------------------------------|
| Average per month income of WLEWs from livestock services relative to the baseline | Income of at least Rs. 3,000 per month (US\$ 32) ‡ | Rs. 600 ¹⁵ | Rs. 714 ¹⁶ | Rs. 983 ¹⁷ | No data |
| Incidence of Hemorrhagic Septicemia and Foot and Mouth Disease 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. | Incidence of HS Apr, 2013=2 Animals Jun, 2013=3 Animals Incidence of FM Apr, 2013=1 Animals Jun, 2013=7 Animals b)No data available | (a) HS: 0.3% vs 0% in baseline FMD: 2.8% vs 4.8% in baseline ² (b) no data being collected | No data | No data |

¹⁴ Results reported in this table are based on quarterly and special surveys. Due to difference in sample strategy and evaluation design we can't merge these data sets

¹⁵ Combined income of both Livestock Health Workers (LHWs) and Livestock Business Entrepreneurs (LBEs).

¹⁶ Based on data of 500 WLEWs for months of January and February 2013. Available data is not on calendar month basis, hence monthly income is estimated from average daily profit.

¹⁷ Based on limited data from batch 2 and 4 of WLEWs for the month of December 2012 only.

| | | | | | |
|---|--|---|---------------------|------------------|------------------|
| Percentage of farmers using services of Women Livestock Extension Workers (WLEWs) relative to the baseline | At least ten percent farmers using services of WLEWs. | 48% of farmers surveyed have access to WLEWs ¹⁸ | No data | No data | |
| Number of villages served by project-trained WLEWs | 465 villages | 2,153 ¹⁹ | 1,299 ²⁰ | 406 | 148 |
| Number of project-trained WLEWs providing services as self-employed extension workers | At least 60 percent of the trained WLEWs providing livestock services. | 67.22% (2,182 WLEWs) | 100% (estimated) | 100% (estimated) | 60% (estimated) |
| Number of WLEWs operating/managing project-supported milk collection points in project-assisted communities | At least 20 Milk Collection Points | 0 | 0 | 0 | 0 |
| Number of WLEWs offering feed, nutrients, and other inputs for sale to farmers | 60% (797 WLEWs) | 67.22% of WLEWs that received kits ²¹ (out of 1,891 WLEWs) | 1,101 | 628 | 192 |
| Percentage of project-trained WLEWs introduced to input suppliers | 100%. | 100% | 60% (estimated) | 100% (estimated) | 100% (estimated) |

¹⁸ From Quarterly Survey Apr-June, 2013

¹⁹ Estimated number of villages. It is estimated that on average one WLEW serves 1.55 villages. Villages served may not be unique.

²⁰ 5 animals in the end-line survey had HS while no animal in the baseline had HS. Based on third party survey.

²¹ 433 LBEs have not received kits hence have been excluded from this calculation

| | | | | | |
|--|-------------|-----|------------------------------|------------------------------|------------------------------|
| Number of WLEWs trained in business practices, book-keeping, and milk collection | 1,328 WLEWs | 754 | 841 (pass=838, fail=3) | 494 (pass=490, fail=4) | 165 (pass=159, fail=5) |
|--|-------------|-----|------------------------------|------------------------------|------------------------------|

WLEWs have incomes in the range of Rs. 600 to Rs. 1000 which is far less than the target set in PMP. The prime reasons are social barriers to work in the village environment. Our recent survey reports that the WLEWs who had completely given up work, 15% women stated that they could not work because of family restrictions and 18.75% stated that they could not work because of societal restrictions. Another 3.1% stopped working after they got married. Several questions regarding the societal barriers and perceptions were asked of the WLEWs. The responses are given in Table. A significant number (36.8%) think that the society does not look at their work favorably. Around 31.6% face mobility restrictions which limit their capacity to reach a wider clientele. Additionally, thought farmers think of WLEWs as reliable extension workers, yet they exploit their by declining to pay for their services. Approximately 39.1% of WLEWs surveyed responded that farmers often do not pay for their services. This results in losses and demotivation for the extension workers. Another major reason for low profitability is the presence of a trained veterinary officer or assistant in their village. Around 42.5% WLEWs claimed that there is a trained VO or VA in their village.

Table 16: Perception of Societal Barriers to WLEWs

| Social norms | Percentage that agrees |
|--|------------------------|
| Work is not looked at favorably in the society | 36.8% |
| Restrictions on mobility | 31.6% |
| Restrictions on talking to men | 31.6% |
| Other women in their biradri also work | 42.0% |
| Farmers decline to pay for your services | 39.1% |
| Veterinary officer available in your village | 42.5% |

2.2.1 GENDER EMPOWERMENT THROUGH DAIRY PROJECT

Along with providing training and making WLEWs a supportive hand in dairy development, project is contributing a lot on the front of women empowerment. There is a change in perception of people about women as a respectable working class of society. Although, there are certain hurdles in the way of their progress, it is also helping the marginalized and poor families in having access to health and education facilities.

The table below reports the findings based on our recent quarterly survey conducted in July, 2013. Despite the challenges business challenges faced by WLEWs, Dairy Project has however had a very positive effect on generating self-esteem and confidence from family members. Around 82% of WLEWs think that despite their lower profits, they are now financially independent. Moreover, a majority (88.5%) claim that male members of their family (brothers, husband, and father) support them in their business. This is a very positive indication. More investment in the WLEW component could contribute in breaking some of the stringent social barriers discussed above.

Table 17: Perception of Social Empowerment

| Social empowerment | Percentage that agrees |
|--|------------------------|
| Farmers consider them as reliable extension worker | 87.4% |
| Consider themselves independent socially and financially | 82.2% |
| Brother/ father and husband cooperate in business | 88.5% |

2.2.2 FOLLOW UP PILOT INITIATIVES

In order to ensure sustainability, the project has piloted following initiatives; Follow-up is also provided to the beneficiaries to support their activities, solve on-field problems and improve market-linkages of the beneficiaries with their community. WLEWs were grouped in clusters, comprising of 20-25 WLEWs (in 10-12 villages) with an elected cluster head. By cluster formation, WLEWs place order in bulk through cluster head. The cluster strategy is being extended to incorporate project -farmers and AITs into the clusters. It strengthens beneficiary linkages, increases their negotiation power to negotiate with suppliers and provide easy access to suppliers. A total of 148 clusters were established in Multan, Vehari and Kamalia zone.

Furthermore, cluster heads were employed by medicines and Vanda supplier companies on salary and commission basis. About 15 Cluster heads from Multan zone have been employed by medicine company (Trust Pharma). Organon feed company distributed their discount cards with the help of follow up teams in Kamalia. These cards ensure a handsome profit margin for WLEWs. Nestle addressed Aflatoxin issue and also shared facility of Nestle one stop shop with WLEWs through which WLEWs provided services to dairy farmers.

Follow-up team established a pilot initiative of monthly saving system (known as “committee system” in Pakistan) to encourage savings and promote inter-beneficiary linkages in some cluster, in which WLEWs used to submit a fixed monthly amount to their

cluster heads. About 12 clusters in Vehari and 6 in Kamalia have been covered by committee system up till now.

A pilot initiative of Call service system is established in zones through which beneficiaries are in contact with Dairy Project team. Team resolved the concerns and supported them in their concerned product supply.

Farmer days are arranged for improving the working of WLEW's. In farmer days medicine stalls were arranged by WLEW's, different stakeholders joined these farmer days for market linkage. Feedback of these farmer days was very positive as this helped WLEWs to increase clientage and had more business. About 16-20 costumers increased per WLEW.

Follow up teams have taken various initiatives regarding the development of linkages between the beneficiaries and stakeholders. Linkages have been developed at various degree with Khush hali bank, Zarai Taraqati Bank, BARC Foundation, Kashaf Foundation, NRSP, Akhuwat Foundation, Chanab Foundation, Pakistan Domestic Bio Gas Program (PDBP), Engro, Nestle' Pakistan, Haleeb, and Livestock department.

2.3 TRAINING AND SUPPORT FOR ARTIFICIAL INSEMINATION TECHNICIANS (AITS)

One of the most important components of Dairy Project is training on artificial insemination. It has a long term objective of breed improvement. Dairy Project is providing five weeks training to AITs on insemination techniques. AITs selection and examination are done by UVAS. AITs are trained at PVTC Burj Attari. After successful completion of training, AITs are provided with kit including cylinder for semen storage. In the current reporting period, 1000 AITs were targeted for training while 878 were trained, slightly lower than the targeted number. The project trained 1,317 AITs till June, 2013.

The Dairy Project has three AIT training sites: Burj Attari, Faisalabad and Rawalpindi. The project has focused on practical trainings by ensuring availability of organs for table palpation and slaughter houses for live animal practical sessions. AIT training centers are equipped with crush, microscopes (for semen evaluation), and dummy cows. One ultrasound machine is placed at Burj Attari training center for demonstration purpose; a dairy farm is also arranged for daily practical sessions to enhance the training experience. As AITs will be dealing with farmers during the course of their professional work, five days extensive village survey is made a part of the training so trainees get to know breeds and their production status in villages. Besides the technical knowhow of AI, trainees are also given one day lecture and demos about business and marketing. One day visit of Sukheki farm is also part of AI training. A visit of trainees to animal markets is also arranged to serve the same purpose. A one day road safety training from Honda motor bike is also arranged during AIT training program.

The project has collaborated with University of Veterinary and Animal Sciences (UVAS), Lahore and Arid Agriculture University, Rawalpindi for meritorious assessment and certification of AITs. Successful candidates were provided support kits to facilitate their initial business needs. Previously, 50 ear tags were provided as part of the kit. This practice was discontinued as no tracking software was put in place by DRDF due to resource constraints. This practice will now be resumed in year three as the Project itself will purchase tracking software. Also, AIT kit contains 50 semen straws.

One month in-door and two months post-training follow up is arranged for technical support of AITs which will ensure accuracy of their skills. The two months follow up duration can vary for each beneficiary depending upon his need. AIT follow up Master Trainers are providing support services to trained AITs in their areas during weekly and monthly meetings to give them technical support and ensure semen and LN gas supply. Nestle Pakistan is also supporting AITs by providing free gas supply for initial one month working of AITs. Table below provides an overview of AITs' training.

Table 18: AITs' Training Overview

| Sr. No. | Indicators | Values |
|---------------------------------------|---|---------------|
| 1 | Beneficiaries targeted during the reporting period* | 1,000 |
| 2 | Beneficiaries trained during the reporting period * | 959 |
| 3 | Beneficiaries targeted till June 30, 2013 | 1,360 |
| 4 | Beneficiaries trained till June 30, 2013 | 1,317 |
| *during July 1, 2012 to June 30, 2013 | | |

In order to facilitate the work of established entrepreneurs (AITs), the project also provides a motorbike if the trainee has successfully met the performance criteria. In year-2, the project has delivered 672 motorbikes among high-performing AITs. The performance criteria have two elements;

- i. Number of Inseminations: Minimum 50 inseminations are required during the first 90 days of receiving AI kit,
- ii. Conception Rate: Minimum conception rate of 40 percent is required. For checking this, a palpation test is conducted on five randomly selected animals which have been inseminated by the AIT. At least two cows must be pregnant as per the criteria.

AITs performance is evaluated by monthly follow up and by bike evaluation survey after three months. In current reporting period, nine bike distribution ceremonies were conducted in which 582 bikes were handed over to eligible AITs. About 626 AITs received motorbikes till July 15, 2013.

Table 19: Motorbikes' Distribution

| Phase No. | Dates | Zone | Number of Bikes |
|-----------|-----------|------------------|-----------------|
| 1. | 6-Jun-12 | Multan | 44 |
| 2. | 16-Aug-12 | Multan | 46 |
| 3. | 16-Oct-12 | Multan | 50 |
| 4. | 16-Nov-12 | Multan / Kamalia | 111 |
| 5. | 22-Jan-13 | Multan | 92 |
| 6. | 5-Mar-13 | Multan / Kamalia | 126 |
| 7. | 19-Apr-13 | Hasilpur | 30 |
| 8. | 30-Apr-13 | Hasilpur | 27 |
| 9. | 30-May-13 | Hasilpur | 100 |
| 10. | 3-Jul-13 | Hasilpur | 90 |

DRDF also covered provinces other than Punjab (Sindh, Khyber Pakhtunkhwa (KPK) & Baluchistan) regarding artificial insemination training and livestock management training. From Sindh, Farmer selection is done by the collaboration of different stakeholders like Nestle Pakistan, Engro Foods and DIN organization. Total 306 farmers trained by Dairy Project in 4 days awareness training program on best dairy farm practices. Out of 306, 152 trained in Sukheki training and demonstration farm by the collaboration of Nestle, 58 were trained at Khanewal training Farm with the collaboration of Engro Foods and 96 were trained at Multan Jahangir Khan Farm by the collaboration of DIN (Development Institutions Network) Organization.

Total 72 AITs were trained from Sindh till now, with the collaboration of Nestle Pakistan, DIN Organization and Semen supply companies. Selection of AITs from Sindh particularly considered the route supply network of semen and nitrogen gas supply companies. The follow up was given to trained AITs in their respective areas by stakeholders and through mobile calls; out of 72, 68 AITs were working in their areas. C.R.I (Ghazi Brothers), Altaf & CO., Alta, Al-Haiwan and ABS are supplying semen by their semen supply network.

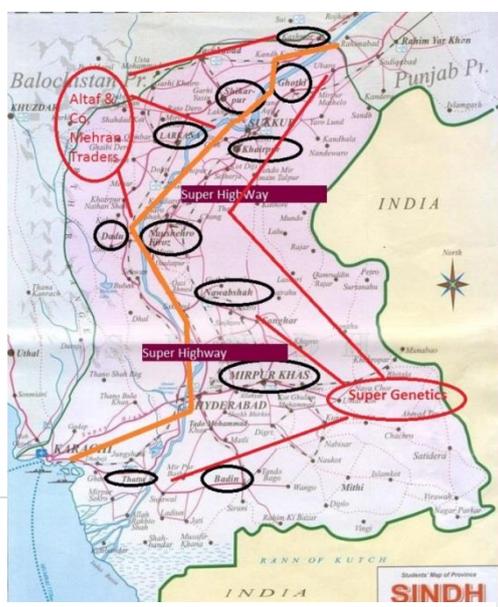


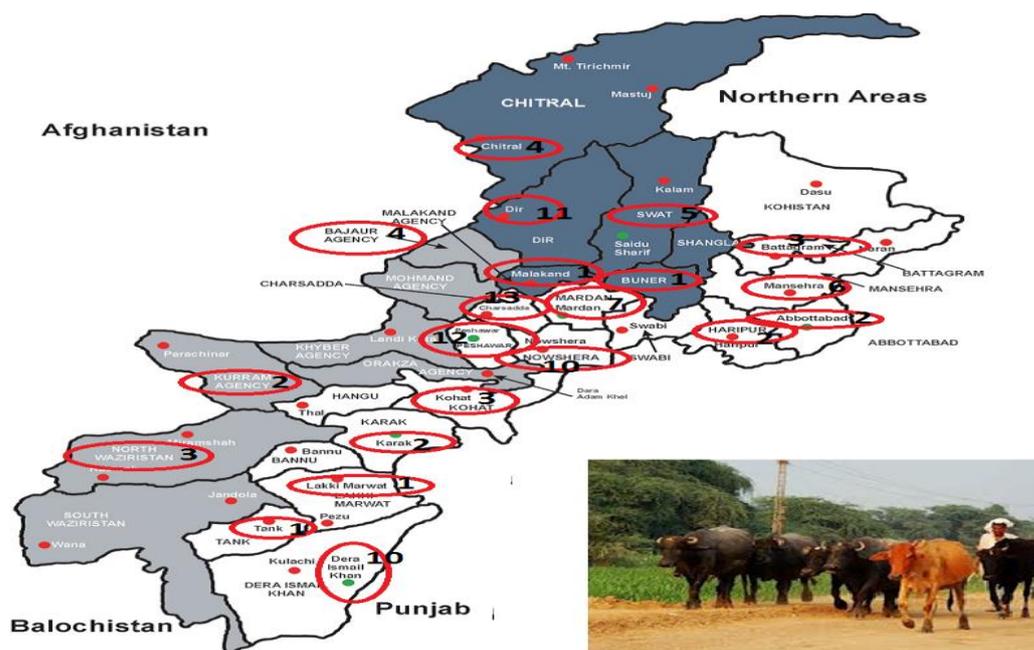
Figure 5: Semen and Gas Supply - Sindh



Figure 4: Selection of AITs - Sindh

Selection of AITs from KPK had done by the strong collaboration of SRSP (Sarhad Rural Support Program) and Bangash Traders. Till now 124 AITs were selected from KPK, out of which 104 were trained. In trained 104 AITs from KPK 31 trained with the collaboration of Bangash Traders and 73 with the collaboration of SRSP. The candidates selected by SRSP also the trained extension workers, did training of extension work by SRSP and the active members of Community Organizations of SRSP. Altaf&co and Bangash Traders are supplying semen by their semen supply network.

The follow up was given to 73 trained AITs in their respective areas by SRSP and through mobile calls; all are working in their community organizations.



Selection of AITs

Table 20: Overview of AITs Training in other provinces

| Sr# | Province | Farmer | | AIT | |
|-------|-------------|--------|-------------|--------|-------------|
| | | Target | Achievement | Target | Achievement |
| 1 | Sindh | 300 | 306 | 100 | 72 |
| 2 | KPK | 250 | 0 | 100 | 104 |
| 3 | Baluchistan | 250 | 0 | 100 | 0 |
| Total | | 800 | 306 | 300 | 176 |

AITs are performing very well. Number of Insemination procedures performed each day per AIT is increasing gradually. This increase can be attributed to the rise in demand for imported semen and enhanced awareness in the community of better breeds to improve milk and meat yields.

Furthermore, success of such techniques – improvement in number of procedures – is contributing AITs to earn a decent livelihood for themselves and families. On average bike people earn PKR 4690 per month more. For operational overview of trainings of AITs, refer Annex I.

Table 21: AITs' Performance

| <i>Results on performance indicators (as per PMP)²²</i> | | | | | |
|--|--|-------------------------|---------------------|---------------------|---------------------|
| Performance Indicators - AITs | Targets | Apr-June 2013 | Jan-Mar 2013 | Oct-Dec 2012 | Jul-Sep 2012 |
| Average per month income of AITs from providing AI services relative to the baseline | (for each year): Income of at least Rs. 3,000 (US\$ 32) ‡ per month | Rs. 4,626 ²³ | Rs. 4,572 | Rs. 3,507 | Rs. 4,174 |
| Number of insemination procedures performed (disaggregated by semen type (local, imported/cross-bred) relative to the baseline | (for each year): At least one insemination per day | 0.82 Per day | 0.60 Per day | 0.62 Per day | 0.71 Per day |
| Number of villages served by project-trained AITs | 857 villages | | | 2,277 | 1,794 |
| Percentage of AIT trainees providing professional services to communities | 60% of AITs | 90.91% | 98.40% | 98.44% | 98.03% |
| Ratio of insemination procedures to pregnancy | (for each year): At most 1.7 insemination per pregnancy | 1.34 ²⁴ | 1.12 ²⁵ | 1.11 ²⁶ | 1.36 |
| Number of AITs trained | 420 AITs | 276 | 249 | 161 | 253 |
| Number of villages served by project-trained AITs offering services to farmers | 756 villages | | | | |
| Percentage of project-trained AITs introduced to input suppliers | 100%. | 100% | 100% | 100% | 100% |
| Number of AITs trained in book-keeping, business management | 420 AITs | 100% | 100% | 100% | 100% |

2.4 MASS AWARENESS CAMPAIGN

²² Results reported in this table are based on quarterly and special surveys. Due to difference in sample strategy and evaluation design we can't merge these data sets

²³ Net of semen cost, LNG cost, transport and all other expenditures

²⁴ Assumption: AIT uses one straw per AI and conducts one pregnancy test per AI. Calculated as ratio of pregnant animals to pregnancy tests

²⁵ The ratio has been worked out using no. of animals impregnated divided by number of animals palpated instead of no. of animals impregnated divided by number of inseminations. This is due to non-availability of data, which is planned to be collected after revision of AIT performance survey methodology.

²⁶ Same as above.

A nationwide print campaign was rolled out on July 18, 2012 to highlight U.S. assistance for the dairy sector, develop project recognition among private and public stakeholders, and help raise awareness for dairy farming communities on best dairy farming practices. The campaign disseminated 12 distinct messages through five established publications: Jang (Urdu), Express (Urdu), Mashriq (Urdu), Kawish (Sindhi), and Khabrein (Urdu). Each print ad elaborated on a distinct message regarding one of the 12 dairy farming practices that are deemed necessary to improve the milk yields and therefore farmers' incomes. Feeding, free access to water, calf rearing, dehorning, deworming, vaccination and silage making were some of the topics touched through the print campaign. The campaign duration was for a month and ended on August 12, 2012 with a total of 60 insertions in multiple editions of 5 newspapers. All advertisements used the same branding guidelines and layout for consistency which was cleared by USAID DOCs office for release in the newspapers. The campaign was exposed to more than 2000 villages in all four provinces. Around 300 emails were received, through the project email as well as USAID/Pakistan website, from dairy farmers, significant private and public stakeholders, and general public. The project drafted and submitted replies to all queries related to the best dairy farming practices, project trainings, and USAID assistance.

Moreover, the communications department completed the development of five documentary films: scripting, shooting, editing, and final delivery of:

1. Project intro documentary (English, Urdu)
2. Training video on silage making activity (Punjabi, Saraiki, Sindhi)
3. Success story documentary: Dairy Farmer (English, Urdu)
4. Success story documentary: Artificial Insemination Technician – AITs (English, Urdu)
5. Success story documentary: Women Livestock Extension Workers – WLEWs (English, Urdu)

The communications team at Dairy Project also finalized the content, design and layout, printing and dissemination of its four editions of the quarterly newsletter for the months July 2012 to June 2013. The newsletters highlighted project-related activities through write-ups on events and ceremonies, training updates, photo features and success stories.

The communications team finalized content for the Dairy Project's website (www.dairyproject.org.pk) which was developed with the help of the IT department and made live for effective promotion of the project activities for a larger audience. A Facebook page (www.facebook.com/USAIDairyProject) was also developed during this period.

During this reporting period, there was intense hype about Aflatoxin in the dairy industry and precautionary measures were being taken to prevent its spread. Aflatoxin is the metabolic by-products of fungi. They can cause serious health problems in cattle and other animals. Keeping in view the gravity of the situation, Dairy Project launched a print ad campaign to help raise awareness about Aflatoxin in Punjab. The print ad elaborated on a distinct message to alert the rural dairy farmers about the disease and the ways to reduce its incidence. All advertisements used the same branding guidelines and layout for consistency which was cleared by USAID DOCs office for release in the newspapers. There were a total of 15 insertions and the ad campaign commenced on March 24, 2013 featuring in Lahore and Multan editions of three newspapers: Jang, Khabrein and Nawa-i-Waqt till

April 4, 2012. A separate contact number was issued in the advertisement which encouraged the farmers to call in and share their queries with the Project's members who facilitated them accordingly. An approved Aflatoxin brochure by USAID DOCs was also printed and disseminated in the field zonal offices. In response to the Aflatoxin campaign, around 200 calls were received from 75 unique locations across Punjab on the issues of Aflatoxin, financial aid, general animal health, project-related trainings and assistance.

During the reporting period April-June 2013, the Communications Department at the Dairy Project completed its street theatre shows in Punjabi in the project's targeted areas (Multan, Khanewal and Vehari) to help raise awareness among dairy farming communities on best dairy farming practices. A total number of 10 shows were held, with the first show being rolled out on May 23rd, 2013 in Khanewal, where there were at least 500 farmer attendees. The shows were an outreach effort to sensitize rural dairy farmers and farming communities on the importance of adopting best dairy farm practices for improving livestock productivity. This activity involved a mobile float, jugglers and comedians, who attracted at least 800 attendees every day; a total number of 8952 dairy farming community members from 389 villages attended.

The Dairy Project launched a series of TV and radio spots in Urdu and regional languages (Punjabi, Seraiki, Sindhi and Pushto) to raise awareness on best dairy farming practices. The first phase of the TV and radio campaign was rolled-out on May 28, 2013 on PTV National, Apna TV, Khyber TV, Waseb, and KTN (7pm to 9pm). The radio channels include Mast FM103 Multan and Faisalabad, Radio Pak MW Multan, Bahawalpur, and Peshawar, FM 94.6 Peshawar, FM 92 Okara and Khairpur, FM 95 Toba Tek Singh, FM 105 Shikarpur and Baddin, and FM 93 PBC Khairpur, Larkana, and DI Khan. The radio spots are aired in the morning (8am to 9am) as well as in the evening (7pm to 9pm) slots. The campaign highlighted seven significant, modern dairy farming practices, through a character story board including a local dairy farmer Chacha and a young boy, Bala, who essentially educates the farmer on several practices such as breed improvement, feed storage, silage, teat dipping, free access to drinking water for animals, vaccination and deworming, record keeping, and general animal hygiene and shed cleanliness. Adjacent to this activity, the Communications Department setup a response and monitoring unit through which the project has acquired a toll free number '0800-44556'. This activity was being managed by leading international call center The Resource Group (TRG), where the Dairy Project's call agents fluent in all four regional languages handled campaign-specific queries. The TV/radio campaign continued till July 26, 2013 and reached a total number of 67 districts (151 tehsils) through 250 calls with caller data recorded.

The Dairy Project also participated in the International Conference on Institutions, Growth and Development in Pakistan, organized by Government College University (GCU) on May 2 and 3, 2013. The Dairy Project collaborated with GCU to assist in the printing and designing of publication materials, and also led a separate panel discussion dedicated to the role of dairy sector in economic growth. The event press release was covered by multiple newspapers (3 English and 8 Urdu).

The communications department organized the Dairy Project's participation in the Dawn Agri-Expo held at the Lahore Expo Center on April 4-5, 2013. The communications team set up a miniature village chopal set at the project's stall, where skits on best dairy farming practices were performed by the field staff. There was a visible turnout of almost 400 people who visited the Dairy Project's stall during the two-day exhibit. The field staff interacted with the crowd and answered their queries. Project-trained beneficiaries were also present to share their training and post-training experiences with the audience.

In order to ensure effective project promotion and dissemination for internal and external stakeholders and project beneficiaries, mobilization and training material was designed and produced, including streamers, banners, boards, modules, lesson plans (for farmers, AITs, WLEWs), flip chart, brochures, attendance and record registers, and certificates for beneficiaries. These items were sent to field as per need and requirement.

For a list of completed communication deliverables, refer [Annex 2](#).

SECTION 3: PROGRAM MANAGEMENT

3.1 USAID'S SUPPORT IN CAPACITY BUILDING / ESTABLISHMENT OF PMU / RISK RATING

During the reporting year, USAID rated DRDF as a “Low risk recipient”, based on compliance status of few pending risk mitigation points, which were fulfilled during this period. Furthermore, Financial Result of 1st year has been audited in stipulated time as per USAID requirements. Audit report contains area of Fund Accountability Statement, Internal Controls and Compliance. In a result No Question Cost reported.

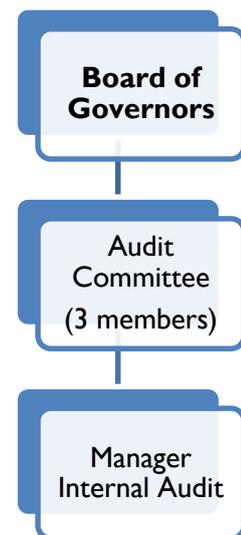
3.2 WORKING COMMITTEES OF DRDF'S BOARD OF GOVERNORS SUPPORTING DAIRY PROJECT

Audit Committee / Internal audit

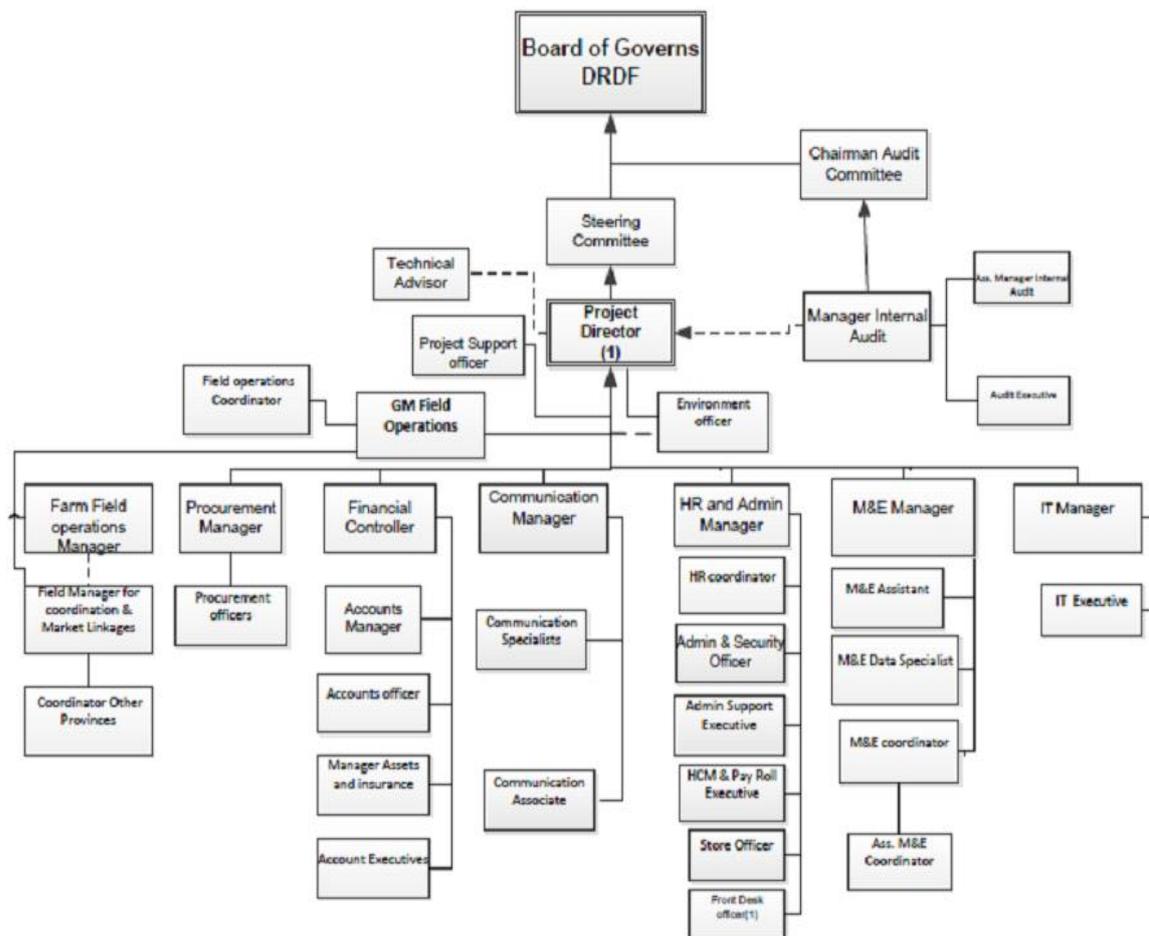
The audit committee comprises of three non-executive independent members from the Board of Governors. Manager Internal Audit reports directly to the committee. The Committee is responsible for supporting the Board in fulfilling its oversight responsibilities of the Project.

During the reporting year, the Committee met three times (3) for considering the results of internal audit engagements and to approve the annual plan of internal audit engagements.

Through its assurance and consulting engagements, the internal audit function supported the Project by contributing towards improvement of governance, risk management and control practices. The function helped in optimizing the policies/procedures/processes, ensuring compliance with cooperative agreement and applicable laws and utilization of resources in line with the Project's objectives and OMB cost principles. In addition, the internal audit department also assisted the Project Director on matters relating to cooperative agreement and duties thereunder.



3.3 GOVERNANCE SYSTEM FOR DAIRY PROJECT – ORGANOGRAM



3.4 ESTABLISHMENT OF FIELD / ZONAL OFFICES

Dairy Project’s field offices/zones and training sites have been established at the following sites:

Burj Attari (District: Sheikupura), Rawalpindi (District: Rawalpindi), Faisalabad (District: Faisalabad), Renala Khurd (District: Okara), Sukheki (District: Hafiz Abad), Kamalia (District: Toba Tek Singh), Hasilpur (District: Bahawal pur), Multan (District: Multan).

In Year-two, zones were shifted to Multan, Vehari and Hasilpur from Chichawatni and Pir Mehal. Kamalia Office was established to provide support to beneficiaries of Pir Mahal and Chichawatni zones. To facilitate farmer training, Dairy Project made an agreement with Jahangir Farm and ended its agreement with Kamalia farm.

Each zonal office was equipped with residential facilities that were arranged separately for male and female members of the team. In addition to this, necessary staff and security was also hired for a more secure living arrangement. Five project teams were placed in each zone with each team comprising of one female Master Trainer, one female social Mobilizer and one male social mobilizer. Necessary support staff for administration, accounting was also placed.

3.5 SOCIAL MOBILIZATION STRATEGY AND SELECTION OF CANDIDATES

The Dairy Project positioned four teams in two areas: Multan, and Vehari. During year-two activities project teams interacted with more than 50,000 farmers. Both male and females were mobilized by social mobilizers through community meetings and individual contacts/Household meetings for the selection of WLEW and Farmers. Similarly, the mobilizers also selected AITs through mobilization efforts.

Keeping in view the local sensitivities, the project adapted to a carefully carved out selection process using social mobilization approach, which reinforced the importance of community involvement in decision making. Social mobilizers play an important role in mobilizing community for the selection of trainees for different training courses. During this process, project staff took the opportunity to introduce DRDF's vision and strategy for dairy development with an aim to raise awareness amongst farmers on the best farm practices.

The social mobilization process constitutes the following:

- a) Union council data collection from district Govt. office
- b) Area survey to select villages and design cluster
- c) Meeting with key informants of village activist
- d) Selection of activists for support for social mobilizers in community meetings
- e) Organization of community meetings
- f) Interview of identified candidates by project teams (The interview is mostly done by the panel which includes a social mobilizer, Master trainer, MEO and concerned Field Manager)
- g) Registration of final candidates.

The social mobilizers conduct an introductory meeting of all the significant people in clusters before the beginning of each community meeting in concerned villages for effective mobilization.

The AIT selection team chose the candidates with the help of their stakeholders which included Government departments, milk processors (Nestle, Engro, Haleeb), NGOs such as Lodhran Pilot Project, Young Welfare Foundation, World Vision, Doaba Foundation (Tehsil: Muzaffar Garh), National Rural Support program(Tehsil: Hasil Pur and District: Rahim Yar Khan), Social Welfare (Tehsil: Hasil Pur),World Wide Fund(District: Rahim Yar Khan, Bahawal Pur, Toba Tek Singh), AAS Foundation (Tehsil: Bahawal Nagar), Hashoo Foundation(District: Bahawal pur), Kisan Ittihaad(District: Multan, Khanewal), Pakistan Irrigation development program(District: Sahiwal), Anjuman Falah-e-Niswan(Tehsil: Chicha Watni).They also conducted community meetings wherever it was felt necessary. Interviews as well as written tests were conducted of all the interested candidates at Civil

Vet Hospitals along with the Project zonal offices. The interviews are mostly done by a panel, which includes Master trainer, MEO and concerned Field Manager.

3.6 TRAINING OF MASTER TRAINERS

Training of Trainer (TOT) is one of the important components of training programme. Master Trainers were trained by University of Animal Sciences, Lahore. In this year 14 female Master trainers and 12 Male Master Trainers got training in UVAS.

3.7 MONITORING AND EVALUATION (M&E) SET-UP

Dairy Project's M&E system is based on the Performance Monitoring Plan (PMP attached as [Annex 4](#)). PMP was prepared with the technical help provided by Management Systems International (MSI) under Independent Monitoring and Evaluation Contract (IMEC) of USAID. The PMP was approved in Project Steering Committee meeting on January 23, 2012.

M & E department has established a comprehensive monitoring mechanism. M & E department is collecting monitoring data and compiling reports to provide feedback to field operations. Currently, it is compiling two monitoring reports Biweekly Form Error Report (BiFER) and Biweekly Compliance Error Report (BiCER). Further, a consolidated monthly monitoring report is also compiled and recommendations are furnished on the bases of field observation of MEOs to Field Operations for improvement.

M & E department is collecting and managing the data of all trainees' right from selection process till completion of training and later on follow up of the successfully trained beneficiaries. This data is analyzed and reported in Quarterly and Annual Progress Reports for all stakeholders to keep record of the performance of project. This year M & E department started to conduct sample based quarterly follow up survey of beneficiaries which will continue in coming quarters. First two surveys were conducted in March and July. Finding of these surveys are presented in QPRs of their respective quarters.

Apart from the internal evaluation, project hired a third party (SEBCON) to evaluate the performance of project. SEBCON submitted report of first phase which was approved by USAID and other stakeholders. SEBCON will conduct the second phase in October, 2013 for which formulation of evaluation design is in process.

Due to overwhelming flow of data from field offices it is required to place an Information Management System for timely processing with more efficient way. M & E department is working to develop an internal MIS which is expected to be operational from September, 2013.

Dairy project is creating mass awareness on best farming practices through radio, TV and street theatre shows. M & E department is monitoring these activities with the help of media monitoring firm, PUBLICIS. Dairy Project signed a contract with PUBLICIS for

assisting M & E department in media monitoring. Department is compiling weekly monitoring reports of all media activities.

The other important component of M & E monitoring is environmental monitoring. Department is now monitoring the compliance of activities during training with environment and providing its recommendations on the bases of field observations. It is prime objective to take utmost care of environment while working on practical training and also teach the trainees to adopt environmental protective measure while doing AIs, animal medication and vaccination. M & E team at field level monitor the environmental compliance and report them in its monitoring report.

With increasing spread of the project, this year M & E department hired Assistant M & E Coordinator and Data Management Specialist at PMU and Data Entry Operator (DEO) in each zone to support the MEOs.

SECTION 4: KEY PUBLIC/PRIVATE PARTNERSHIPS DEVELOPED

In order to effectively implement the project trainings, achieve development goals and to introduce long term sustainable improvement in the dairy sector, it was very important for the Dairy Project to collaborate with various private sector organizations and academic institutions. In this context, DRDF developed some key partnerships in the reported period. A brief introduction and scope of partnership is as follows:

PEMPCO:

DRDF signed a Memorandum of Understanding (MOU) with PEMPCO (Punjab Agriculture and Meat Company).

Scope:

To arrange for and provide premises at its slaughter house at Shah Pur Kanjran for the purpose of artificial insemination training.

SECTION 5: ISSUES, LESSONS LEARNT, AND WAY FORWARD

Table 22: Issues, Lesson Learnt and Way Forward

| Component | Issues | Lesson learnt | Way forward |
|-----------|--|--|---|
| WLEW | Community participation was less due to harvesting season | Meeting timings should be changed | Corner meetings were planned in villages to convey project messages to community |
| | Less teams were available to follow up trained beneficiaries | Hiring of teams | New follow up teams hired to follow up trained beneficiaries in two zones |
| | Literacy rate was very low in southern area | | To revise the selection criteria in next working to maximum cater the targeted beneficiaries. |
| | Vanda company (Al-Karam) increased their rate, changed bag packing (from 37kg to 35kg) without informing teams | More market linkages should be introduced to beneficiaries | Team discussed the issue with concerned dealer to resolve the matter, link with more vanda companies and their introductory visit arranged during WLEW classes, develop a module on market linkages and trained trainees how to deal market. Project will place a market link coordinator for each zonal site to develop the linkages with suppliers. |
| | Completion of task in Hot weather | | Training timing changes from 7am-12pm, Bolans were replaced with APVs so that Master trainer could work in 2 nd half to induct trained WLEWs/Farmer Days |
| | WLEW's participation was less in monthly meetings | | Area wise division of group to minimize inter-villages distance and easy approach of WLEW at meeting point |
| | Incidences of calves death occurred during in WLEWs training areas after the help camps. | | Project has paid the compensation charges to the farmers and a mitigation plan a consent form has been designed to be signed by the animal owner before treatment done by project teams/WLEWs. |
| | Sustainability of WLEW | | Committee system was |

| | | | |
|---------|--|---|---|
| | | | introduced among WLEW group to make them enable to circulate money for sustainable business, Cluster formation ,Some cluster heads were hired by suppliers on monthly salary to ensure timely supplies at their points |
| | Due to of hot weather, WLEWs faced difficulty regarding sale of vanda. | | Follow up team planned to focus on feeding issues in refreshers to overcome these issues |
| | WLEW did not know about the market price of medicine, they sold medicine on MRP. MPR is very high then original rate of medicine & practitioner rate so WLEW's earn less profit. | There is need to develop medicine rate list to resolve to make better understanding of WLEWs about market rates | Master Trainers and Follow up team developed medicine rate list to share with each WLEW in which they can see price/ml of medicine Follow up team started to deliver Business and Marketing lecture to WLEWs in training and refresher |
| | WLEW faced issue in purchasing required products from Pharma/feed companies as they don't facilitate small orders | | Clusters formation has done in which all beneficiaries purchased Vanda & medicine in group shape (big orders), cluster head lead these groups |
| Farmers | Less number of farmers were selected from one village | Farmers must be selected as per criteria from one village | One follow up team member assigned to validate farmers to overcome issue, Team focused on previous area selection to cover the gap |
| AITs | It was not manageable for two teams to do AIT's Household after validation | | It was planned to select AITs after interview and through stakeholders, Newspaper, TV advertise and sms. |
| | During meeting with stakeholders of other province, they shared to provide AIT kit without USAID logo keeping in view the security risk | | Concern was shared with management and request for waiver to 100 AIT kits without USAID logo. |
| | Selection of AITs and Performance evaluation survey for Motor bike in other provinces | | It is planned to hire some person on special services agreement from other province for fair |

| | | | evaluation of AITs |
|--|--|---|--|
| | The Lahore Slaughter House was closed and PAMPCO Slaughter house was not operational due to which AI training suffered. | | Project arranged practice at animal market ,Shah Pur kanjran and farm animal for practice |
| | The RWP Slaughter House Management refused to sign MOU with DRDF. The Butcher of RWP Slaughter House Banned trainee's entry 2 to 3 times. | | Project had arranged visit of Rawat and Texila Animal Markets for maximum practice of Trainees to ensure quality training |
| | The Butcher of FSD Slaughter House Banned trainee's entry 4 to 5 times. | | Project had arranged farm animals and visit of Gojra Animal Market for maximum practice of Trainees to ensure quality training |
| | Few people responded against NEWS Papers add. and Mobile SMS campaign for AI trainees Selection. | | Project has planned to give cable advertise for selection of AIT to get required response |
| | Very bad quality Semen containers were provided to the 9 th and 16 th Batch AITs due to which they have to fill the gas after 4 to 5 day even some free semen doses became dead. | Project should ensure quality of containers for AIT kit for their sustainable working | Project repaired and replaced those bad quality semen container and changed supplier for onward supply |
| | Most of the time DRDF Semen & Gas Supply was Unplanned and routes were changed without prior intimation to follow up team or AITs. Project AITs have to travel long distance for Semen & Gas Supply. | DRDF need to make a defined plan to cover all AIT for timely supply | Project follow up team plan to keep communication fast and make AIT group route wise to improve DRDF system |
| | Sustainability of farm managers is low due to less experience | Project need to do need analysis for absorption of farm manager in market | Project has planned to conduct a brain storming session with Commercial farmers to analyze their need for dairy farm. |

YEAR-3 OUTLOOK

MOUs with different input suppliers are being signed to ensure quality inputs for WLEWs and AITs for sustaining their businesses. Dairy Project is linking up the working entrepreneurs with the existing setup of different pharmaceutical companies, animal feed

companies, and semen suppliers etc. The linkages among beneficiaries (of all three components) for the purpose of future sustainability and networking, which is of utmost priority, are also being strengthened. A marketing coordinator is planned to hire in next year to make linkages, marketing and supply system more smooth and structured. Linkages of rural communities are also being developed with the local NGOs working in the same field to ensure the continuous local level support after project closing.

Furthermore, the project has planned to link WLEWs with the milk value chain so that they could establish VMCs as entrepreneur. In year three, the project will support working WLEWs to further grow their business through further week-long and month-long trainings on skills pertaining to feeding, breeding, milk collection agents etc. - this will act as a refresher course! VMCs' trainings can be arranged with collaboration of milk Processors. Advanced level trainings, for interested groups, are also planned in year three under the project.

Around one hundred AITs will be selected to spend one week on a selected model farm to provide services under the supervision of a master AI trainer. Training of 100 AITs and training of 250 farmers on best dairy farm practices from Baluchistan will be conducted in Year-3.

Project will also ensure delivery of kits to 425 WLEWs that received 15 days training last year; the issue shall soon be resolved by putting it in front of a Steering Committee.

Each zone will also be facilitated by an IT officer and helpdesk officer to manage the respective zonal data, calls and IT related issues.

STRENGTHENING CLUSTER BODIES IN PROJECT AREAS

The Dairy Project has learnt that sustainability of project beneficiaries will be extended if they are organized as a unit (clusters) instead of working as individuals in their respective villages. This specifically applies to WLEWs, who require continuous motivation and mobilization to face challenges and hurdles in the community. Working in the form of group gives them a platform to discuss the working challenges and learn from each other's experiences. The Dairy Project has developed informal cluster points in WLEWs component.

As many as 10 to 20 clusters, subject to availability of funds in year 3, shall be established under the project. In these clusters, cattle shows, farmer days and street theater shows shall be organized to sensitize the farmers. These cluster based activities shall also allow linking the cluster-trained farmers with WLEWs - provision of further business opportunities for WLEWs and quality extension services for farmers. The number of farmers, AITs and WLEWs, linked in each cluster, is expected to increase gradually as beneficiaries, through word-of-mouth, get more informed of the available opportunities.

In addition to above operation activities, certificate, kit and bike distribution ceremonies will regularly be taking place for AITs, WLEWs and farmers at the conclusion of each training phase. As number of trained beneficiaries is increasing, hiring of new follow-up teams is also planned to support the trained beneficiaries and their businesses. As per the plan of cluster development, the follow up teams shall be supported with a network of cluster heads and a contract for a specific period shall be initiated under the project. Similarly, each zone is to be supported by one marketing and supply linkages personnel, who shall seek parties / suppliers to link each cluster with the input supply system. Also, the project seeks to develop the capacity of cluster members to negotiate, in future, as a group with different suppliers.

ESTABLISHING SMALL SIZED MODEL-DAIRY FARMS

On the basis of farmer's feedback regarding one month farm manager training on Sukheki/Sarsabz Farm, it is planned to arrange commercial farmer training in field. A working on a small sized model dairy farm, starting from 20 animals, is under process so that farmers with progressive minds can have a better idea of model farms keeping feasibility in mind. Considering the increasing interest of already trained farmers and their efforts to grow dairy on commercial basis Dairy Project plans to select those farmers who have already started few changes at their farms and register them with Dairy project for model farms' initiative.

Based upon the particular requirements of each selected and registered farm, Dairy Project will support that farmers technically and financially (the financial costing for model farms is in process which will later be submitted for US-AID's approval) both ways, so that within the project life, Dairy Project upgrades some local farms into model farms. These model farms shall act as a model farms for new progressive farmers and especially the new investors. 3 Model Dairy farms are planned to upgrade at district level in Year-3. Dairy Project is working on developing sketches / architectural models of dairy farms to ensure a technical guideline for progressive farmers through free consultancies in project area. It is expected that the innovative idea of model farms will support Dairy Project to promote commercial dairy farming trend at large scale and within a short time span more villages could be targeted through these model farms.

SECTION 6: ENVIRONMENTAL COMPLIANCE

During the course of training programs, hazardous materials were produced which had to be handled as per health safety principles. Therefore, proper disposal of these materials had to be ensured in order to protect the environment.

In order to fulfill these requirements Dairy Project engaged an Environment Specialist so that environmental compliance could be ensured. Environment Specialist after having an understanding about the project activities, prepared Environment Document Form (EDF) and got it approved from USAID.

After the approval of EDF, the training material was developed by Environment Specialist keeping in view the environmental considerations so that beneficiaries would maintain a standard of health and safety, both at a personal and environmental level.

After the preparation of this material, it was sent to University of Veterinary & Animal Sciences (UVAS) for technical review. Dr. Saif Ur Rehman, Assistant professor in environment department, a certified health safety professional from United States Department of Agriculture (USDA), USA who approved this training material. For the convenience of the beneficiaries the training material was translated into Urdu and then reviewed by Monitoring & Evaluation (M&E) Manager Dairy and Rural Development Foundation (DRDF) so that it could be taught to beneficiaries in an efficient manner.

Field visits were planned so that execution of these guidelines could be demonstrated to master trainers and social mobilizer at Multan & Vehari site. Meeting was held with master trainers at Khanewaal and Sukheki farm to explain the environment related content to the master trainers at these farms. Burj Attari AI training center, Faisalabad AI training Centre and Rawalpindi AI training centers were also visited and organ disposal methods and liquid nitrogen handling was discussed, so that these measures could be told to AI technicians in an appropriate manner.

After the training had been given to all the sites, field visits were planned to monitor the environmental compliance whether these field sites are complying with instructions given to them with respect to the environment/ EDF document.

The issues in the Dairy Project's trainings related to environment and health safety were basically related to adoption of best management practices, health safety measures related to liquid nitrogen gas and organs handling, proper disposal of waste such as semen straws, sheaths and animal organs, syringe handling, compliance to product specifications, proper disposal of waste such as empty medicine bottles, syringes and so on.

An Environmental Mitigation and Monitoring Plan (EMMP) was developed which listed mitigation measures for each type of training. This report presents compliance to these mitigation measures.

COMPLIANCE WITH EMMP

The findings in this report are based on training curriculum review, physical inspection of sites and random visits to class rooms by Environment Specialist and M&E Officers.

Before the development of the EMMP, environmental considerations were neglected and animal organs were thrown openly, disposal of the syringes and empty medicines bottles were not appropriate as well. Safety measures were not incorporated in the training modules.

In order to fulfill requirements under EMMP, various guidelines were developed for safe disposal of the waste generated as result of trainings. Additional guidelines include health and safety measures to avoid any harm or injury to the trainees.

A component wise description of environmental compliance have been given below.

COMPONENT I: FARMER TRAINING

Project's model training farms located in Khanewal, Sukheki and Sarsabz were visited. The trainees' were checked if best farm management practices have been incorporated and demonstrated to the farm managers and dairy farmers. It was observed that best management practices like breeding and treatment, calf rearing, milking, feeding, housing system, agronomy, biogas, heifers and buffalo management and heat spotting were already mentioned in the lecture plans.



Racking for storage of feed to avoid mold

Environment, health and safety content was also incorporated in 30-day training but two-day and four-day training needed some measures to be incorporated in lecture plans with respect to health and safety like bio security, milking hygiene, animal feed storage and water trough algae prevention. During the next quarter these measures were incorporated in the training material as well.

Health safety measures like treatment stall or restraining methods for pregnancy examination, vaccination, medication, deworming, and artificial insemination are communicated to the dairy farmers and farm managers. Teat sanitization, organoleptic and surf test were well described to check the milk quality so that milk from the infected animal could be separated.



Explaining surf test to dairy farmers

Racking was done for animal feed storage so that mold could be avoided due to the moisture from the ground surface and side walls so that hazards like mycotoxins could be avoided.

During the silage making shows also, farmers were briefed on environmental considerations and safe handling of the equipment. Safety measures like dust mask usage, safety guard importance and maintenance of the silage machine for silage shows were taught to the trainees. Only experts were permitted to run silage machine. Safety guard was in place whenever silage machine was in operation and no one was allowed to remove it. Person working on silage machine wore secure clothing (Dangri) and safety boots.

COMPONENT 2: ARTIFICIAL INSEMINATION TECHNICIANS TRAINING

All of the Artificial Insemination Technicians (AITs) sites imparted training on best practices and lecture plan comprised of best artificial insemination practices and related environment practices including health safety measures like storage of semen, handling liquid nitrogen gas and semen straws.

AITs were taught about best AI practices like proper heat spotting and semen handling. Storage of semen had been explained to the AI technicians that semen should be stored in liquid nitrogen containers and semen should not be exposed to the atmosphere for more than three seconds to avoid any possible damage to the semen.

Safety guidelines with respect to the handling of liquid nitrogen had been communicated to the beneficiaries like significance of use of personal protective equipment (safety goggles & cryogenic gloves) while handling liquid nitrogen gas. 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 could be avoided. Proper storage of liquid nitrogen has also been described to avoid asphyxia.

All AI trainees wore Dangri, gum boots and gloves during practical training on live animals to minimize the chances of disease transfer from animals to human beings and vice versa. Generally, new gloves were used for insemination practice on each new animal. During table practice, gloves, apron and face masks were worn by the trainees' invariably.



Gloves face masks and apron usage during table practice

Crush was used at artificial insemination site to control the animals whereas restraining was done on Faisalabad site for live animal practice to prevent the injuries. Hands were washed with antibacterial soap after insemination practice. Sheaths and contaminated plastic were kept in closed dust bin at all three sites at temperature less than 50C to hinder bacterial growth till further disposal so that pathogens did not spread in the environment.

Contaminated gloves, sheaths and straws were disposed of properly in limed pit at Burj Attari Site and Faisalabad site however Rawalpindi site did not disposed of in the same manner due to the unavailability of the land so waste materials like sheaths, gloves were given to the municipal waste collectors.



Waste placed in the lime pit



Liming again on the top



Covering with soil maintaining the slope

Organs are disposed of properly at two AIT sites, but as mentioned earlier that at Rawalpindi site land is not available. Therefore animal organs are being thrown in, away from residential area, near river Swan, so that environmental impacts are minimized.



Disposal of Waste

COMPONENT 3: WOMEN LIVESTOCK EXTENSION WORKER (WLEW) TRAINING

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

Medicines were protected from the sunlight during outdoor sessions by use of kit bag at Vehari site thereby complying with the product specifications. Moreover, expiry dates were checked before use of medicines at both sites which eliminated the chances of expired medicine usage.

An undesirable practice was observed, the use of used syringes for different animals but this dangerous practice was stopped in the next quarter and amount of syringes was increased in master trainer's kit after discussion with top management so that they have enough syringes to use a new one for each different animal.

Recapping needle enhances the chances of needle prick injuries as well as zoonotic diseases occurring as a result. This practice was avoided but few WLEWs at Multan were touching the needle and zonal management was informed to redress this issue, in the next needle cutter was used for disposal purpose, hence complied with guidelines. Moreover, restraining has been done prior to the treatment of an animal which saves WLEWs from major injury.

Needle cutters were available on both 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, hence complying with the guidelines. Syringes were placed into safety box after training session was over. Safety box was sealed prior to the disposal into the land.



Cutting of needles and syringe transfer in safety box (encapsulation)

All kits to be distributed had been procured as per regulation and medicines are approved from USAID on the basis of active ingredients. Empty medicine bottles are also disposed of into the land after removing the labels of medicine to eradicate the identity of these medicines.



Disposal of empty medicine bottles

WAY-FORWARD AND CONCLUSION:

By and large, Dairy Project is observing compliance with EMMP due to which, the Project has minimal environmental adverse impact. However, there have been instances, where health and safety guideline were not being observed in their full capacity. In such cases, necessary directions were given to operations department and precautionary measures were taken to resolve the issues. One of the reasons for non-compliance of health and safety guideline had been the lack of training of Master Trainers (MTs) regarding issues such as proper disposal of waste. However, the Environmental Specialist took additional notice of the situation and as such MTs had been trained and made aware of environmental and health safety issues.

ANNEXURE:

Annex. 1: Overview of training components

The dairy farmer training component of the Dairy Project aims at delivering awareness trainings for rural dairy farmers on best dairy farming practices. 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, thus changing the mindset of dairy farmers and encourage them to adopt new and better dairy farming practices.

The Dairy Project also strives to increase awareness so that a demand for extension services of WLEW and AIT is created as well. This will result in better breeds and increased milk production within the dairy sector. As a result of the farmer training initiative, farmers would experience a shift in their farming practices and simultaneously illustrate the change through higher milk yield and an improvement in their incomes and livelihoods. Through these trainings the Dairy Project will achieve its primary goal of creating incomes and opportunities for rural Pakistanis associated with the dairy sector, resulting in economic growth for the country. These trainings cover topics such as improved feeding and animal nutrition, basic level animal health management, farm equipment management, shed management, and the importance of improved breeds. All trainings for farm managers include separate components on basic bookkeeping and business skills. Knowledge of the basic business know-how adds to the skills of farm managers and an introduction for small scale farmers. In this way, all trained farmers will have a better understanding of the milk value chain and how to profitably create linkages within it.

The Project has an ambitious plan to train 9,000 farmers and 100 farm managers over a period of three years with the following specific targets to achieve:

- a) Two-day training for 5000 traditional farmers
- b) Four-day training for 3700 for progressive farmers
- c) One month training for 300 commercial farmers
- d) Training of 100 farm managers

Training Methodology and Locations

The Dairy Project started with two model trainings and demonstration farms of Nestle at Sukheki, Pindi Bhattian, District Hafiz Abad and Renala Khurd, district Okara. Customized training modules were developed for the training and first training was conducted in October 2011 by Field Manager (Farmer Training) with a first group of 23 farmers. However, as bringing farmers to these model farms from long distances was both costly and time consuming, the project, therefore, decided to arrange



Silage Show

two more model farms at Khanewal, District Khanewal and Kamalia, and Jahnagir Farm, District Multan. Owned by private farmers, these farms have the necessary infrastructure and facilities suitable for conducting training sessions for farmers, thus reducing transportation costs and enhancing training effectiveness.

Training Curriculum

Training contents of two days farmer training session include introduction to livestock breeds, cross breeding feeding of dairy animals, yearly fodder planning, silage and hay making, calf rearing, health (FMD and HS, Vaccination), internal and external parasite control, Mastitis and its control, artificial insemination and its importance for breed improvements, milk and farm hygiene, sire selection criteria, body scoring, Estrus synchronization, heat detection at farm Level, shed design, Oxytocin and dilemma of its frequent use, silage, and , record keeping. Training contents of four days farmer training is more or less the same with great details.

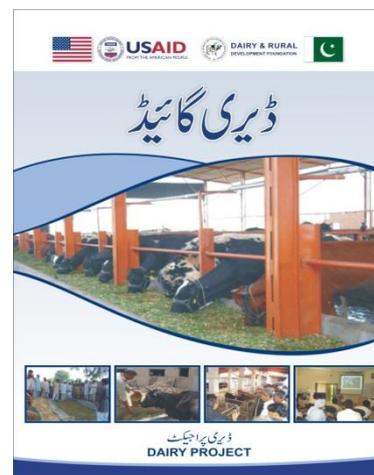
Dairy Project provided training certificates and initial support kit to all these trained farmers at completion of the training. The kit includes teat cup; dip solution; drenching syringe; dewormer; feeding nipple; notepad; and bag.

In the second quarter of 2012, training contents of one-month training of dairy farmers and Farm Managers were prepared and submitted for review by University of Veterinary and animal Science Lahore. After the approval, a training manual for one-month training was prepared.

Follow-up Support

The team also provided technical support to trained farmers at their farm in case of shed designing and other technicalities regarding dairy farming.

Note: For participant selection criteria under all three training components, please refer [Annexure-6](#).



Dairy Guidebook

A. 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 help in improving livestock productivity and enhancing incomes of rural youths assisted by the project. Poor genetics is a major reason for low productivity per dairy animal. In order to improve the genetic potential of existing breeds, there is an immense need to introduce the trend of cross breeding through Artificial Insemination techniques for better milk production and profitable dairy farming in Pakistan.



Microscopic examination of semen

The Dairy Project's AI trainings will significantly empower unemployed youths as entrepreneurs offering breeding services to dairy farmers, who are in turn acquiring access to better quality semen supplies ensuring better breeding of animals. The overall aim is to ensure that through better breeding, farmers are able to increase their milk production and incomes. As a result, income opportunities for both farmers and AI technicians are being created.



Pregnancy diagnosis test practice on farm animals

The Dairy Project aims to train a total of 2000 individuals as AITs with 100 individuals each from Khyber Pakhtunkhwa, Sindh and Baluchistan provinces.

Training Methodology

These AITs are given five weeks of training with additional support provided during two months of follow-up for each batch of AITs by the project team. Trainings include a mix of theory, demonstration and practical exercises related to insemination and the safe handling and maintenance of insemination guns, liquid nitrogen cylinders for transporting semen, and other AI supplies and equipment.



Organ palpation practice on dummy cow

Classroom trainings take place at AITs Centers (established by the Dairy Project) and the Government of Punjab's Vocational Training Institutes (PVTC).



Validation of Candidates for AITs' selection

Potential candidates are selected through a careful procedure and sent to AIT Training Centers in Burj Attari, Rawalpindi and Faisalabad where they are being facilitated in all the major training facilities, accommodation, transportation, and refreshment.

The project provides each AIT with initial support. This support includes AIT kit (containing Nitrogen Cylinders, Semen doses, basic AI related equipment) and a motorbike (after AIT fulfills performance criteria-See heading below titled "Motorbike distribution").



Kits' handing over to successful AITs

Training Curriculum

Training comprises of both the theory as well as practical exercises related to artificial insemination and the safe handling and maintenance of the equipment. The theory contains

knowledge about the history of AI along with its advantages and disadvantages, anatomy and functions of female reproductive system, estrus cycle, heat detection, artificial insemination, fertilization, factors affecting the conception rate, methods of pregnancy diagnosis, and tagging and recoding of animals. The theory is applied in the practical portion which is done at lab animal farms, slaughter houses and open animal markets. For the practical component, slaughter house training in particular, includes the post slaughter examination of reproductive organs. Dairy Project's AI team at Burj Attari has also made a dummy cow for AI training. A steel frame was made by Master Trainers for the practice of students on the pelvic bone.

Besides training in AI techniques, the project realizes the need to teach the trained AITs in basic bookkeeping and business skills which will aide them in becoming successful businessmen. The dairy project also helps them in building linkages with input suppliers and other trustworthy vendors playing the role of middleman.

Follow up and Support Services

Upon successful completion of the training course, these AITs are provided with follow-up assistance to establish themselves as small scale entrepreneurs. A certification and graduation ceremony is held for each batch of these AITs wherein all participants are provided with a support kit to jump-start their businesses and hence improve incomes. The distribution of kits plays a vital supportive role in launching the careers of ordinary and unemployed individuals as AITs. The kit includes essential equipment such as AI cylinder, liquid nitrogen cylinders, insemination guns, semen straws, fifty semen doses, gum boots/sleeves and an AIT record register. To further facilitate these AITs, the project has also introduced another incentive in this program which is the allocation of motorbikes to those AITs showing a keen interest while training as it is based on their performance.

Note: For participant selection criteria, please refer to Annexure-6.

Dairy Project's follow-up teams conduct the follow-up meetings at 2 different frequencies. Meetings with a batch are conducted on a weekly basis in the first month after completion of the training. After first month, frequency of such meeting changes into monthly basis and weekly meetings are now conducted with the latest batch of AITs. The purpose of these meetings is to solve issues of AITs, improve their technical skills and help them strengthen their market linkages. The issues related to supply of quality semen to AITs are also discussed and resolved in the follow up meetings. During the induction meetings, AITs are also formally introduced to communities to market their Artificial Insemination services for breed improvement.

Motorbike Distribution

All project-trained AITs will be provided with motorbikes to support their businesses conditional upon fulfilling the performance criteria. The performance criteria have two elements:

- a) **Number of Inseminations:** Minimum 30 inseminations are required in the first 90 days after completion of the training,
- b) **Conception Rate:** Minimum conception rate of 40 percent is required. For checking this, a palpation test is conducted on five randomly selected animals which have been inseminated 60 days before. Three animals must be pregnant as per the criteria.

B. Training and Support for Women Livestock Extension Workers (WLEWs)

In Pakistan, more than 80 percent of rural women are involved in livestock management primarily in the field of feeding, watering, milking and medication. The females involved in livestock farming are poorly educated or illiterate, but they have the potential to learn and establish themselves as entrepreneurs and generate incomes through such training projects. Due to lack of guidance, training, and access to markets and, poor resources they are unable to learn and adopt such income-generating activities on their own. Through its training program for Women Livestock Extension Workers (WLEWs), the Dairy Project is filling the void in Pakistan's dairy sector.

In order to provide economic relief to a major chunk of the population comprising of women, the Dairy Project is determined to train 5,000 WLEWs by offering one month long training course. The curriculum for this training is updated in collaboration with the accredited veterinary institutes such as University of Veterinary and Animal Sciences (UVAS). The trainings include basic animal health management, basic preventive animal health measure, identification of the most common diseases, immunization and basic treatment, animal nutrition and hygiene, and water management. Extension worker trainings are conducted in village clusters, so that women can attend training near their homes. A training camp is also set up on a temporary basis at each site. The program arranges for transport to and from the site as well. The master trainers are women veterinary graduates. The extension workers are also trained in feed supply and milk collection to give them the expertise to further grow their businesses. WLEWs are also being given bookkeeping and business training as well as linkages to service (including financial) and input suppliers along the dairy value chain.

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

The project has experienced an increase in the use and availability of livestock extension services provided by WLEWs for improving livestock productivity and enhancing incomes of

rural females assisted by the project. This is providing project trained WLEWs with income boosts and better lifestyles, and it is also giving, to the dairy farmers, increased access to extension services which were otherwise not readily available. Consequently, this ensures increased milk production and incomes in the dairy sector.

Training Curriculum of WLEWs

The training duration of the course is spread over a one month period. All WLEWs, at the end of this one month training, are tested through written as well as oral viva tests by academic staff of UVAS for accreditation. The topics of WLEW training course consists of basics in animal health management, preventive animal health measure, identification of the most common diseases, immunization and treatment, animal nutrition and hygiene, and livestock management. These extension workers are also provided trainings in feed supply and milk collection to give them additional knowledge in business management for their growth as entrepreneurs. Training modules include restraining, health, disease, parasites, infectious diseases of cattle & buffalo, infectious diseases of sheep & goat, non-infectious diseases, reproduction techniques, vaccination, calf care, milk, dairy farming, sheep & goat farming, poultry, medicines. Practical performance includes restraining/C & I/M injection, fat percentage & specific gravity of milk, deworming, bolus making, external parasite treatment, bandage, mastitis management. Also, WLEWs are equipped with basic bookkeeping expertise as well as facilitating their linkages with financial services and input suppliers along the dairy value chain.



In-door training of WLEWs

WLEW trainings are conducted in village clusters, so that women can attend trainings near their homes. A training camp is set up on each site temporarily. The project arranges for transport to and from the training venue. Their master trainers are women veterinary graduates.



WLEW being trained on Thermometer reading

Besides providing training as WLEWs, master trainers also conduct farmer Help camps amidst training sessions in their respective villages to reinforce their technical skills and boost their morale and confidence with regards to dealings with the surrounding community as they handle sick animals for various treatments. The cases dealt with in such training camps are related to deworming, diarrhea, mineral deficiency and ingestion etc. in the next stage, trained WLEWs visit dairy farms established as training centers where they are provided knowledge about silage making, animal care, shed design, milk test, and so on. Dairy Project also arranged visits of WLEWs to the Civil Veterinary Hospitals to link them with the Veterinary Officers and Assistants. It is expected that such visits will strengthen market linkages of WLEWs which will prove to be fruitful in future.



Certificates Distribution to WLEW

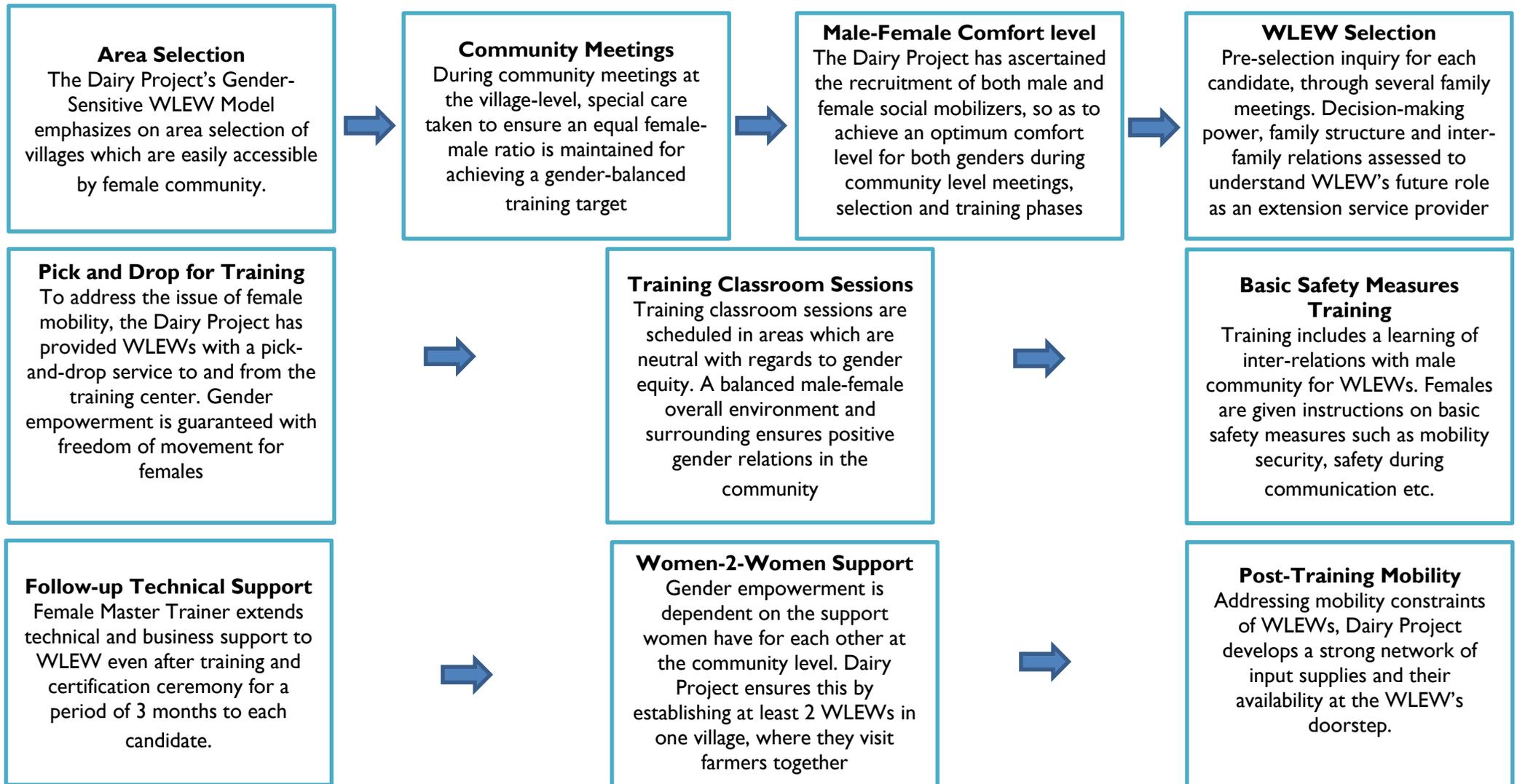
After finishing the training course, WLEWs are formally inducted in to their respective villages through an induction meeting. In this meeting Dairy Project's Master Trainers formally inform the community about the technical skills WLEWs have gained through WLEW training and the type of services that she is capable of providing the farmers. Of the two WLEWs from a village, the WLEW securing higher marks is established as LHW while the other works as LBE.

Follow up and Support Services provided by Dairy Project

LHWs are given a kit containing veterinary medicines and other necessary tools to provide animal health services to the farmers in their respective villages. Other WLEWs are established as LBEs. These LBEs are given Vanda (concentrated feed) kit. The project initially provided medicine and Vanda kit to LHWs and LBEs but later this was stopped due to restriction on purchase of these items. Subsequently, approval from USAID was obtained on such purchases and now the supply of kits of LHWs and LBEs has resumed.

Note: For participant selection criteria, please see Annexure-6.

B.1 Gender Empowerment under Dairy Project: WLEW Gender-Sensitive Working Model



ANNEX. 2: COMMUNICATION PRODUCTS DEVELOPED

Table 23: Communication Products Developed

| Title | Component | Media Type ²⁷ | Media Name | Release Date | Language | Media Tone ²⁸ |
|--|--|--------------------------|------------------|-------------------|--------------|--------------------------|
| Branded Stationery Items- Including project envelopes, writing pads, letterhead, ball pens | Dairy Project | Stationery Items | Stationery Items | July 10, 2012 | English | Positive |
| Print media campaign on best dairy farming practices – 12 color, quarter page print ads | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Print ad | Print ad | July-August, 2012 | English/Urdu | Positive |
| Project Brochure | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Brochure | Brochure | July 15, 2012 | English | Positive |
| Project Brochure-Naveed-e-Subho | All three components | Brochure | Brochure | July 15, 2012 | Urdu | Positive |

²⁷ Media Types includes Press Clippings, Press Releases, Radio/TV Interviews, Advertisement and Publications etc

²⁸ Media Tone: Positive, Negative or Neutral

| | | | | | | |
|--|--|--|--------------------------------|---------------|---------|----------|
| | (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | | | | | |
| Artificial Insemination Technicians' Brochure | Artificial Insemination Technicians | Brochure | Brochure | July, 2012 | Urdu | Positive |
| Women Livestock Extension Workers' Brochure | Women Livestock Extension Workers | Brochure | Brochure | July 18, 2012 | Urdu | Positive |
| Dairy Farmers' Brochure | Dairy Farmers | Brochure | Brochure | July 20, 2012 | Urdu | Positive |
| Artificial Insemination Technicians' Record Register | Artificial Insemination Technicians | Record Register | Record Register | July 20, 2012 | Urdu | Positive |
| Women Livestock Extension Workers' Record Register | Women Livestock Extension Workers | Record Register | Record Register | July 20, 2012 | Urdu | Positive |
| Dairy Farmers' Record Register | Dairy Farmers | Record Register | Record Register | July, 2012 | Urdu | Positive |
| Handbills (WLEW, AIT) | Women Livestock Extension Workers, Artificial Insemination Technicians | Promotional Material for Beneficiaries | Promotional Material/Handbills | July 23, 2012 | Urdu | Positive |
| File Folder | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | File Folder | File Folder | July 23, 2012 | English | Positive |
| Beneficiaries' Display | Artificial | Beneficiaries' | Beneficiaries' | July 26, 2012 | Urdu | Positive |

| | | | | | | |
|---|---|--------------------|--------------------|--------------------|--------------|----------|
| Boards | Insemination Technicians, Women Livestock Extension Workers | Promotional Boards | Promotional Boards | | | |
| Event Backdrops, Banners, Steamers, Skins-HFAC Visit to AI Training Center Burj Attari | Artificial Insemination Technicians | Flex Skins | Flex Skins | August,8 2012 | English/Urdu | Positive |
| Women Livestock Extension Workers Modules | Women Livestock Extension Workers | Training Module | Training Module | August 8, 2012 | Urdu | Positive |
| Dairy Guide for Two days, Four days, and One Month Training for Farmers and Farm Managers | Dairy Farmers | Training Module | Training Module | August 10, 2012 | Urdu | Positive |
| Artificial Insemination Technicians' Trainee Manual | Artificial Insemination Technicians | Training Module | Training Module | August, 15 2012 | Urdu | Positive |
| Artificial Insemination Technicians' Banners for Community Mobilization | Artificial Insemination Technicians | Flex Banners | Flex Banners | August 15, 2012 | Urdu | Positive |
| Women Livestock Extension Workers' Banners for Community Mobilization | Women Livestock Extension Workers | Flex Banners | Flex Banners | August 15, 2012 | Urdu | Positive |
| Dairy Farmers' Banners for Community Mobilization | Dairy Farmers | Flex Banners | Flex Banners | August 18, 2012 | Urdu | Positive |
| Dairy Farmers' Certificates | Dairy Farmers | Certificate | Certificate | August 20, 2012 | English | Positive |
| Flip Charts | Women Livestock Extension Workers | Flip Charts | Flip Charts | September 18, 2012 | Urdu | Positive |
| Dairy Project Website | All three components (Artificial Insemination Technicians, | Website | Website | September 20, 2012 | English | Positive |

| | | | | | | |
|--|--|---|---|--------------------|--------------|----------|
| | Women Livestock Extension Workers, Dairy Farmers) | | | | | |
| Staff Business and ID Cards | Dairy Project | Cards | Cards | September 15, 2012 | English | Positive |
| Branded Caps and T-Shirts | Dairy Project | Project Staff's Promotional Caps and T-Shirts | Project Staff's Promotional Caps and T-Shirts | September 20, 2012 | English/Urdu | Positive |
| USAID Trains Unemployed Youth in Farm Management" | Farm Managers | Event Briefer/Press Release | Event Briefer/Press Release | October 4, 2012 | English/Urdu | Positive |
| Dairy Project Portal- Volume 1, Issue 3 | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Newsletter | Newsletter | October 10, 2012 | English | Positive |
| Dairy Project Live on FM 101 | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Radio | Radio | November 15, 2012 | Urdu | Positive |
| Event Backdrops, Banners, Steamers, Skins- Third Certificate Distribution Ceremony for Farm Managers | Dairy Farmers | Flex Skins | Flex Skins | December 4, 2012 | Urdu | Positive |
| Event Backdrop, Steamers -Dairy Project at UVAS Annual Job Fair | All three components (Artificial | Flex Skins | Flex Skins | December, 2012 | English | Positive |

| | | | | | | |
|--|--|-----------------------------|-----------------------------|-------------------|--------------|----------|
| | Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | | | | | |
| Dairy Project Portal- Volume 1, Issue 4 | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Newsletter | Newsletter | January 10, 2013 | English | Positive |
| Dairy Project Diary | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Diary | Diary | January 22, 2013 | English | Positive |
| Dairy Project Table Calendar | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Table Calendar | Table Calendar | January 24, 2013 | English | Positive |
| Invitation Cards | Dairy project | Cards | Cards | February 21, 2013 | Urdu | Positive |
| Dairy farmers boost milk yields, with the help of USAID's fleet of motorbikes" | Artificial Insemination Technicians | Event Briefer/Press Release | Event Briefer/Press Release | March 5, 2013 | English/Urdu | Positive |
| Event Backdrop, Steamers – Motorbike Distribution | Artificial Insemination | Flex Skins | Flex Skins | March 5, 2013 | English | Positive |

| | | | | | | |
|---|--|---------------------------------------|---------------------------------------|-------------------|--------------|----------|
| Ceremony for AITs | Technicians | | | | | |
| Branded Key Chains | Dairy Project | Key Chains | Key Chains | March 5, 2013 | English | Positive |
| Aflatoxin Brochure | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Brochure | Brochure | March 18, 2013 | Urdu | Positive |
| Print media campaign on Aflatoxin– color, quarter Page Print Ads | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Print ad | Print ad | March 15-30, 2013 | Urdu | Positive |
| Beneficiaries Kit Bags | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Beneficiaries' Promotional Kit Bags | Beneficiaries' Promotional Kit Bags | March 20, 2013 | English | Positive |
| color, quarter page print ads in Special report published in Dawn- Dairy Project stall at Dawn Agri Expo held at Expo Center Lahore | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Dairy Project Stall at Dawn Agri Expo | Dairy Project Stall at Dawn Agri Expo | April 4-5, 2013 | English | Positive |
| U.S. Committed to Strengthening Pakistan's | Dairy Project | Event Briefer/Press | Event Briefer/Press | May 2, 2013 | English/Urdu | Positive |

| | | | | | | |
|---|--|--------------------------|--------------------------|---------------------|------------------------------------|----------|
| Rural and Dairy Economy | | Release | Release | | | |
| Branded Stationery Items as File Folder, Writing Pads, Ball Pens, Conference Bags-Dairy Project at GCU International Conference on Institutions, Growth and Development | Dairy Project | Branded Stationery Items | Branded Stationery Items | May 2, 2013 | English/Urdu | Positive |
| Abstract Booklet- Dairy Project at GCU International Conference on Institutions, Growth and Development | Dairy Project | Booklet | Booklet | May 2, 2013 | English/Urdu | Positive |
| Raising Awareness through Street Theatre Shows | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Street Theatre Shows | Street Theatre Shows | May 22-June 1, 2013 | Urdu | Positive |
| USAID Dairy Project's TV and Radio Spots Campaign | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | TV and Radio Spots | TV and Radio Spots | May-July, 2013 | Urdu/Punjabi/Sindhi/Seraiki/Pushto | Positive |
| Artificial Insemination Technicians' Steamers for Kit | Artificial Insemination Technicians | Flex steamers | Flex Steamers | June 10, 2013 | Urdu | Positive |
| Women Livestock Extension Workers' Steamers for Kit | Women Livestock Extension Workers | Flex Steamers | Flex Steamers | June 10, 2013 | Urdu | Positive |

| | | | | | | |
|---|--|--------------|--------------|------------------|---------|----------|
| Dairy Farmers' Banners | Dairy Farmers | Flex Banners | Flex Banners | June 10, 2013 | Urdu | Positive |
| Artificial Insemination Technicians' Certificates | Artificial Insemination Technicians | Certificate | Certificate | July 20, 2013 | English | Positive |
| Environment Training Booklets | All three components (Artificial Insemination Technicians, Women Livestock Extension Workers, Dairy Farmers) | Booklet | Booklet | July 26 10, 2013 | Urdu | Positive |

ANNEX. 3: SUMMARY OF TRAININGS CONDUCTED

Table 24: Summary AIT Training

| Batch | No. of AITs Trained | Pass | Fail |
|-------|---------------------|------|------|
| 1 | 26 | 26 | 0 |
| 2 | 30 | 30 | 0 |
| 3 | 57 | 56 | 1 |
| 4 | 56 | 55 | 1 |
| 5 | 67 | 67 | 0 |
| 6 | 62 | 58 | 4 |
| 7 | 67 | 66 | 1 |
| 8 | 85 | 81 | 4 |
| 9 | 90 | 87 | 3 |
| 10 | 85 | 85 | 0 |
| 11 | 80 | 79 | 1 |
| 12 | 82 | 82 | 0 |
| 13 | 94 | 94 | 0 |
| 14 | 100 | 100 | 0 |
| 15 | 78 | 75 | 3 |
| 16 | 103 | 97 | 6 |
| 17 | 88 | 83 | 5 |
| 18 | 100 | 96 | 4 |
| 19 | 108 | 103 | 5 |

Table 25: Summary of Farmer Training

| Month | 2 days | 30 days | 4 days |
|-----------------|--------|---------|--------|
| October, 2011 | 66 | | |
| January, 2012 | 279 | | |
| February, 2012 | 387 | | |
| March, 2012 | 484 | | |
| April, 2012 | 656 | | 69 |
| May, 2012 | 739 | | 72 |
| June, 2012 | 304 | | 248 |
| July, 2012 | 187 | | 100 |
| August, 2012 | 20 | | |
| September, 2012 | 267 | | 177 |
| October, 2012 | 245 | 22 | 122 |
| November, 2012 | 229 | 29 | 125 |
| December, 2012 | 158 | 27 | 137 |
| January, 2013 | 315 | 27 | 99 |
| February, 2013 | 216 | 29 | 101 |
| March, 2013 | 330 | 29 | 80 |
| April, 2013 | 214 | 26 | 132 |
| May, 2013 | 22 | 25 | 189 |
| June, 2013 | | 22 | 318 |

| | | | |
|------------------|--|-----------|------------|
| July,2013 | | 26 | 316 |
|------------------|--|-----------|------------|

Table 26: Summary of WLEW Training

| Batches | Registered | Pass | Fail |
|----------------|-------------------|-------------|-------------|
| 1 | 167 | 156 | 11 |
| 2 | 220 | 220 | 0 |
| 3 | 174 | 174 | 0 |
| 4 | 166 | 161 | 5 |
| 5 | 232 | 228 | 4 |
| 6 | 262 | 262 | 0 |
| 7 | 368 | 366 | 2 |
| 8 | 262 | 262 | 0 |
| 9 | 211 | 210 | 1 |
| 10 | 262 | 262 | |
| 11 | 243 | 241 | 2 |
| 12 | 251 | 251 | 0 |
| 13 | 240 | 238 | 2 |

ANNEX. 4: PMP FOR DAIRY PROJECT²⁹

Table 27: PMP for Dairy Project

| Result | Indicator | Data sources | Baselines and Targets |
|---|---|--|--|
| Impact: Income from dairy activities increased for project-assisted households/trainees | Average increase in the project-assisted household real annual income from dairy activities relative to the baseline | Baseline and follow-up surveys of a random sample of project-assisted farmers | Baseline: TBD Target (for each year): At least 10 percent increase in the household's income from dairy activities. |
| | Average per month income of WLEWs from livestock services relative to the baseline | Baseline and registers of project-trained WLEWs | Baseline: Zero Target (for each year): Income of at least Rs. 3,000 per month |
| | Average per month income of AITs from providing AI services relative to the baseline | Baseline and registers of project trained AITs | Baseline: Zero Target (for each year): Income of at least Rs. 3,000 per month |
| Strategic Objective I: Livestock productivity improved | Incidence of Hemorrhagic Septicemia and Foot and Mouth Disease in: i) dairy animals owned by project-assisted households and ii) dairy animals of farmers assisted by WLEW relative to the baseline | Baseline and follow-up surveys of a random sample of project-assisted farmers. WLEW Records | Baseline: TBD Target (for each year): At least 20 percent reduction in the incidence on average. |

²⁹ This PMP shows targets for the calendar years. In the main report, some targets have been adjusted for the reporting period July 2011-July 2012.

| Result | Indicator | Data sources | Baselines and Targets |
|---|---|---|--|
| | Average monthly (per animal owned by project-assisted household) quantity of milk produced relative to the baseline | Baseline and follow-up surveys of a random sample of project-assisted farmers | Baseline: TBD Target (for each year): At least 10 percent increase in milk yield. |
| Strategic Objective 1.1. Increased use and availability of livestock services provided by WLEWs | | | |
| IR 1.1: Use of livestock health and other related services (including entrepreneurial services) through WLEWs increased | Percentage of farmers using services of Women Livestock Extension Workers (WLEWs) relative to the baseline | Two potential sources: 1. Baseline and follow-up surveys of a random sample of farmers 2. WLEW register | Baseline: TBD Targets (for each year): At least ten percent farmers using services of WLEWs. |
| IR 1.2: Farmers' access to services of self-employed WLEWs increased | Number of villages served by project-trained WLEWs | WLEW Register Follow-up surveys | Baseline: Zero Targets: 2012: =784 villages 2013: 784 villages 2014: 196 villages |
| | Number of project-trained WLEWs providing services as self-employed extension workers | Two potential sources of data: WLEW Register Follow-up surveys | Baseline: Zero Target (for each year): At least 60 percent of the trained WLEWs providing livestock services. |
| | Number of farmers assisted/provided with services by project-trained WLEWs | WLEW Register | Baseline: Zero Target (for each year): At least 10 farmers per month for each active WLEW. |
| Output 1.1: 1872 WLEWs trained as animal health workers | Number of women trained | Project training records | Baseline: Zero Targets: 2012: 832 WLEWs 2013: 832 WLEWs 2014: 208 WLEWs |
| Activity: Train 1872 WLEWs in basic animal health services in different districts of the Punjab | | | |

| Result | Indicator | Data sources | Baselines and Targets |
|---|--|--|--|
| Output 1.2: 3168 WLEWs trained in livestock management and business | Number of women trained | Project training records | Baseline: Zero Targets: 2012: 1408 WLEWs 2013: 1408 WLEWs 2014: 352 WLEWs |
| Activity: Train 3168 WLEWs in livestock management and business | | | |
| Strategic Objective 1.2: Dairy farm practices improved | | | |
| IR 2: Use of best dairy farm practices among project-assisted farmers increased | Percentage of project-assisted farmers using at least three best practices relative to the baseline (disaggregated by farmers/farm managers) | Baseline and follow-up surveys of project-assisted farmers | Baseline: TBD. It can vary with each farmer. Target (for each year): 60 percent farmers adopted three more best practices |
| Output 2.1: 9,000 farmers plus 100 farm managers trained in basic farm management skills | Number of farmers/farm managers trained (disaggregated by farmers/farm managers, province) | Project training records | Baseline: Zero Targets: 2011: 64 Farmers 2012: 4,835 Farmers 2013: 3,230 Farmers 2014: 400 Farmers |
| Activity: Train farmers and farm managers in basic farm management skills | | | |
| Output 2.2: At least 2,000 villages reached with mass awareness campaigns | Number of villages reached with TV and/or Radio Sketches | Data on media coverage from media research organizations. Project activity records. | Baseline: Zero Targets (for each year): At least 700 villages |
| Activity: Conduct mass awareness campaigns through advertisements and documentaries, etc. | | | |
| Activity: Organize workshops and farmer day's events | | | |
| Strategic Objective 1.3: Dairy cattle breeds improved | | | |
| IR 3.1 : Farmers' use of quality AI services from self-employed AITs increased | Number of insemination procedures performed (disaggregated by semen type (local, imported/cross-bred) relative to the baseline | Baseline Survey AIT Register Follow-up surveys | Baseline: Zero Target (for each year): At least one insemination per day |

| Result | Indicator | Data sources | Baselines and Targets |
|--|--|---|--|
| IR 3.2: Farmers' access to quality AI services from self-employed AITs increased | Number of villages served by project-trained AITs | Baseline Survey AIT Register | Baseline: Zero Targets: 2011: 101 villages 2012: 1,368 villages 2013: 1,440 villages 2014: 720 villages |
| | % of AIT trainees providing professional services to communities | Project follow-up of trained AITs AIT Register | Baseline: Zero Targets (60% of AITs): 2011: 34 AITs 2012: 456 AITs 2013: 480 AITs 2014: 240 AITs |
| | Ratio of insemination procedures to pregnancy | AIT Register Follow-up surveys | Target (for each year): At most 1.7 insemination per pregnancy |
| Output 3.1: 2,000 AITs trained (with at least 300 from other provinces) | Number of AITs trained | Project training records | Baseline: Zero Targets: 2011: 56 AITs 2012: 760 AITs 2013: 800 AITs 2014: 400 AITs |
| Activity: Train 2,000 AITs | | | |
| Strategic Objective 1.4: Market linkages improved | | | |
| IR 4.1: Farmers' access to milk markets improved | Number of WLEWs operating/ managing project-supported milk collection points in project-assisted communities | Two potential sources: Follow-up surveys WLEWs Registers | Baseline: Zero Targets (for each year): 2012: At least 20 Milk Collection Points |
| IR 4.2: Farmers' access to dairy productivity-enhancing inputs and services (e.g., feed, nutrients, medicines, AI services) improved | Number of WLEWs offering feed, nutrients, and other inputs for sale to farmers | Two potential sources: Baseline and follow-up surveys WLEWs Registers | Baseline: Zero Targets: 2012: 1408 WLEWs 2013: 1408 WLEWs 2014: 352 WLEWs |
| | Number of villages served by project-trained AITs offering services to farmers | Two potential sources: Baseline and follow-up surveys AITs Registers | Baseline: Zero Targets: 2011: 101 villages 2012: 1,368 villages 2013: 1,440 villages 2014: 720 villages |
| IR 4.3: WLEWs and AITs access to private sector input suppliers improved | Percentage of project-trained WLEWs introduced to input suppliers | Two potential sources: Baseline and follow-up surveys WLEWs Registers | Baseline: Zero Targets (for each year): 100%. |

| Result | Indicator | Data sources | Baselines and Targets |
|---|--|---|---|
| | Percentage of project-trained AITs introduced to input suppliers | Two potential sources: Baseline and follow-up surveys AITs Registers | Baseline: Zero Targets (for each year): 100%. |
| Output 4.1: WLEWs trained in business practices, book-keeping, and milk collection. | Number of WLEWs trained in business practices, book-keeping, and milk collection | Project training records | Baseline: Zero Targets: 2012: 2240 WLEWs 2013: 2240 WLEWs 2014: 560 WLEWs |
| Output 4.2: Farmers trained in business practices, and book-keeping | Number of project-assisted farmers trained in business practices, and book-keeping | Project training records | Baseline: Zero Targets: 2011: 60 farmers 2012: 4725 farmers 2013: 4305 farmers 2014: 400 farmers |
| Output 4.3: AITs trained in book-keeping, business management | Number of AITs trained in book-keeping, business management | Project training records | Baseline: Zero Targets: 2011: 56 AITs 2012: 760 AITs 2013: 800 AITs 2014:400 AITs |
| Activity: Provide all trained WLEWs established as entrepreneurs with basic business skills, tool kits, and linkages to input suppliers | | | |
| Activity: Train WLEWs in business practices, book-keeping, and milk collection. | | | |
| Activity: Train AITs in book-keeping and business management | | | |
| Activity: Train farmers in business practices, book-keeping | | | |

Annex. 5: Performance Evaluation Sampling Strategy

Primary objective of the evaluation activity conducted in July 2013 is 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, four districts namely Multan, Vehari, Toba Tek Singh and Sahiwal have been selected in the sample for WLEWs and farmers. These districts cover more than 70% of the total trained beneficiary population for both components. The AIT component is more spread out, hence Khanewal, Bahawalpur, Bahawalnagar and Muzaffargarh were also covered for AITs. 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 endline values. Detailed evaluation designs of each component are given below.

Farmer

Farmers' performance changes after the training is imparted to them. This change is more pronounced in the long-term than in the short-term. In order to evaluate performance of the farmers, a new strategy has been designed keeping in view time-frame differences and data limitations.

For performance evaluation, two groups have been selected after they have received training. Group A consisted of beneficiaries trained in April 2013. Group B constituted of beneficiaries trained in March and April 2012. However, information regarding indicators in April 2013 and June 2013 was obtained in July 2013 on recall basis for both groups. The following strategy was proposed to evaluate performance:

In the short run, performance indicators of farmers of Group A in April 2013 has been compared to June 2013 to see the improvement in production in short run. Duration of 3 months allow for the performance evaluation in the short term. For long term evaluation, we assume that Group A and Group B are homogeneous. Performance indicators are compared across these two groups for month of June 2013 to see the change in performance over time as we are comparing two groups, one trained in Apr 2012 and other in Apr 2013.

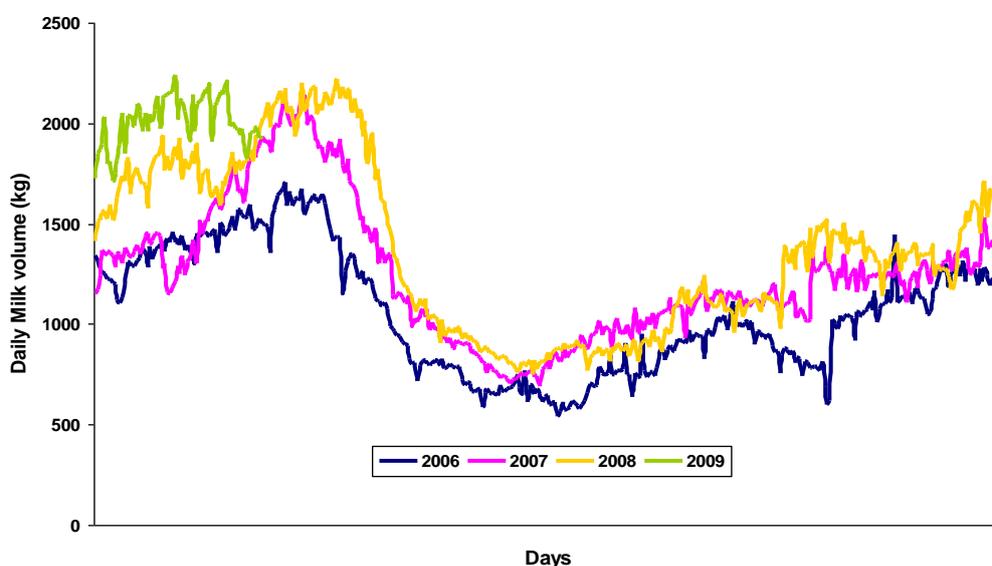
Seasonal Adjustment Factor for Milk Production

Milk production observes flesh and lean seasons. Production peaks in March while it is at its lowest in June. Pakistan Dairy Development Company (PDDC) estimates that in mid-June the raw milk production is just 55% of the peak production season³⁰. Hence, it is necessary to adjust the milk production for seasonality to compare three month performance of farmers. An adjustment factor is calculated on the bases of secondary milk purchase data of

³⁰ "The White Revolution "Dhoodh Darya": White Paper on Pakistan's Dairy Sector", Pakistan Dairy Development Company, 2006.

Nestle, Pakistan for year 2006 to 2009. The adjustment factor is 0.65. Below graph shows trends in milk purchase on the bases of daily data collected.

Milk Purchase Daily Quantity Trend



Source: “Saaf Doodh” Nestle Presentation, 2009

Calculation of Adjustment Factor

Table 28: Calculation of Adjustment Factor

| Year | April (milk volume) | June (milk volume) | Ratio of June to Apr |
|----------------|---------------------|--------------------|----------------------|
| 2006 | 900 | 600 | 0.67 |
| 2007 | 1,100 | 750 | 0.68 |
| 2008 | 1,250 | 750 | 0.60 |
| Average | | | 0.65 |

AIT

In order to evaluate the performance of the AIT, a total of 10 percent sample was drawn from the population of AITs trained till March 2013. AITs trained in April-June 2013 period were not selected as they get kits 8 days after their training and it takes them time to start their business.

WLEW

A sample of 10 percent WLEWs trained till March 2013 was selected for evaluation of performance after training. WLEWs trained in April-June 2013 period were not selected as they get kits 8 days after their training and it takes them time to start their business.

ANNEX. 6: PARTICIPANT SELECTION CRITERIA

Selection criteria:

AITs:

- Needy (Unemployed and not a regular student)
- Preferably Matriculate
- Aged 20-40 years
- Motivated (ready to take it as his career)
- Having good communication skills (should be able to convince farmers).
- 1 technician out of 3-5 villages. (can also serve commercial dairy farm)

WLEW:

- Social*
- Having good communication skills
- Preferably Matriculate**
- Needy***
- Aged 20-50 years
- Preferably involve in livestock handling and management
- Motivated

Farmers:

Two days Farmer training:

- Small Farmer having 2-10 dairy animals
- Learning aptitude
- Himself Involve in livestock handling
- Aged 25-50 years
- Decision maker in the family for livestock
- Motivated

Group Selection:

- Preferably 15 farmers per village

Four days Farmer training:

- Small Farmer having minimum 10-20 dairy animals
- Learning aptitude
- Himself Involve in livestock handling
- Aged 25-50 years
- Decision maker in the family about livestock
- Motivated

Group Selection:

- Group of 5 farmers per village

Farmer/Farm Manager one month Training:

- Social
- Having good communication skills.
- Aged 25 to 50 years.
- Motivated (Candidates for Farm Managers should be interested to work as a Farm Manager as owner or employed persons)
- Two groups will be selected.

Group 1 will contain 300 persons. These persons must have livestock holding of 20-50 dairy animals. Education must be at least Matric.

Group 2 will have 100 people who do not need to have any livestock holding. They must be at least graduate.

Note: Selection criteria are revised due to tough environment of southern area to be implemented in Year-3.

ANNEX. 7: SUCCESS STORIES



SUCCESS STORY

Boosting rural entrepreneurship

USAID trains unemployed villagers to become Artificial Insemination Technicians (AITs) for dairy breed improvement and kick start their businesses in Punjab



Photo by USAID-DRDF Dairy Project

"I participated in the USAID-DRDF Dairy Project's AIT training course and I am now able to help improve cow/buffalo breeds in my village and around. This training course has enabled me to perform pregnancy tests and artificial insemination, for breed improvement, which leads to better incomes for me and my family and high profitability for dairy farmers. Thank you Dairy Project!"

Muhammad Waqar Anwar, Dairy Project trained AIT from Chak no. 314 GB, district Toba Tek Singh.

Young village-based boy Muhammad Waqar Anwar hails from Chak no. 314 GB in district Toba Tek Singh where he lives with a large family of twelve. He belongs to a farming family which has been struggling to make ends meet for a large clan, and his father's sole income was never sufficed. Waqar began a diploma in mechanical engineering but could not complete it due to financial constraints. "My life was at a critical junction, and then my father who is a trained Dairy Project farmer, introduced me to the project's team," he recalls.

"My father encouraged me to become a trained Artificial Insemination Technician (AIT), and somehow I was also excited for this new opportunity that could shape up my future. I was apprehensive too!" Waqar says. At only 19 years of age, Waqar planned to support his father financially and this could only be a possibility if he acquired a skill to earn a regular income. His days of unemployment were drawing to an end.

"I was selected for the AIT training, after which I passed the exam and Dairy Project provided me with a kit, which included nitrogen gas for safe storage of semen and other equipment," Waqar says. During an induction meeting in his district, farmers were introduced to my work and the breeding services I would be able to provide to them. "In April 2013, I began work and since then, have attended 380 artificial insemination cases. I have earned a total income of PKR 9, 340," he says. Also, Waqar has conducted an average of 60 pregnancy tests in a month.

"Through artificial insemination services in my village, farmers like my father are now hugely benefitting and with time, there will be better dairy animal breeds. Milk production will increase and so will incomes," he confirms. Waqar says he is indebted to the Dairy Project for providing him a specialist skill.

The USAID-DRDF Dairy Project aims to improve the lives and incomes of many other young unemployed individuals with the target of providing AI training and support to 2000 individuals and encourage them to become entrepreneurs working towards breed improvement in Pakistan. With better breeds, Pakistan's dairy industry will see a face-lift through better milk yield and better incomes.



SUCCESS STORY

Mastering a New Skill

A young village boy learns an advanced skill and becomes an Artificial Insemination Technician (AIT) for dairy breed improvement in Pakistan



Mudassir Ali preparing to perform an insemination

"My decision to take the USAID-DRDF Dairy Project AIT training has proved to be fruitful for my family of 7 and myself. My newly-learned skill is lifelong and has made me a specialist in the field. I am excited to continue my work as an AIT, as the demand for artificial insemination and better breeding facilities is increasing by the day. Thank you USAID!"

Mudassir Ali, Dairy Project trained AIT from Chichawatni

"Life as a young laborer in Chichawatni, district Sahiwal was always uncertain. I knew my days as a laborer were numbered when I happened to meet the Dairy and Rural Development Foundation (DRDF) team one day," says twenty year old Mudassir Ali from village 44/12 L.

Mudassir's previous job as a laborer meant he was always uncertain of the income he would make on a monthly basis, as it would vary. There was no permanent source of income.

But Mudassir had stumbled upon a new exciting opportunity that would change his life forever. "DRDF was seeking educated village boys who would like to learn a new skill and earn a better income as Artificial Insemination Technician (AITs)," explains Mudassir. "I didn't think twice and quickly expressed my interest to acquire a specialist skill and kick start my own AIT business." Shortly after the interview and selection phase, on April 16th 2012, Mudassir left for a 5-weeks long challenging training in Burj Attari training center in Sheikhpura, near Lahore.

During the training, Mudassir learnt various techniques including detecting an animal's heat. According to Mudassir, heat can be detected by checking the animal's mucus and palpating the uterus. "Also, I learnt the full process of inseminating an animal and also conducting pregnancy tests. For instance, one must give an animal at least 2 months after the insemination until the pregnancy test is conducted, for efficient results," he states. On 28th May, Muddasir attended his graduation ceremony as a successfully-trained Dairy Project AIT.

Since then, Mudassir has been conducting insemination cases around his district and 70 percent of the cases have resulted in successful impregnation. He is able to earn PKR 150 per insemination case for local semen, and approximately PKR 1000 for imported semen. From pregnancy tests, Mudassir is able to earn PKR 2000 per month, and insemination cases churn around PKR 5,000 per month. "It's a challenge for me to convince the farmer to purchase the imported semen, and I usually explain that better-quality semen will lead to better breeding and milk production, and more income for the farmer. Farmers have the animals, but they must focus on increased milk production through better breeds. Interestingly, there is a positive change in the farmers' mindsets, and they are keen on investing in good quality semen."

Mudassir's total income from 6 months of practice from 142 insemination cases is PKR 38,950.

In October 2012, Mudassir's high performance as an AIT led him to receive a motorbike awarded by the Dairy Project. "Now, I am able to go to far-flung villages to perform insemination cases on time, and I am positive my income will increase even more. My family is also very happy with this advancement," he says. "USAID has given me a lifelong expertise which will go a long way."



SUCCESS STORY

Dairy farmer learns best practices

USAID-DRDF Dairy Project trains dairy farmer to adopt best farming practices for sustainable increase in livestock productivity.



"I participated in the USAID-DRDF Dairy Project's two-day and four-day farmer trainings, and I am now able to expand my dairy farm business on modern lines. I hope to establish a commercial farm one day. Thank you Dairy Project!"

Muhammad Ajmal, Dairy Project trained farmer from village Chathw ala, district Multan

Profitable dairy farming can be a tough task for many, given the financial constraints and lack of general expertise. Muhammad Ajmal, a traditional dairy farmer based in village Chathawala, district Multan faced various hardships in his dairy farming business, until he participated in the USAID-DRDF Dairy Project's two-day and four-day farmer trainings.

U.S. Agency for International Development (USAID) and Dairy and Rural Development Foundation (DRDF) through their Dairy Project are providing trainings and support kits to dairy farmers to foster sustainable increase in livestock productivity through adoption of best farming practices.

"Prior to the Dairy Project's trainings, I was not aware of contemporary dairy farming practices and their benefit. I really wanted to grow the scale of my dairy business, but I had no idea how to do it with a modern perspective," Ajmal explains. Ajmal owned eight milking animals, and his average milk production at the farm was seven liters per day. Opportunity then knocked his door when he was introduced to the USAID Dairy Project training on best farm practices, through the project's social mobilizer in his village. He quickly realized the importance of this training and after consultation with his wife decided to apply for the training. He was selected for the training for two-day training in April 2012.

"Having successfully completed the training, I obtained an initial support kit containing dewormer, farmer notebook and Piodine for teat dipping. During the two-day training, I was introduced to vaccination, deworming, feeding vanda and silage, and free access to water for animals," he explains. Ajmal was very impressed by the training on the model farm and fortunately, was selected for four-day training in July 2012. Through this training, Ajmal received another support kit from the Dairy Project, and this contained a dewormer, farmer notebook, famer register and Piodine for teat dipping. "I also learnt about the construction of model animal shed," he adds.

Ajmal, like many other Dairy Project-trained farmers have witnessed an increase in the milk production at their farms. "The average milk production at my farm is now 7.5 litres per day, from four milking animal," he says. Additionally, Ajmal has invested to make a model shed for his animals at the farm and is preparing silage to feed his animals. "I am very thankful to the Dairy Project."

With assistance and guidance from USAID-DRDF Dairy Project, Ajmal has emerged as a strong dairy farmer, who now focuses on sustainable increase in farm productivity and incomes.



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PAKISTAN

SUCCESS STORY

Traditional Dairy Farmer Improves Earnings

USAID helps dairy farmer Mushtaq Ahmed to adopt progressive dairy farming practices leading to increased milk yields and incomes



Mushtaq Ahmed practicing deworming, a useful technique for ensuring good health of an animal

"I participated in the USAID-DRDF Dairy Project's two-day farmer training which has been an eye-opener for me. Small-scale dairy farmers like me are unaware of the reasons behind the low per animal milk yield, and hence can really benefit from this training, which focuses on inculcating best dairy farming practices at the farm-level for higher yields and better incomes."

Mushtaq Ahmed, Dairy Project trained farmer from District Jhang, Punjab

Mushtaq Ahmad, a dairy farmer from Nawan Chak, Tehsil Shorkot, District Jhang (Punjab) was managing his farm with a traditional approach, through which he was acquiring just 18 liters of milk per day from seven milking animals. In early 2012, when he had an opportunity to meet the USAID-DRDF Dairy Project team, he decided to take the plunge, persuaded his farmer friends to join in— and then participated in the project's two-day farmer training.

"I was looking for a positive change at my farm. Things were stagnant and I wanted to learn something new and benefit from increased milk production and income for my family and myself," he says.

Mushtaq Ahmed and his farmer friends gathered at the Sukheki training farm for two days, where they learnt a multitude of new techniques and adopted most of these practices. "Now, I am practicing deworming, vaccination, and teat dipping and providing my animals with free access to water. The productivity of my animals has increased significantly," he confirms. Most of his farmer friends have also started adopting these best farming practices after witnessing Mushtaq's success.

Mushtaq Ahmed's monthly sales have gone up from PKR 21,620 to PKR 40,000.

There has been a significant positive change in Mushtaq Ahmed's farm and in the lives that surround him. "Initially, I had to hire four people to take care of the animals and give them water. Since the animals now have free access to water all day, a best dairy farm practice, I have to employ only one resource to look after them. The animals are not dependent on us anymore. Things are shaping up and even the females in my family are now getting engaged in the farming business; my son wants to adopt the same in the future."

USAID's Dairy Project aims to continue its dairy farmer trainings, in order to make a transition at the farm-level from traditional to modern dairy farming. As a result of this initiative, farmers are experiencing a shift in their farming practices and illustrating this through higher milk yield, incomes and livelihoods. These trainings are helping rural dairy farmers generate higher incomes, resulting in economic growth for the country.



SUCCESS STORY

Road to recovery

USAID pulls rural woman out of poverty through provision of dairy livestock extension skills in her village



Photo by USAID-DRDF Dairy Project

“I participated in the USAID-DRDF Dairy Project training course and I am now able to provide animal healthcare in my village. I have been involved in facilitating farmers with timely vaccinations, a best dairy farm practice and a total number of 886 animal cases have been attended by me. I was also provided with a medical kit upon completion of the course and was able to become a breadwinner for my struggling family.”

Saima Bibi, Dairy Project trained Women Livestock Extension Worker (WLEW) from village Zafar Colony, Tehsil Burewala, District Vehari, Punjab.

Saima Bibi, a resident of the tehsil Burewala, district Vehari, Punjab saw her fate sealed when her husband, the sole breadwinner for her clan, unexpectedly fell ill at the hands of jaundice and became bedridden. “My husband Zafar Iqbal was initially involved with the sale and purchase of animals, and his illness did not allow him to visit the markets for business. It was a tough time for all of us – a family of seven,” she explains. With little hope for the future, Saima and her family struggled to meet everyone’s basic food and clothing needs as there was no source of income. “But then the USAID-DRDF Dairy Project team turned up, and we were shown a new road to recovery.”

The United States Agency for International Development (USAID) and Dairy and Rural Development Foundation (DRDF) through their Dairy Project are providing trainings to women from Punjab’s rural communities to become livestock extension workers. The Dairy Project provides a basic four-week long course, and the curriculum and graduation certificates are provided in joint collaboration with the University of Veterinary and Animal Sciences (UVAS).

“Prior to the trainings, there was no source of income to support basic necessities for my children and I felt helpless. I was forced to withdraw my children from school as I could not afford the fee,” Saima says. Thereafter, the Dairy Project team selected and trained Saima, and introduced her to the village through an induction meeting in April 2013. .

The Dairy Project team trained Saima on the techniques of animal disease prevention and basic livestock management. In May 2013, she was awarded a medical support kit and began her career as a skilled Women Livestock Extension Worker (WLEW). Between May and July 2013, Saima has earned PKR 8,829 by attending a total of 886 animals in her village. She has looked after vaccination and deworming cases primarily. “I am a trusted WLEW among the farmers,” she confirms.

The USAID-DRDF Dairy Project team aims to continue providing support and guidance for women to be able to provide livestock extension support, and equip them with the knowledge, skills and tools to provide much-needed animal health care in their villages. It is expected that as a result of such activities, a total of 1500 villages will have improved animal health care services.



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PAKISTAN

SUCCESS STORY

Rural Woman Takes Charge

USAID helps 21-year old Rahat become a *Vanda* seller and support her family of 14



“I participated in the USAID-DRDF Dairy Project WLEW training course and it has altered my vision in life. I have become a successful profiteering *Vanda*-seller in my district. USAID’s Dairy Project invested in me, and I am extremely thankful to the team.”

-Rahat Parveen, Dairy Project trained Woman Livestock Extension Worker (WLEW) from Tehsil Kamalia, District Toba Tek Singh

21-year old Rahat Parveen’s life appeared to be like a dead-end, after she was forbidden to return to school two years ago, due to financial constraints.

“We’re a big family of 14! It never occurred to me that my family would have to struggle this much for barely making ends meet, with my father being ill for the past many years; my brothers are younger and two of my married sisters separated from their husbands and returned home. There was little or no source of income.”

The United States Agency for International Development (USAID) and Dairy and Rural Development Foundation (DRDF) through their Dairy Project are providing trainings to women from Punjab’s rural communities to become livestock extension workers. The Dairy Project provides a basic one month long course, and the curriculum and graduation certificates are provided in joint collaboration with the University of Veterinary and Animal Sciences (UVAS).

In December 2011, Rahat had the opportunity to meet a Dairy Project social mobilizer and was introduced to the project. On January 2, 2012, a keen Rahat began the training program and passed her UVAS exam successfully. “During the training, I learnt various new techniques, including controlling dairy animals through the crisscross method, preventing a fatal respiratory disease such as Hemorrhagic Septicemia (HS), animal nutrition and feeding, and free access to water for animals. Towards the end, I was selected by the project to sell *Vanda*, a top quality feed which contains the vital ingredients necessary for the well-being of animals, especially those which are young and producing milk,” she explains.

In April 2012, Rahat was given 30 free-of-cost *Vanda* bags by the Dairy Project, for sale in her village. She marketed her product through flyers, and successfully sold the 30 bags for PKR1000 each and earned an income of PKR 30,000. In July 2012, she bought 12 *Vanda* bags for Rs 900 each. She sold 10 bags for Rs 1000 each, making an additional profit of PKR 1000. She sells the *Vanda* bags with her brother’s support, through placing the bags at his small general store in the village.

In addition, Dairy Project has given Rahat a cellular phone, so she can liaise with *Vanda* suppliers in the market. With the profit she earned, she has brought back the tradition of two proper meals being served at home and has been able to regularly purchase medicines for her ill father. More importantly, the family owns a very small piece of land, and she has bought some water for her crops. Once the harvest reaps an income, she will reinvest it into the *Vanda* business and purchase more bags to sell.

“The USAID Dairy Project has not just made me a seller of *Vanda* bags; it has opened my eyes towards dairy farming. With this income, I’m also going to arrange for free access to water for my three dairy animals,” she says on a positive note.