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**Social Research to Foster Effective Collaboration and  
Strengthen Pro-Poor Value Chains**

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First, we acknowledge and thank Dr Les Baxter for his research program leadership and who supported and cajoled us for four years before he left ACIAR in 2014. In a subsequent reconstruction of the program, he was partly replaced by Dr Peter Horne in 2015 and specifically for the Social Research Project, by Dr Caroline Lemerle, who ably facilitated our final review. We also thank Dr Greg Johnson for the time and effort he put into facilitating cross-disciplinary understanding and his willingness to learn about social science methodologies.

Second, for his innovative insights into how to facilitate cross-disciplinary research and development within Pakistan, we thank Dr Iftikhar Ahmad, Chairman of the Pakistan Agricultural Research Council and Dr Azeem Khan, Director-General of the National Agricultural Research Centre for his role as Social Research Project Co-ordinator.

Third, we wish to acknowledge Dr Munawar Kazmi who is now ACIAR Country Manager in Pakistan for his operational efficiency in organising travel associated with our workshops, transport and accommodation.

Finally, we wish to acknowledge the commodity project team members for mango production, mango value chain, dairy and citrus who worked collaboratively with the social research team in Pakistan rural focal villages for the benefit of the poor and marginalised.

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## 2 Executive summary

In the external review of ASLP1 two of the main messages for phase 2 (ASLP2) were that there is a need to work harder:

- on building sustainable value chain improvements for the benefit of the poor and marginalized (Recommendations 4, 5 and 6); and
- to exploit opportunities for collaboration across project teams (Recommendation 2)

These messages provided the main underlying impetus for the Social Research project and the first two objectives:

1. To engage the poor and marginalized groups that can potentially benefit from participating in the selected value chains of ASLP 2; and
2. To enhance collaboration across project teams.

A third objective supports these by exploring the use of ICT:

3. To assess and enhance information and communication modalities and technologies for collaboration and value-chain enhancement;

While a fourth objective focuses on an integrated approach to implementing the other 3 objectives in a rural development context:

4. To foster effective collaborative development in rural Pakistan

The project used the methodology of participatory action research (PAR), building on a particular approach developed by the two co-chief investigators (see Spriggs and Chambers, 2011). This approach began with an extensive information gathering stage involving a variety of methods (baseline survey, capacity inventory, focus groups and case study). At this stage, initial meetings were held with all the commodity-based projects (CBPs) of ASLP2 to learn of their activities and to build relationships. Following this, a collaborative planning workshop was held in Canberra in April 2012 involving all the Australian and Pakistani members of all the project teams. The most important idea to emerge from this workshop was the need to develop sites for integrated research and development involving the various CBPs. Hence the idea of working in focal villages and village clusters was developed. Focal villages allowed for the exploitation of opportunities for collaboration across project teams (2<sup>nd</sup> external review message above) and if we could engage with the target beneficiary groups in these villages, this would address the 1<sup>st</sup> external review message.

Following this workshop, the Social Research project worked with the 4 commodity-based projects (CBPs) in 2012-13 to identify and develop initiatives in six focal villages. These included two villages in the districts where respectively the dairy, mango and citrus projects were operating. In 2013-15 the main work of the Social Research team has thus revolved around these six focal villages. The main activities have included:

- gathering information (survey, focus groups, capacity audits) as well as holding village level planning workshops to determine priorities for R&D particularly with respect to the ASLP2 commodity-based projects (see activities against objectives 1 and 4 below)
- developing change strategies for each village in consultation with the villages and the CBP teams;
- developing ICT support for development in the villages (see activities against objective 3 below)

In February 2014, the Social Research Team organized and hosted a second collaborative planning workshop of all the project teams (in Bhurban Pakistan) to take stock of where we were in regard to exploiting opportunities for collaboration in the focal villages.

The main messages to come out of the second collaborative planning workshop were:

- to continue to develop the collaborative initiatives in the focal villages – especially focusing on smallholder farm households, landless labourer households and women
- extend the work in the focal villages to include the catchment area surrounding the focal villages
- to continue to develop ICT support for the focal villages; and
- to develop a new initiative focusing on youth in the focal villages.

As a result, the Social Research Project added a fifth objective:

5. Engaging Rural youth.

The key results of the project have included:

- A rich data set from the baseline survey of 750 low income rural households in Pakistan. This data set provides extensive information on the characteristics and preferences of both heads of household and their spouses.
- Infrastructure development in the form of Community Service Centres (CSCs) in the focal villages. These CSCs are important centres for training, housing community equipment (including computers provided by the project) as well as meeting places for villagers with space for both men and women
- Training programs in the focal villages for low income households which are responsive to the needs expressed by the low income households
- Development of the use of ICT (FarmPhone and FarmSMS) for communication and extension
- Improved understanding of the methods and challenges of cross-disciplinary collaboration
- Improved understanding of the challenges of inter-household collaboration for economic benefit and the differences between men and women in their attitude to such collaborations

An end line survey was carried out to gain some measure of the impacts of the Social Research Project. This was carried out in the first three focal villages where activities have been ongoing for sufficient time to assess impacts. The results suggest that the impacts have been extensive and very positive. Work in some focal villages is continuing with the new ACIAR program in Pakistan and we understand the approach we have undertaken in the focal villages is being replicated by another (USAID) project in other villages.

In preparing this Final Report, it was hoped to have had feedback from the External Review of this Project which took place on 18-19 June 2015. However, to date the Reviewers' report has not been received by ACIAR. Hence this Final Report has been completed without the benefit of the Reviewers' comments or our reflections on them.

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## 3 Background

From 2005 to 2010, AusAID funded ASLP1 (Agriculture Sector Linkages Program, Phase 1) to improve Pakistan development outcomes for three target agricultural industries (mango, dairy and citrus) by focusing on various aspects of their supply chains<sup>1</sup>.

In 2010, towards the end of ASLP1, the Pakistan-Australian Agriculture and Rural Development Strategy (PAARDS) was developed to provide guidance to a second phase of ASLP (i.e. ASLP2) which was to run from 2010 to 2014. The overall aim of PAARDS was to collaborate strategically to improve livelihood systems for the rural poor in Pakistan.

In implementing ASLP2, ACIAR recognised that delivery of benefits from improved agriculture and value-chain management to the poor and marginalised in rural areas is hampered by the circumstances of their marginalisation. High illiteracy, poor health, rising food prices and difficulties in accessing land, water and markets, as well as inadequate access to opportunities and finance and institutional lethargy can combine to make it almost impossible for them to access the knowledge and technologies of agricultural modernisation and improve their lives. And, women and youth can face additional difficulties. Better understanding is needed of:

- the nature and circumstances of poverty and marginalisation,
- the particular constraints that gender, age and social position may impose,
- options for improving project and industry collaboration and communication modalities and
- the individual and institutional imperatives that may foster ‘more action and less inaction’ to address poverty dimensions,

Better knowledge of these issues was deemed necessary by ACIAR to underpin the design of strategies for sustainable value chain development, to more effectively engage ASLP2 project teams, industries and other stakeholders, so that both the poor and non-poor can have ‘win-win’ outcomes that are empowering, and lead to improved livelihoods.

Thus one major impetus for the current project was to help develop this knowledge and understanding and hence facilitate a shift in direction of ASLP commodity-based projects (CBPs) in the direction of benefiting the poor and marginalized. This formed the first major objective of the current project.

A second major impetus for the current project derived from an external review of ASLP1 conducted in 2008. This review advocated that a new phase of ASLP should “work harder to exploit opportunities for collaboration across project teams.” This formed the second major objective of the current project.

In summary, the project is in alignment with the (draft) Pakistan-Australian Agriculture and Rural Development Strategy, particularly in relation to the Pro-Poor Value Chain component of ASLP Phase 2: improving the functioning of value chains in ways that benefit the poor. The project also

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<sup>1</sup> ASLP Phase 1 included four projects and associated activities: HORT/2005/153 - *Development of integrated crop management practices to increase sustainable yield and quality of mangoes in Pakistan and Australia*, led by Queensland Primary Industries; HORT/2005/157 - *Optimising mango supply chains for more profitable horticultural agri-enterprises in Pakistan and Australia*, led by the University of Queensland; HORT/2005/160 - *Increasing citrus production in Pakistan and Australia through improved orchard management techniques*, led by the Department of Industry NSW and LPS/2005/132 - *Improving dairy production in Pakistan through improved extension services*, led by Charles Sturt University.

strongly aligns with ACIAR's intention that all new projects in Pakistan will include significant components of capacity building in participatory research and engagement methodologies.

The project fits within the Linking Farmers to Markets theme of ACIAR's R & D focus areas, particularly in relation to: initiatives that improve links between markets and farms, balancing the special needs of remote communities against the importance of urban food security and the capacity-building requirements of countries.

More broadly, the project focuses on engaging the marginalised and disadvantaged (ACIAR vision and the Millennium Development Goals (MDGs)) and it respects and encourages ownership by the partner country of change strategies and aims to make a tangible difference in the lives of poor people (ACIAR vision and Paris Declaration).

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## 4 Objectives

The first 2 objectives are derived from the two impetuses discussed above in the Background. They are:

**1. To engage the poor and marginalized groups that can potentially benefit from participating in the selected value chains of ASLP 2**

A better understanding of the poor and marginalized will define the scope and opportunities for engaging with stakeholders and extending commodity project benefit flows to them. Vulnerable groups in Pakistan who do, and potentially could, contribute to various agricultural industries include “small farmers, the landless, internally displaced people, refugees, food-insecure rural households, poor rural women and children and youth...” (UN, 2007 p.3.). Social inclusion has become a core framework in many countries to reorient social policy. With agriculture being the “mainstay of Pakistan’s economy” (Baig and Khan, 2006) successful and sustainable rural development needs to take an integrated and comprehensive approach by building capacity among the marginalised and vulnerable. Three marginalised groups have been singled out for special consideration, namely the rural poor, women and youth.

In the first instance, the project aimed to build a better understanding of how the poor and marginalized can better participate in the relevant value chains by gathering information from primary sources (i.e. a baseline survey, semi-structured interviews and focus groups) as well as secondary sources. It was envisaged this information would provide the necessary background for engagement with poor and marginalized groups using participatory methods to seek ways to improve their economic situation in sustainable ways.

**2: To enhance collaboration across project teams.**

This objective relates to the second impetus discussed in the previous Section and involves helping to facilitate the interaction among the teams of the four CBPs (commodity-based projects) of ASLP2 for better delivery of outcomes and enhanced benefit flows to the poor. The CBP teams involve a wide range of people from diverse disciplinary backgrounds (e.g. agronomy, marketing, extension) with diverse commodity interests (e.g. mangos, citrus, dairy). This diversity is potentially valuable in dealing with real-world problems which are also typically multi-faceted. But, this diversity can also be a potential barrier to communication, and hence also a barrier to working together through PAR and case-studies to address such problems. Thus, the thrust of Objective 2 is to foster a cross-disciplinary approach to R&D collaboration and decision-making in ASLP2.

In addition to these two basic objectives, the current project had three additional, supporting objectives. They are:

**3: To assess and enhance information and communication modalities and technologies for collaboration and value-chain enhancement.**

ICT methods and modalities can potentially be used to good advantage to support the achievement of objectives 1 and 2. Thus the project also attempted to explore, pilot-test, evaluate and, where appropriate apply new ICT modalities to:

- (a) Foster better connections and communications within and between the four CBP project teams and HORT/2010/003 and key stakeholders.
- (c) Foster better communications between the project team members and local stakeholders.

**4: To foster effective collaborative development in rural Pakistan**



While objectives 1 and 2 deal with different *research* aspects of collaborative development, objective 4 is concerned with their *implementation* (making a difference on the ground). The traditional approach to development involves a two-phase linear process of first research and then development through extension/adoption. However, this has often been found to be an ineffective strategy to achieve sustainable development because of a failure to adequately take into account the complexity of R & D in a developing country. But development problems are typically multi-faceted, ambiguous and ill-defined and the context is always changing. What adds to the difficulty with this two-phase linear process is the frequent lack of effective communication between researchers and developers (including extension specialists).

Hence, effectively dealing with the question of how to improve the operation of pro-poor value chains will be a key cross-cutting issue for ASLP2. Under objective 4, we do not rely on the traditional two-phase linear process<sup>2</sup>, but rather adopt an Adaptive Research and Collaborative Development (ARCD) methodology (Chambers and Spriggs, 2009). This methodology takes into account the complexity of the social decision-making and social change that is involved in R & D in a developing country context. It does this by incorporating feedback (from local stakeholders to researchers & developers as well as from developers to researchers) in a process that is transparent, and inclusive of all local stakeholder groups, while at the same time recognizing the role of outside knowledge.

#### **5: Engaging Rural Youth**

This objective was not included in the original project proposal but was added later (in the proposal variation 3) to reflect an important gap in the work plan that was not recognized at the start. This objective deals with the question of how to better engage rural youth. Rural women and men under 25 years of age comprise 40% of Pakistan's population. This is one of the country's greatest potential assets, but also presents one of the country's greatest challenges if not developed properly. From our earlier work in the project (baseline survey, focus groups and key informant interviews), it became apparent that the challenge of how to properly engage rural youth is a key aspect to improving the prospects for poor rural households in Pakistan. Thus objective 5 proposed to undertake a number of activities aimed at improving engagement with rural youth. They include:

- assisting in the establishment of youth groups in our focal villages (with assistance of Voice of a New Generation);
- training for young women and men in our focal villages in skilled jobs of relevance to our ASLP commodity industries; and
- conducting a youth camp entitled *Innovative Futures* to encourage and facilitate the learning of ICT skills by young women and men from our focal villages.

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<sup>2</sup> The technical projects in Phase 1 of ASLP included a mix of both PAR and 2-phase linear approaches –a reflection of the need to build capacity in PAR and to recognise and work within existing structures and relationships. This need will probably continue under Phase 2.

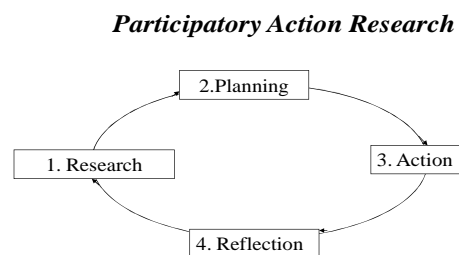
## 5 Methodology

From the external review of ASLP1, perhaps the two most important messages for ASLP2 were: (1) work harder on building sustainable value chain improvements for the benefit of the poor and marginalized (Recommendations 4, 5 and 6); and (2) work harder to exploit opportunities for collaboration across project teams (Recommendation 2.) These are at the heart of the Social Research Project. The basic methodology for achieving these outcomes involved participatory action research (PAR) approaches that have been previously used in ACIAR projects and that are primarily concerned with research that makes a difference in developing countries.

The particular approach to PAR in this project follows and builds on that presented in the paper: Spriggs, John and Barbara Chambers (2011). *Organic research and collaborative development (ORCD) of horticultural supply chains in the Asia-Pacific*, Stewart Postharvest Review, Vol 7, No 2 Sept 2011 pp 1-9. (Published on line 01 September 2011 doi:10.2212/spr.2011.2.2)

Thus, a key researchable issue for the current project is to explore **how best to adapt and apply PAR to the problem of bringing about sustainable improvements in the value chains targeted by the four commodity-based projects of ASLP 2.**

PAR involves an iterative process, usually diagrammatically viewed as a continuous circle or spiral, of research (information gathering), planning, action and reflection as shown in Figure 5.1.



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**Figure 5.1:** The generic participatory action research (PAR) process.

For this project, we envisaged two distinct participatory action research cycles involving two distinct types of communities. PAR1 involves the community of researchers comprising the various commodity-based projects of ASLP2 while PAR2 involves the community (or communities) of target beneficiary groups in Pakistan (low income rural households in the districts where ASLP2 was operating).

**Stage 1** involves background research/information gathering. For PAR1, this involved focus groups discussions with members of each commodity-based project team. Meetings were held both in Australia at the commissioned organizations and in Pakistan at the participating organizations. For PAR2, a number of methods were used to develop a rich information set including:

1. **A baseline survey** – of the target beneficiary households. These were smallholder households in the districts where the commodity-based projects were operating. In each household surveyed, both the head of household (male) and his spouse (female) were interviewed separately to gather information on their perspective on the three aspects of

- the relevant value chains. See Section 7.1 of this report for more details on the baseline survey and also Appendix 11.1 for a detailed summary of the results of the survey.
2. **Capacity Inventory** – in selected focal villages to assess the capacities, skills and assets of people and their villages for development and setting development priorities. The approach used in this project follows Kretzmann and McKnight (1993) but modified to meet local needs and also those of the specific commodities, mango, citrus or dairy. A sample questionnaire used for the capacity inventory is reproduced in Appendix 11.2.
  3. **Focus Group Discussions** - The research team from both the participating country (PC) and Australia conducted focus group discussions with men, women, youth of both genders and landless poor also of both genders in order to gain a deeper understanding of life in the focal villages, the roles of women in particular and of the hopes and aspirations of all villagers. These discussions then guided the activities in each specific village. Focus groups aim to use rich discussion to draw out opinions and ideas that may not emerge from baseline survey (O’Leary, 2013). The groups were facilitated by a local researcher fluent in the local language who also served as a translator and for the women’s groups a local host family provided a nurturing environment for the discussions to take place. Appendix 11.3 outlines the process and questions of the focus groups used.
  4. **Case Study** - one way of studying the key elements of the social fabric is to conduct a case study which gives a comprehensive analysis of an individual, group, event or episode adding depth to understanding (O’Leary, 2013). A case study can be used to provide supportive evidence for the research and can be used to triangulate data collected by other methods. One case study was conducted in this project with a commodity contractor and the schema for collection of his story is presented in Appendix 11.4.

**Stage 2** involves the use of collaborative planning workshops (CPW). The CPW is pivotal to the whole PAR cycle in that it provides the link between *research* (information gathering) and *action* (implementation of an action plan). The workshop methodology used is CPSM (Collaborative Problem Solving Methodology) which has been developed over a number of years by Chambers, Spriggs and others. Spriggs J., Chambers B. and N.Omot. *Towards socioeconomic change in the fresh produce supply chains of the Papua New Guinea highlands*, Socioeconomic agricultural research in Papua New Guinea, ACIAR Proceedings 141, Lae, PNG, 5-6 June, 2013 pages 9-16. This workshop methodology involves a divergent (what can we do?) phase and a convergent (what should we do?) phase and is designed to encourage the workshop participants own the change process and the change strategies that emerge.

With regard to PAR1, the first collaborative planning workshop was held in April 2012 and entitled *Linkages for Livelihoods*. The agenda for this workshop is reproduced as Appendix 11.5. It involved members of the various commodity-based project teams as participants and is used to address Objective 2 (To enhance collaboration across project teams). This workshop was carefully constructed to encourage collaborative discussion of problems and strategies, ending with an action plan for change. A key element of the action plan was the agreement to implement integrative research in *focal villages* which were to be selected in consultation with the commodity-based project teams.

With regard to PAR2, village level planning workshops were held in each focal village. These workshops broadly followed the CPSM approach where the participants prioritize needs for change as part of a Value Chain Needs Analysis (VCNA). VCNA is a form of visual ethnography and

involves showing pictures of activities across the whole value chain. Pictures are 'best practice' drawn from relevant village activities and are symbolic rather than exhaustive of all practices. Visual Ethnography as a technique has been used to identify value chain tasks or activities that are difficult or easy and to then look at resources, including training that might address these issues. The aim is to show best practice in A4 size or even poster-size colour photographs, wherever possible, even if the methods being shown in the picture are traditional. It is a technique that has been used with low literacy communities (Riviera, 2010; Schwartz, 1989) and since the 1980s to deduce the attitudes and likely behaviour of young children towards particular objects or people. Pictures of value chain activities were drawn from photographs from the villages under study or from Pakistan rural archives, such as at the University of Faisalabad, the Sindh Agricultural University and the National Agriculture Research Centre in Islamabad. This technique is useful in low literacy communities and has been used successfully in India and PNG. An overview of the baseline surveys was provided for each of the focal villages (see Appendix 11.1) and discussed as a context for conducting the workshops. A summary of the results of using visual ethnography activity in one focal village (Hot Khan Leghari) is summarized in Appendix 11.6.

**Stage 3** involves the implementation of the action plans, both for PAR1 and PAR2. The main focus for implementation of both PAR cycles is the focal villages and the Pakistan members of the Social Research Team are critical to the success of this stage of the process. With support from the Australian members of the Social Research Team their role is to facilitate and encourage their Pakistan colleagues in the commodity-based teams to both work together and to work with the focal villages to support the changes the villages have prioritized. The Australian members of the Social Research Team also have a role to encourage and facilitate the Australia-based members of the commodity-based teams to continue to support the collaborative activities in the focal villages

**Stage 4** involves reflection on the experiences in the focal villages including the actions taken and to develop the next phase of research. To this end, a second PAR1 planning workshop entitled *More for Less: Linkages to Enhance Livelihoods* was held in February 2014 involving all the ASLP2 project teams and held in Bhurban, Pakistan (see Appendix 11.7). The main messages to come out of this workshop were:

1. to continue to develop the collaborative initiatives in the focal villages – especially focusing on smallholder farm households, landless labourer households and women
2. to extend the work in the focal villages to include the catchment area surrounding the focal villages
3. to continue to develop ICT support for the focal villages and
4. to develop a new initiative focusing on youth in the focal villages.

A second element of Stage 4 was an end line survey conducted on low income households in the focal villages. This provided information on what changes have occurred as a result of the interventions of the Social Research Project and can help plan for future iterations of the PAR cycles. The results of the end line survey are summarized in Section 8 of this report.

A third element of Stage 4 was a symposium held in early 2015 to reflect on the lessons learned from the Social Research Project. The agenda for the symposium is included as Appendix 11.8. In addition to the main reflective purpose, the symposium enabled the project review team to hear specific presentations on research outcomes and enabled the invited audience to critique the findings for publication.

## 6 Achievements against activities and outputs/milestones

**Objective 1: To engage the poor and marginalized groups that can potentially benefit from participating in the selected value chains of ASLP 2**

| no. | activity   | outputs/<br>milestones   | What has been achieved?   | comments   |
|-----|--|--|---|--|
| 1.1 | Background research on marginalized groups in Pakistan particularly with relevance to the 4 commodity-based projects (CBPs) of ASLP2 | Report on background research (A, PC)  | Following a scoping visit in Feb 2011 PC project partners were identified and a collaborative effort saw a baseline survey developed, implemented and analysed.<br><br>A series of draft reports has been prepared and distributed via the website to the 4 CBPs.   | Publication from data forthcoming  |
| 1.2 | Primary research - using focus groups and interviews with marginalized groups in Pakistan relevant to the 4 CBPs                     | Information package on constraints to and opportunities for marginalized groups (PC) | This baseline survey was followed up with case studies, focus groups and interviews in conjunction with PC partners A rich data set on marginalized groups including women and youth was developed.<br><br>A collaborative workshop "Linkages for Livelihoods" (L4L) was run in April 2012 and the preliminary data made available to the 4 CBPs. | Data gathered informed the approach to be used in focal villages centred around Place Based Learning for Value Chain Development |
| 1.3 | Conduct training workshop on marginalized groups to CBP teams and participate in CPW-T1 as information provider                      | Informed decision-making with respect to marginalized groups in the 4 CBPs (PC)      | The L4L workshop provided an opportunity for the 4CBP and the social team to develop plans for the coming year which are collaborative across commodities and will focus on marginalized groups.  | Cooperation was increased but true collaboration limited. PC commodity teams were more responsive than A based teams             |

|     |   |                                      |   |  |
|-----|---|--------------------------------------|---|--|
| 1.4 | Follow up research on marginalized groups from CPW-T1 | Report on follow up research (A, PC) | <p>Visit to PC to conduct capacity inventories to identify existing capacities in villages in terms of commodity and other village activities – every village had a high level of skills and with every skill that was lacking by some there was someone willing to teach others. This helped with the villagers building or renovating the CSCs in 4 villages</p> <p>To visit and identify villages in commodity clusters in which to undertake place based development – identified 6 villages as focal villages 2 in each province</p> <p>Conducted focussed discussion with youth of both genders in the three PC villages for inclusion in proposed activities in coming months</p> <p>Identified key issues for young people as well as opportunities to work with them in future</p> | <p>Construction of CSCs in 4 villages to serve as hubs for learning and facilitation of commodity based activities</p> <p>CSC not being built in Nowshera (KP) or Haji Ahmed Soomro (Sindh) due to cultural prohibitions on women going out of their homes and meeting with women other than their family groupings.</p> <p>Refer to section 5</p> |
|-----|---|--------------------------------------|---|--|

|     |  |  |   |   |
|-----|--|--|---|---|
| 1.5 | Provide support to 4 CBPs in implementing of their action plans re marginalized groups | Report on support provided (A, PC)   | <p>Met with A based commodity teams to update them on all previous research conducted in PC.</p> <p>Held discussion with commodity teams as to their planned activities and how best we could work collaboratively with them in PC – in some villages the CB teams followed up with extension in the CSCs but this was not in all centres. Value addition in all commodities was trialled e.g. citrus village women were taught how to make juices and jams and in mango villages dried mango and mango pickles making skills were taught. In dairy cheese and ice cream making were also facilitated</p> <p>Received from PC social team partners proposals for work in focal villages and forwarded to A commodity teams for feedback and comment</p> <p>Provided feedback to PC social team partners on draft proposals and suggested they share this with the PC commodity team members for additional feedback re feasibility of proposal for collaborative work</p> | <p>Cooperation was increased but true collaboration limited. PC commodity teams were more responsive than A based teams.</p> <p>Encourage commodity teams to use the focal villages as hubs for demonstration plots for commodity work</p> <p>Value added products need marketing and business skills to be developed</p> |
| 1.6 | Provide information on research findings at CPW-D1 in selected focal villages          | Informed decision-making with respect to marginalized groups in the 4 CBPs (A, PC) | <p>Delivered papers on progress to date at the ACIAR workshop, shared results and key issues for villagers.</p> <p>Conducted collaborative group work to problem-solve some of the issues of working in the villagers, in particular with women and youth.</p>  | A platform via CSCs was established for commodity based teams to work with women and youth particularly around value addition but this was not taken up by all CB teams   |
| 1.7 | Follow up research on marginalized groups from CPW-D1                                  | Report on follow up research (A, PC)   | <p>Delivered papers on progress to date at the ACIAR workshop, shared results and key issues for villagers.</p> <p>Conducted collaborative group work to problem-solve some of the issues of working in the villagers, in particular with women and youth.</p>  | Publication forthcoming   |

PC = partner country, A = Australia

**Objective 2: To enhance collaboration across project teams**

| no. | activity  | outputs/<br>milestones  | What has been achieved?   | comments   |
|-----|---|---|---|--|
| 2.1 | Background research on nature of interactions within and between 4 CBPs | Report on background research (A, PC)                           | <p>In March to May 2011, preliminary visits were made by Australian members of the Social Research Team to Australian members of the four CBPs in Dareton, Wagga, Gatton and Mareeba. An important goal of these visits was to develop a sense of community and to explore opportunities for interaction within and between the four CBPs.</p> <p>First field visit to Pakistan to understand social conditions and constraints affecting commodity sites, and to understand potential for collaboration among four CBPs in Pakistan.</p> <p>Conducted a Social Project Planning Meeting at University of Agriculture Faisalabad (UAF) and facilitated Day 1 of a student workshop on engaging women in agriculture in Lahore for the dairy team.</p> | <p>Correcting a misperception of some commodity research teams - not completely negated - that the Social Research Project's main task was about extension support for the industry and that the SRPs budget could be accessed to this end.</p> <p>Time constraint: unable to follow-up with veterinary students on implementing strategies on the engagement of women</p> |
| 2.2 | Plan and conduct Collaborative Planning Workshop (CPW-T1)               | Action Plan for CBPs with respect to enhanced collaboration (A) | <p>Facilitated Collaborative Planning Workshop (CPW) entitled <i>Linkages for Livelihoods (L4L)</i> at the INSPIRE Centre, University of Canberra on 26 and 27 April 2012. (See Appendix 11.5.)</p> <p>Representatives of commodity and policy teams from Pakistan and Australia attended to discuss specific ways in which collaboration could be enhanced across and between all ASLP2 project teams. At the conclusion of the CPW, the participants developed a series of strategic directions for ASLP2 focusing on opportunities for collaboration. One important decision that was successfully implemented was the identification of focal villages as sites for integrative research and development.</p>                                     |  |



|     |   |   |   |  |
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| 2.3 | Follow up research on enhancing collaboration within and across CBP teams   | Report (A, PC)  | <p>Visits made to each Australian commodity team's site to discuss baseline survey data and how it might be applied and to receive feedback on workshop, especially ICT website (Co-Lab) for collaboration across teams</p> <p>Pakistan partners conducted visual ethnographies for men and women in each focal village for dairy, citrus and mango under supervision of BC</p> <p>Analysis of workshop data provided in trip report to ACIAR</p> | More intensive work needed with Citrus team in particular about the importance of engaging women and youth in that industry.   |
| 2.4 | Assist CBPs in implementing action plan re. collaboration in focus villages | Report on support provided (A, PC)                      | CBPs adopted social and cultural information from focus villages and incorporated it into their forward planning  |  |
| 2.5 | Plan and conduct Collaborative Planning Workshop for Development (CPW-D1)   | Action Plans for development in selected focal villages | <p>Training Pakistan partners in visual ethnography techniques at SAU, UAF and NARC.</p> <p>Pakistan partners conducted visual ethnographies for men and women in each focal village for dairy, citrus and mango under supervision.</p>   |  |
| 2.6 | Follow up research on enhancing collaboration across project teams.         | Report (A, PC)  | Circulated findings of visual ethnography workshops to all commodity teams which highlighted the areas in which low-income farmers - men and women - required skill training  |  |
| 2.7 | Assist CBPs in implementing action plan re collaboration                    | Report on support provided (A, PC)                      | Site visits to Australian partners to discuss skill training needed in collaboration with other CBPs and implantation of ICT models.  | Social Team could have followed up with each CBP to find out specifically how they were going to plan their activities around the skills that villagers wanted in each industry. |

|      |  |   |  |   |
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| 2.8  | Conduct Collaborative Planning Workshop (CPW-T3)                             | Action Plan for CBPs with respect to enhanced collaboration (A) across teams to enable better linkages for improved livelihoods | A combined Australian/Pakistan CBPs workshop was held from 25 to 27 February 2014 in Bhurban, Pakistan. Action plans were based on future activities relating to ICT, Collaboration and Focal Villages. Teams were able to build on: <ul style="list-style-type: none"> <li>– existing villager capabilities in value adding were strengthened;</li> <li>– collaboration enhanced between social and commodity teams, especially with mango in focal villages;</li> <li>- village liaison workers were able to systematically record poor and marginalized activities for process evaluation and</li> <li>–ICT technologies are being taken up and used and by youth and women in particular.</li> </ul> | Each CBP had their own negotiated action plan but if there had been time and opportunities, the Social Team could have followed up to monitor progress.   |
| 2.9  | Follow up research on enhancing collaboration across CBP teams               | Final Report on enhancing collaboration within and across CBP teams (A, PC)   | Discussion by CBP teams at Annual Meeting in September 2014 to examine ways in which collaboration worked and didn't work in this program and ideas for the future. Data yet to be received or analysed. Follow up being planned.  | Requested completion of short survey distributed to CBP teams to examine ways in which collaboration worked and didn't work in this program and ideas for the future. Data yet to be received or analysed. Follow up being planned. |
| 2.10 | Final Workshop of commodity teams (Australian team members only) in Canberra | Final report (A, PC)  | Symposium on deep analysis of research outcomes for each of the four objectives from Social Research Project will be followed up with 4 papers submitted for publication.  |   |
| 2.11 | Write up final report on collaborative development work                      | Final report (A, PC)  |  |   |

PC = partner country, A = Australia

**Objective 3: To assess and enhance information and communication modalities and technologies for collaboration and value-chain enhancement**

| no.                                  | activity  | outputs/<br>milestones  | What has been achieved?  | comments   |
|--------------------------------------|---|---|--|--|
| <b>ICT for Collaboration (ICT4C)</b> |   |   |  |  |
| 3.1                                  | Background research and base line data collection on ICT to enhance communication and collaboration within and across CBP teams | Discussion paper (A,PC)   | Developed a communication framework & web-based system based on WordPress and Google Apps  | Developed a sound rationale for the important role ICT could play. |
| 3.2                                  | Conduct training workshop on ICT for communication and collaboration across CBP teams (i.e. ICT4C)                              | CBP teams are introduced to range of ICT4C techniques and begin to use them (A)                 | Provided training and ongoing support to each CBP  |  |
| 3.2                                  | Participate in CPW-T1 as information provider   | Action plan for CBPs with respect to adoption of ICT for communication across CBP teams (A, PC) | Worked with CBPs around the use of the web-based system  |  |
| 3.3                                  | Selection and implementation of collaborative knowledge management system   | Web-based collaborative knowledge management system   | Ongoing development of the WordPress and Google App system   |  |
| 3.4                                  | Follow up research, development and facilitating use of ICTs by the CBP teams to enhance communications.                        | Discussion paper (A, PC)  |  | Ongoing research revealed the system was not being adopted         |
| 3.5                                  | Follow up research, development and facilitating use of ICTs by the CBP teams to enhance communications                         | Discussion paper (A, PC)  | Revised the platform to focus more on a single platform (WordPress) with a focus on the Social project's connections to each CBP |  |

|                             |   |  |   |   |
|-----------------------------|---|--|---|---|
| 3.6                         | Participate in CPW-T3 (providing update on ICT for communications across CBP teams)                     | Revised action plans for enhanced communications across CBP teams (A, PC)                                | Implemented an editorial support model to work closely with each CBP to help them generate content for the web-based system                           |   |
| 3.7                         | Follow up research, development and facilitating use of ICTs by the CBP teams to enhance communications | Final report on enhancing communications across CBP teams using ICT (A, PC)                              |   |   |
| ICT for development (ICT4D) |   |  |   |   |
| 3.9                         | Background research on ICT to enhance value chains with respect to 4 CBPs                               | Discussion paper (PC)  |   | A review of the current state of play most relevant technologies. |
| 3.10                        | Primary research - using focus groups and interviews with value chain participants and CBP team members | Report on alternative IC technologies of relevance to value chains addressed by CBPs (PC)                | Based on the baseline survey a detailed analysis highlighted the opportunities presented by ICTs and some potential threats to adoption               |   |
| 3.11                        | Provide input to training workshops for CBP teams on use of ICT for enhancing value chains              | Action plans of CBP teams re pilot testing of ICTs by value chain participants and CBP team members (PC) | Presentation and discussion of the role that SMS and voice based technologies could play in CBP   |   |
| 3.12                        | Development and pilot testing of ICT for enhancing value chains of relevance to CBPs                    | Discussion paper on results of pilot testing (PC)  | Demonstrated proof of concepts for both FarmSMS and FarmPhone information systems.<br>Integrated UAF's Cyber extension model into the rollout program |   |
| 3.13                        | Provide input to CPW-D1 for CBP teams on use of ICT for enhancing value chains                          | Action plans of CBP teams for ICT use by their local stakeholders (PC)                                   | Developed model templates for CBPs to consider when translating extension information to ICT systems<br>Demonstrated the "Seeing is Believing" app    |   |

|      |  |  |  |  |
|------|--|--|--|--|
| 3.14 | Rollout of ICT technologies to local stakeholders and CBP teams  | Report on rollout (PC)   | Input into focal village workshops<br>Trial and tested SMS and IVR applications<br>Contributed to the planning and execution of the communication workshop in Bhurban.<br>Discussion undertaken around design principles relevant to cognitive load theory. Examined in particular the integration of text and graphics into extension material.   |  |
| 3.15 | Follow up R&D on ICT for enhancing value chains  | Discussion paper on follow up research and development (PC)                | Input into focal village workshops<br>Presentation by Mustafa Nangraj & Babar Shahbaz at Social Research Workshop Feb Bhurban<br>Presentation by Sohaib from Mobilink on the support to be provided by their company   |  |
| 3.16 | Provide input at CPW-D2 workshops on ICT rollout and on the follow up R&D  | Revised action plans for ICT for enhancing value chains (PC)               | Revised actions by CBP teams in using ICT for enhancing value chains<br>Working with Mobilink on the ICT.<br>Revised work plan developed following May 2014 trip<br>Establishing the Farmphone/ FarmSMS systems. In Sindh, Mustafa Nangraj will host one system. In Punjab, Dr Babar Shahbaz will host a system at University of Agriculture Faisalabad (UAF).<br>Development of CSC focus with a specific reference to ICT.<br>Complete and furnish Community Service Centres (CSC) in Dolat Leghari (Mango village), Chak 45GD (Dairy village), 83SB (Citrus village) & Vehari (Mango village)<br>CSC to connect with commodity teams around sharing (and producing) of resources.<br>Expand links with UAF's Cyber Extension project Zarai Baithak (zaraibaithak.com) |  |
| 3.17 | Follow up R&D on ICT for enhancing value chains:<br><br>1. FarmPhone<br>2. FarmSMS<br>3. YouthPhone<br>4. 3G internet connection | Final report on ICT for enhancing value chains relevant to the 4 CBPs (PC) | A comprehensive evaluation on these technologies is being undertaken as part of the CSC model.   |  |
| 3.18 | Write-up final report on ICT work  | Final report (A, PC)   |  |  |

PC = partner country, A = Australia

**Objective 4: To foster effective collaborative development in rural Pakistan**

| no. | activity  | outputs/<br>milestones                               | What has been achieved?  | comments  |
|-----|---|--|--|---|
| 4.1 | Background research on RD&E activities thus far of CBPs   | Discussion paper (A)                                 | <p>Field trip by John Spriggs (JS) and Sandra Heaney-Mustafa (SHM) to Pakistan to meet with PC partners and Pakistani members of the 4 Commodity-Based Projects (CBPs) to gain understanding of the nature of the RD&amp;E activities thus far of the four CBPs.</p> <p>Discussion paper on findings produced in form of trip report.</p> <p>Field trip by JS, SHM, Barbara Chambers (BC) and Rob Fitzgerald (RF) to Australian locations of the four CBPs (Dareton, Wagga, Gatton and Mareeba). Presentations were made to each group including an outline of our findings re the field trip to Pakistan.</p> <p>JS and SMH made a second field trip to Pakistan to firm up details for baseline survey and to discuss with key informants re the constraints to improving livelihoods. The findings are reported in the second discussion paper in form of trip report</p> |   |
| 4.2 | Background research on linking farmers to markets in dairy and citrus in relevant regions of Pakistan                 | Baseline survey                                      | The findings on the ways in which smallholder farmers link to markets (their characteristics and problems) are presented in the various reports on the baseline survey that are included in the Appendices   | The baseline survey contained a number of questions concerning the ways in which smallholder farmers in the ASLP2 districts link to the markets |
| 4.3 | Training workshops for CBP teams (on ORCD methodology, engaging marginalized groups, linking farmers to markets, ICT) | Informed decision-making re development actions (PC) | <p>RF put on an ICT training workshop in association with ASLP2 workshop</p> <p>BC and JS gave a presentation on the ORCD methodology at the Inception Workshop in Brisbane.</p> <p>BC gave an overview of the methodology to the CPW in Canberra</p>  |   |

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|-----|---|--|---|--|
| 4.4 | Provide support to CBP teams re mapping research in preparation for CPW-D1  | Discussion papers for CPW-D1 (A, PC)   | JS made a third visit to Pakistan to discuss results of baseline survey<br>JS made presentation at Collaborative Planning Workshop (CPW), Canberra on findings in baseline survey re improving livelihoods (income generation).   |  |
| 4.5 | Conduct village workshops (CPW-D1) and collecting other information in 6 selected focal villages (two each for mango, dairy and citrus) | Action plans for collaborative development in each village relevant to CBPs (PC)                                   | As a result of the mapping research (primarily the baseline survey), meetings were held with the CBP (commodity-based project) teams in Pakistan and Australia to select focal villages as locations for integrated research work. Three initial villages were selected for integrated development process.<br><br>BC and JS provided training in the methodology to the Pakistan members of the SRP team. BC and JS then led village workshops in the 3 focal villages leading to implementation plans which were determined in consultation with the CBP teams<br><br>The Pakistan members of SRP team then conducted the same process on the second set of 3 focal villages. |  |
| 4.6 | Provide support to CBPs and local stakeholders in implementing action plans in the focal villages                                       | Report on support provided at Social Project workshop in Pakistan (PC)   | Detailed implementation plans were put into action for each focal village and led by Pakistan members of the SRP team.  |  |
| 4.7 | Follow up collaborative development in the 6 focal villages   | Monthly progress reports on implementation by Pakistan Social Research Project (SRP) teams<br><br>Follow up survey | The Pakistan SRP teams have led the implementation process in each of the focal villages.<br><br>Follow-up survey in the first 3 focal villages   | Results from the follow up survey are compared with those for the baseline survey in the 3 focal villages. The survey reveals significant evidence of rural development that can be directly attributed to the social research project |
| 4.8 | Extension of collaborative development work in 3 of the focal villages to catchment area around the focal village                       | Discussion paper on extension of work in focal village to surrounding catchment area (PC)                          | Pakistan SRP teams have provided PowerPoint presentations to the Reference Committee on ASLP2 in Islamabad in March 2015.<br><br>JS and BC have written a critique on the ASLP methodology of integrative research and development including the use of focal villages  |  |

PC = partner country, A = Australia

**Objective 5: To Engage Rural Youth**

| no. | activity   | outputs/<br>milestones   | What has been achieved?   | comments  |
|-----|--|--|---|---|
| 5.1 | Assist establishment of youth groups in our focal villages (with involvement of Voice of a New Generation) | Formation of child clubs and Voice of New Generation (VNG) clubs in each focal village<br>Discussion paper (A)   | Conducted focussed discussion with youth of both genders in the three PC villages for inclusion in proposed activities in coming months<br><br>Identified key issues for young people as well as opportunities to work with them in future<br><br>Demographic data collected on youth in focal villages<br>Key Note Paper presented at APAARI Youth in Agriculture Conference November 2013 Islamabad<br>Data shared with VNG and APAARI. | VNG did not commence work in villages as funding prevents them from travelling. As indicated below in respect of Youth Camp youth groups have been formed at village level.<br><br>Recraft conference paper for publication in progress   |
| 5.2 | Train young men and women in skilled jobs within each of our commodity industries                          | Youth obtain income-generating skills of relevance to our ASLP2 commodities<br><br>Evaluation of the program (A) | Male youth in citrus and mango villages have been trained in varying commodity skills throughout the season e.g. pruning, spraying, harvesting. Kits for pruning were supplied and stored between use at the CSC<br><br>Female youth have been trained in value addition to dairy in cheese and ice-cream making<br><br>Also in mango and citrus value addition with making jams, juices and pickles etc.                                 | Income generation has not yet been achieved.<br><br>CSC could become skill training hub for surrounding villages with youth being trained in facilitation to enhance learning of other young people<br><br>Secure better access to markets for value added products<br><br>Females are generating a modest income from these activities as they have established village level markets. |



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| 5.3 | Sponsor 20 young people from each focal village to attend relevant sites (including UAF and SAU) for training in use of computers and also to develop English skills | <p>Young people learn about use of computers and English language</p> <p>Evaluation of the program (A)</p>              | <p>In 3 focal villages the CSC have been provided with computers and internet access.</p> <p>Both male and female youth are being trained at the CSCs in computer use from basic word processing to excel use and software installation.</p> <p>Trainers have come from nearby towns or villages and volunteer their time to do the training.</p> <p>In Chak 83SB one young woman is being trained to be the next trainer.</p> <p>English lessons are being conducted for both female and male youth</p>  | <p>Young people are now able to access latest information in either Urdu or English re the 4CPB and share this with their families and other farmers who may be illiterate.</p> <p>It has also assisted youth with their school work and so they feel their education is improving.</p> <p>With time more young people could be trained to be trainers for ICT skills</p> <p>CSCs could become a hub for other villages nearby for youth to get similar skill development</p> |
| 5.4 | Skill training for young women in sewing and handicrafts by engaging SOFT (Society of Facilitators and Training)   | <p>Young women obtain income-earning opportunities relevant to their situation</p> <p>Evaluation of the program (A)</p> | <p>Competent trainers for these skills were found in the focal or nearby villages and they again volunteered their time to instruct the young women and girls.</p> <p>Sewing machines have been provided and classes run on a daily basis.</p> <p>In all focal villages women are making garments for their own use (saving 200 PKR per outfit tailoring costs). In at least one village Chak 83SB young women are now doing tailoring for other women (at 180PKR per garment 20PKR cheaper than the town tailor)</p> <p>Of this 180 PKR they keep 90 for themselves and give 90 to the CSC maintenance fund.</p> | <p>Need to secure markets outside of villages for products</p>  |

|     |   |   |  |   |
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| 5.5 | Innovative Futures: Rural Youth Camp      | <p>Conduct this youth camp in Islamabad to encourage and facilitate the learning of ICT skills by youth from our focal villages</p> <p>Discussion paper (A)</p> | <p>Camp was held at NARC Social Science Research Institute Inspire Centre for young people of both genders from 6 villages</p> <p>Young people were able to tour research facilities at NARC related to their village key commodity and other commodities</p> <p>Youth were exposed to a variety of career opportunities in agriculture other than farm labour</p> <p>Youth were able to take back information re dairy, mango and citrus to their villages and share with families and other farmers</p> <p>Young people learned how to make short video clips on various aspects of commodity production and value chain using mobile phone technologies</p> <p>Youth were able to tour their capital city and visit key attractions which enhanced their national pride.</p> <p>As young people came from 3 provinces Sindh, KP and Punjab they were able to share a cultural exchange and realise that they are all Pakistani.</p> <p>Commodity information was shared back in the village.</p> <p>Feedback in the 2 weeks after the camp were that young people of both genders had:</p> <ul style="list-style-type: none"> <li>- Increased confidence</li> <li>- Ability to speak to families and other farmers re commodity production</li> </ul> <p>Females commented that they were able to tell their families and other villagers that it is safe for them to go out of the village for education as there are hostels for girls only and they are respected by the young men</p> | <p>Discussion paper and other publications in progress.</p> <p>We have encouraged the young women and men to write their own stories for publication – to be followed up in AVCCR 2016</p> <p>.</p> <p>Dissemination of the model should be encouraged to others in the village and other villages as a safe and secure way for their young people to be exposed to ways to remain in agriculture in their village in “meaningful employment” rather than “useless toil”.</p> <p>Published article (in Appendix 11.8) <i>Training program for the children on Farming Households</i><br/>By Sadaqat Sheikhana<br/>Published in Daily Nawa-e-Waqt on 4 April 2015</p> <p>-</p> |
| 5.6 | Write-up final report on Youth Initiative | Final report (A, PC)  |  |   |

PC = partner country, A = Australia

## 7 Key results and discussion

The key results of the Project were:

1. Rich data set - the Baseline survey. This survey provided a rich data set to enable us to begin the process of participatory development. The survey was conducted by the Social Research Team on 751 smallholder households randomly selected in the districts of Punjab, KPK and Sindh where the ASLP commodity-based projects were operating. They included 255 households in citrus districts, 253 households in dairy districts and 243 households in mango districts. Both the head of household and spouse were interviewed separately. An overview of the results of this survey is provided in the following presentation made by John Spriggs at our first annual meeting/workshop. (**NOTE:** Double click the graphic below to view the presentation. Then press Esc to return to this Report.)



A detailed set of summary statistics from the baseline survey data is provided in Appendix 11.1. The summary is organized into 3 files: one for each of the citrus, dairy and mango subsets. The summary results of the baseline survey were presented at the first annual meeting (workshop) involving representatives of all the ASLP2 project teams from both Pakistan and Australia as well as the overall coordinators of the ASLP2 program, again from both Pakistan and Australia.

Capacity Inventories were conducted in all households included in the baseline survey. On analysis in every village for each skill listed on the inventory there was at least 1 person who had the required skill. Additionally for each skill there were at between 3 and 10 people who would like to acquire the skill. In every village there was at least one person who was willing to teach the required skill. Later in the project this was able to be built on as those willing to teach were able to do so at the CSC to those who wished to learn.

2. Infrastructure Development – the Focal villages and the Community Service Centres. Two fundamental decisions to emerge from this first annual meeting were:
  - (1) the decision to establish focal villages as sites for integrative research involving the commodity-based projects of ASLP2; and
  - (2) the decision to establish Community Service Centres (CSCs) within the focal villages.

Six focal villages were selected including two citrus villages, two dairy villages and two mango villages. The selection process followed was to first of all meet with each

commodity-based project team in turn to determine the districts where they were operating in Punjab and Sindh. (As it turned out, there were no overlaps between the various commodity projects in terms of the districts where they were operating.) We then made a preliminary selection of village clusters in collaboration with the commodity-based project teams. Thus, for example, clusters of citrus villages were selected within the districts where the citrus team was operating. We then selected focal villages within these village clusters, again in consultation with the commodity-based teams based on an assessment of their likelihood of success as sites of integrative research. None of the selected villages covered all of the commodities in the

For the six selected focal villages, it was decided to work in three phases. In the first phase, 3 focal villages would be selected and the activities here would be led by the Australian members of the Social Research Team with the Pakistan-based members assisting and learning. In the second phase, the Pakistan-based members would lead the process for the second set of 3 villages with the Australian team members in a mentoring role. In the third phase, the work in the first set of 3 focal villages would be extended to the village cluster, or more specifically, the catchment area of villages surrounding the focal village. The catchment area is defined as the area around the focal village which contained villages within a 1 hour walking distance.

Phase 1 villages:

- (1) Chak 83SB, Sargodha, Punjab – citrus village
- (2) Chak 45GD, Okara, Punjab – dairy village
- (3) Hot Khan Leghari, Mirpurkhas, Sindh – mango village

Phase 2 villages:

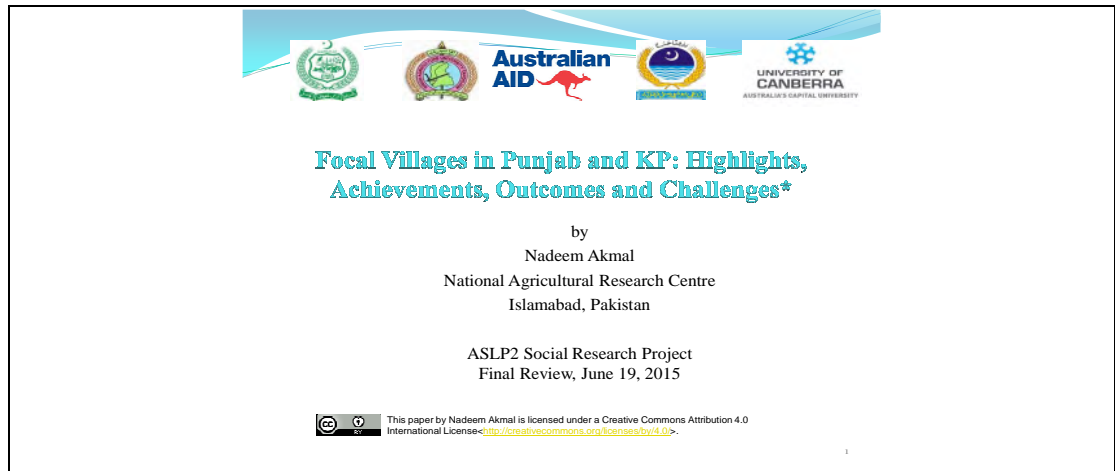
- (1) Tangi Khattak, Nowshera, KPK – citrus village
- (2) Haji Ahmed Soomro, Sindh – dairy village
- (3) Nawabpur, Multan, Punjab – mango village

For each village, a PAR process was followed beginning with an information gathering exercise. The main activities here included conducting the baseline survey on 30 households within the village and conducting a capacity audit. Based on this information we then held a village planning workshop. This workshop was critical in determining the needs and priorities of the village. While much of the focus of the workshop was on how to improve the ASLP2 commodity value chains, inevitably the needs and priorities expressed by the village members extended to issues beyond the scope of the ASLP2 commodity value chains. The holistic nature of life in the village meant that it was often difficult to separate out the issues. For example, in traditional villages young women can be quite restricted in the activities in which they are allowed to participate. They often cannot leave the home without a male relative. Thus while home-based sewing and beautician training may be familiar and acceptable in traditional households, training in community-based value adding or ICT training may not. We found a viable strategy for being able to provide training in less traditional activities was to first provide training in the more traditional activities as a way of building trust.

In each of the focal villages, one of the early initiatives was to build a Community Service Centre as there were generally no places within the village where training or computer facilities could be housed. This turned out to be a very important instrument for facilitating the various training activities. While, they have proved extremely useful for the trainings in the focal villages (either by ASLP2 project teams or other experts), they

are also starting to be used as hubs for training involving other villages in the catchment area around the focal village and they are also starting to be used by other development projects with no connection to ASLP2.

The key results of the work on infrastructure development are summarized in two recent presentations by two Pakistan-based members of Social Research Team. The first presentation is by Nadeem Akmal discussing the initiatives in Punjab and KPK while the second presentation is by Tehmina Mangan discussing the initiatives in Sindh.



We now turn to a discussion of the key results relating to each of the four objectives of the Social Research Project

- Objective 1: To engage the poor and marginalized groups that can potentially benefit from participating in the selected value chains of ASLP2. The 2010 external review of ASLP1 proposed that a new ASLP (ASLP2) should refocus its work to increase engagement with poor and marginalized groups. Hence a key objective of the Social Research Project was to encourage and facilitate this refocusing of ASLP2. The predominant sites for engagement with the poor and marginalized are the focal villages. The key results are summarized in two recent presentations by Sandra Heaney-Mustafa. They are:



4. Objective 2: to enhance collaboration across the commodity-based project teams of ASLP2. The 2010 external review of ASLP1 also proposed that a new ASLP (ASLP2) should seek greater collaboration among the commodity-based projects. This led to the second key objective of the Social Research Project. A recent presentation on this by Barbara Chambers appears below.



The presentation argues that the core process of the Social Research Project is collaboration, where collaboration is understood as a transformative process and hence is

more than cooperation which involves working with others but in a non-transformative way. As the paper argues: “to collaborate is to trust, to contribute to a shared enterprise, to fan the creative spark to light the action pathways whereby research becomes meaningful development.”

In an attempt to promote integrative research and development we held annual meetings where all commodity teams were invited. The idea of collaboration among the project teams emerged at our first annual meeting where a proposal to establish focal villages as sites of integrative work would take place. We found that collaboration worked better in the focal villages for shared activities involving mango value adding and dairy but less so in the citrus and mango production projects. While the idea for focal villages as sites of integrated work was useful, we believe much more could have been achieved. Individual commodity-based projects faced significant challenges in adopting an integrated approach including:

- i. Their success would hinge to some extent on the performance of other projects (i.e. actions beyond their control); and
- ii. The credit for any success may be a contested area.
- iii. The need to better recognise the new value that is being created by the various teams but especially the social research project (The SRP rendered invisible)
- iv. Production teams already had their sites selected (and their technologies) however the value chain team didn't have any domestic sites of intervention and were more flexible/responsive
- v. There were a few enablers in the commodity teams that became very important to the success of the integrated work of the project
- vi. Collaboration is very time intensive and requires substantial resources both in-country and Australia. The geographic distance between the commodity teams was a challenge both in Pakistan and Australia – and the limited engagement with digital technologies and e-meeting approaches

5. Objective 3: To assess and enhance information and communication modalities and technologies for collaboration and value chain enhancement. The work in this area provided support critical to the success of the work of objectives 1 and 2. The key results in this area were around the development of FarmPhone, FarmSMS and the use of video messaging by youth in the focal villages. Recent summaries of this work are provided in the three presentations below. The first, by Robert Fitzgerald is an overview of the ICT activities, lessons and directions. The second by Mustafa Nangraj deals with the key ICT results in Sindh, while the third presentation By Babar Shahbaz deals with the ICT results in Punjab.



6. Objective 4: To foster effective collaborative development in rural Pakistan. This was a second supporting objective for key objectives 1 and 2 that focused on how to implement objectives 1 and 2 in conjunction with objective 3. The key result of the work here was developing and implementing the idea of focal villages as sites of holistic rural development. This has already been discussed above under point 2 (Infrastructure Development). John Spriggs has recently analysed and given a presentation on this (place-based) approach to rural development comparing and contrasting it with the more traditional industry-based approach adopted in ASLP1. The presentation appears below.



The slide features a blue header with the title "Place-based and Industry-based Approaches to Rural Economic Development" in white. Below the title, the presenter's name and affiliation are listed: "John Spriggs, Co-Project Leader of ASLP2 Social Research Project in Pakistan", "Project Symposium, University of Canberra", and "Thursday June 18, 2015". The slide is framed by logos of the Australian Institute for Sustainable Communities, Australian Government Australian Centre for International Agricultural Research, Australian AID, and University of Canberra. A Creative Commons Attribution 4.0 International License logo is at the bottom left, and the "break through" logo is at the bottom right.

In the presentation, it is recognized that the focal villages' initiative is only the first step in a fully-fledged place-based approach to rural development. Another important component of this approach would be the development of a regional-level initiative that could provide a broader direction to the commodity-based projects, having sufficient leverage to ensure good direction. We plan to develop the ideas of this presentation into a research paper for publication.

## 8 Impacts

To obtain an evidence-based assessment of the impacts of the Social Research Project on target beneficiaries, we conducted an end line survey in the first 3 focal villages (Chak 83SB, Chak 45GD and Hot Khan Leghari) to compare their responses to certain questions with their responses in the baseline survey. Thus, the same 30 households in each of focal village were used in the end line survey as in the baseline survey. The end line survey was conducted in March 2015 while the baseline survey was conducted in early 2012. It was decided to restrict the assessment to just these 3 villages where work has been ongoing for around 2 years now. The other focal villages were not included in the assessment as it was felt there has not been sufficient time to record significant impacts. For each household, both the head of household and his spouse were interviewed separately. The graphic below indicates the villages where the impact assessment was carried out

### Location of villages for impact assessment



An overall assessment came from asking respondents in the end line survey the question: “To what extent has the Social Research Project addressed your needs?” This is an appropriate overall question because the basic methodological approach was to be participatory and hence responsive to the needs of the target beneficiaries as perceived by them.

**Table 8.1: End line survey responses to the question: “To what extent has the Social Research Project addressed your needs?”**

| According to...          | Not at all | Partially | Fully    | Mean | TOTAL RESPONSES |
|--------------------------|------------|-----------|----------|------|-----------------|
| Head of Household (male) | 0 (0%)     | 57 (63%)  | 33 (37%) | 2.37 | 90 (100%)       |
| Spouse (female)          | 1 (2%)     | 48 (56%)  | 38 (44%) | 2.42 | 87 (100%)       |

These results suggest that the target beneficiaries perceive that the Social Research Project has met their needs to a large extent. The remaining elements of the impact assessment from the end line survey are discussed under either Section 8.2 (Capacity Impacts) or 8.3 (Community Impacts) below.

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## 8.1 Scientific impacts – now and in 5 years

The most fundamental scientific impact of the Social Research Project is and will be in its contribution to the growing recognition that technological innovations by themselves are not enough. Technology exists within a social context and the two must go hand in hand if we are to achieve meaningful and sustainable development. The technology must be in response to a perceived need of target beneficiaries or it will not be adopted regardless of how important we as a research community deem it to be.

It is difficult to estimate the impact that the Social Research Project has had here as it is often the case that when technical projects learn the importance of this they will appropriate it and give credit to their own projects rather than to the Social Research Project. (This is a common phenomenon of this kind of work).

Thus, the main scientific impacts of the Social Research Project are expected to be in the methodology for collaborative development. The project focused on two types of collaboration: one involving collaboration with target beneficiaries in the focal villages and the other involving collaboration with and among the commodity-based projects of ASLP2. While there is no continuation of the Social Research Project in the new ACIAR program in Pakistan, we would argue the ideas for collaborative development (including those of participatory development and focal villages) have been absorbed by the new program.

One important learning from the work of the Social Research Team in facilitating collaboration with and among the (technical) commodity-based projects has been the difficulty in achieving collaboration. There are good reasons for this as discussed in the recent presentation by Barbara Chambers and John Spriggs (see previous Section). But it does make clear that a prerequisite for successful collaboration among a set of technical projects is the need for an overall coordinating project with leverage over the individual technical projects and a champion to make it work. These were not available to the Social Research Project, but we see the development of “umbrella projects” such as TADEP in PNG as responding to this learning and so this must also be considered a scientific impact. Incidentally, one of the co-chief investigators of the Social Research Project (Barbara Chambers) has been involved in the development of TADEP and has brought her experience in the Social Research Project to her work in TADEP.

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## 8.2 Capacity impacts – now and in 5 years

### Capacity Impacts on Researchers

Throughout the four years of the project, members of the Partner Country (PC) social research teams have been exposed to a variety of social science research methods for working with literate and low literacy communities. The Australian team members trained Pakistan team members in a number of new methods of conducting social sciences research including household surveys (Appendix 11.1), capacity inventories to help identify and build on village communities’ strengths and capacities (Appendix 11.2), focus groups (Appendix 11.3), Collaborative Problem Solving Methodology (CPSM) in the planning workshops (Appendix 11.5) and visual ethnography to help village communities prioritize their needs for change (Appendix 11.6). For more information on the use of visual ethnography in the Social Research Project see:

<http://aciarblog.blogspot.com.au/2013/07/a-pictures-worth-thousand-words-using.html>.

The general approach was for the Australian team members to lead the above activities and train the PC team members in the first set of 3 focal villages and then the PC team members took responsibility for undertaking these activities in the second set of 3 focal villages. Following this, they reported on the results both qualitative and quantitative to the Australian social research team and these data were then used to develop the PC action plans for the 6 focal villages.

Collaborative planning workshops were also conducted (both in Australia and Pakistan) to help foster collaboration with and among the commodity-based projects. These workshops were aimed at enhancing collaborative activities in the focal villages which are now underway.

The place-based methodology for research and development through the establishment of Community Service Centres has been adopted by the commodity-based teams during ASLP2 and is being utilised in the next phase of the project (AVCCR) and taken up by other Institutions and organisations. A USAID Funded project with four Pakistani and three United States Universities will undertake collaborative research under the project of Centre for Advanced Studies' (CAS) to harness applied research to find innovative solutions in water, agriculture and energy challenges for Pakistan. They are following ASLP-2 Social research Team methodology for development of their outreach project. They have planned 5 community centres in different areas of Faisalabad. It is a four year project. One of the partner universities is UAF. The purpose of their centre is to improve agriculture and farmers trainings.

A second initiative utilising our place-based methodology involves the Social Research Team at UAF working with the Centre for Women's Entrepreneurship (CEW) Pakistan. The initiative is to educate and create economic opportunities for women. They have visited Chak 45GD, Okara CSC and will follow this concept to develop 8 more community centres in different cities of Punjab. It is anticipated in 5 years this model will be utilised widely in the PC and other countries.

Two members of the PC Social Research Team have been awarded John Allwright Fellowships to study for their PhD at the University of Canberra. Ms. Sajida Taj commenced her studies in January 2015 on the topic: "A Holistic Approach to Value Chain Development and Rural Livelihood Improvement in Rural Pakistan." Mr. Nadeem Akmal is planning to start his studies in 2016 on the topic: "Impact of ICT-based agricultural extension on farm productivity and household welfare in Pakistan." One other Pakistani, Zahira Batool was awarded an Endeavour Scholarship and she was hosted by the Social Research Team at the University of Canberra to undertake work related to the Social Research Project.

#### Capacity Impacts on Target Beneficiary Groups in Pakistan

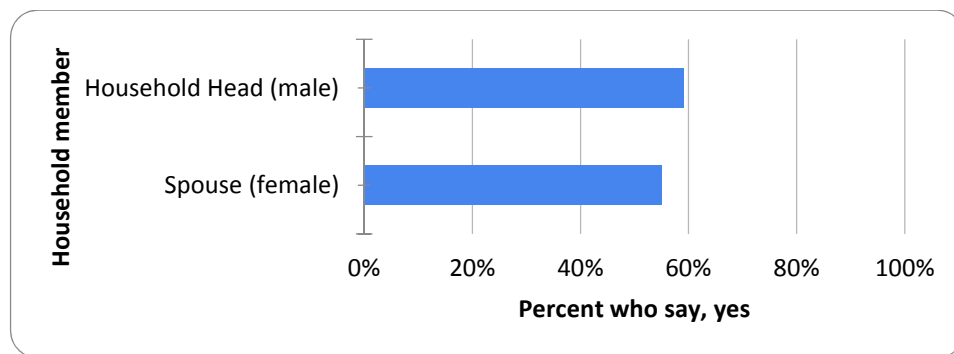
Community Service Centres (CSCs) have been established in the 6 focal villages. These serve as capacity-building hubs for target beneficiary groups focusing on:

- development activities;
- training activities for men, women and youth;
- training by partner country commodity based teams; and
- other service groups such as health workers, NGOs.

The range of activities is described in the presentations by Nadeem Akmal and Tehmina Mangan on page 29 of this report. The skills’ training at the CSCs has had capacity impacts on target beneficiary groups in several ways. Some of the respondents to the end line survey commented:

- *our children are spending their time in positive activities we feel that our families have become more productive*
- *Social Research project gave skill trainings to my wife , now she is earning from vegetable nursery and I am working on farms*
- *I (female) received training for pickle making & sewing, now I am stitching clothes*
- *I received KG (kitchen garden) training, now I am growing vegetables in my home*

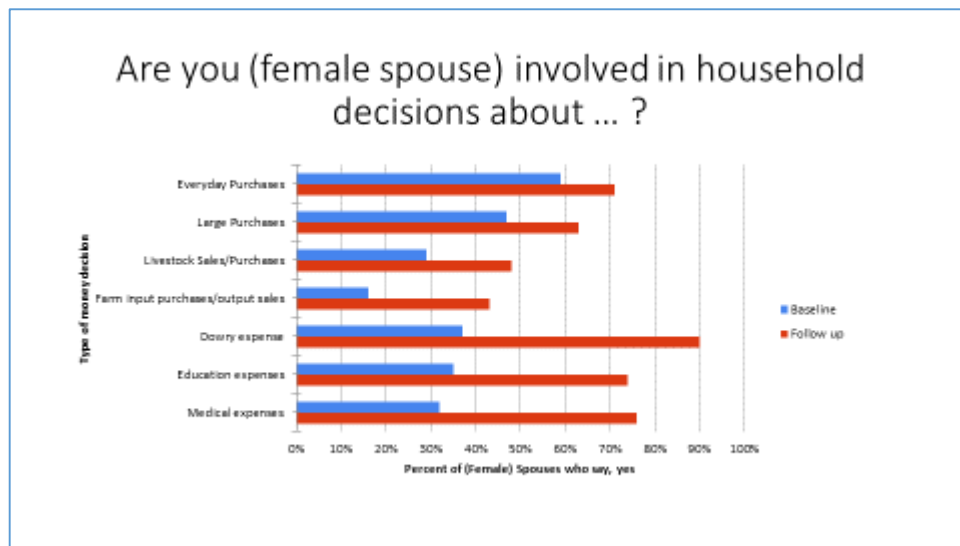
Figure 8.1 summarized the responses of males and females in the end line survey (of the first 3 focal villages) to the effect impact training have had on their knowledge and skills and ability to earn more income.



**Figure 8.1: Percentage of villagers who thought training had improved their knowledge and skills to earn more income**

The CSCs have become hubs for female entrepreneurship as well as places of training and learning. CSCs have also served as hubs to roll out activities from focal villages to 4 to 5 surrounding villages.

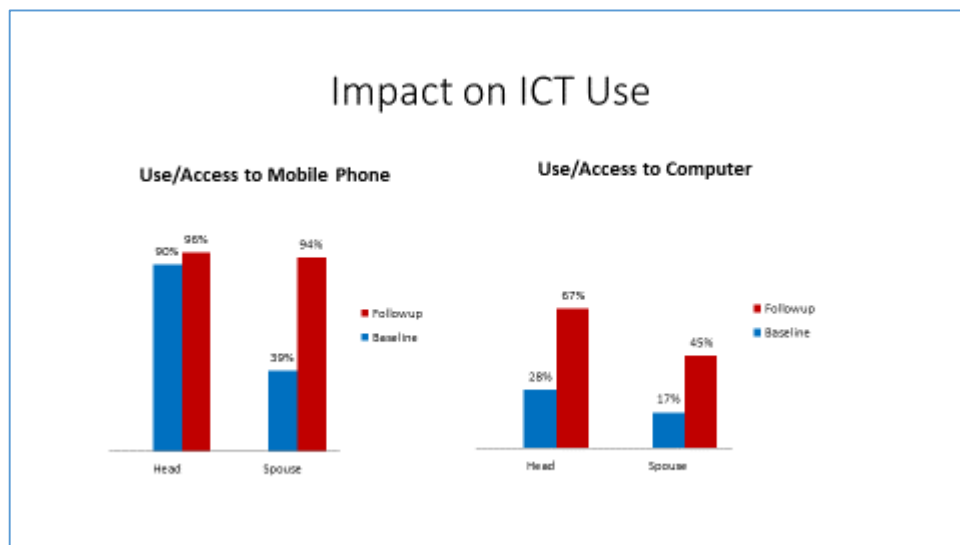
The end line survey indicates that the impact of the project on females (as a disadvantaged group) has been substantial. One of the key measures of women’s empowerment is the extent to which they are involved in household money decisions. Figure 8.2 below shows a comparison (in the first 3 focal villages) between the baseline survey and the end line survey of the extent to which the (female) spouses are involved in various types of decision-making around the use of money.



**Figure 8.2: Comparison of the Involvement of (female) spouses in household decision-making between the baseline survey and the end line survey**

As may be seen, at the end of the project, females are more involved in decision-making with respect to all the types of household expenses, but particularly for large occasional expense (e.g. dowry, education and medical expenses).

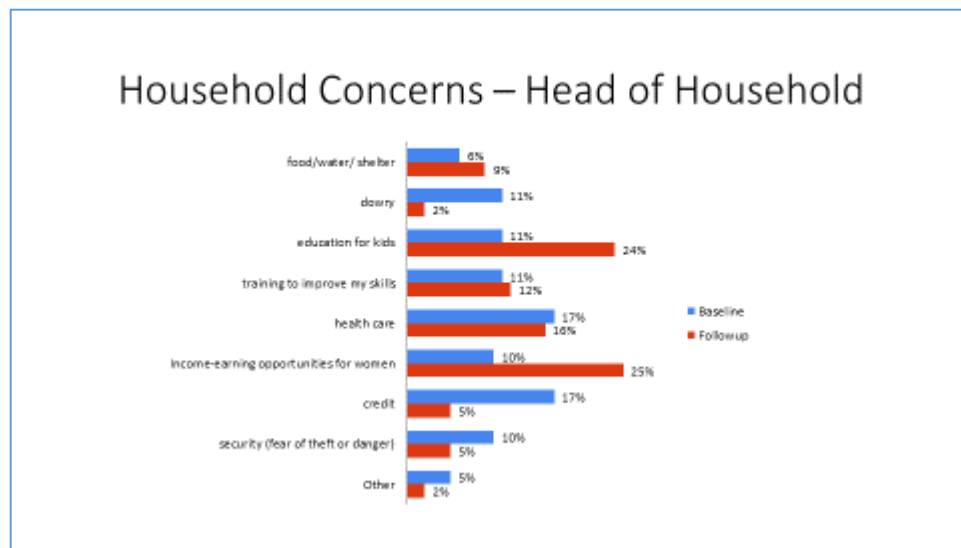
Females have also been greatly impacted by the ICT initiative of the Social Research Project as may be seen by the change in use of mobile phones and computer (see Figure 8.3).



**Figure 8.3: Comparison of the use of mobile phones and computers between the baseline survey and the end line survey**

While (male) head of household use of mobile phones was already very high at the start of the Social Research Project (90 percent), (female) spouse use was relatively low (39 percent). However, by the end of the Project, female use of mobile phones had almost caught up to that of males. In the case of computer use, both male and female use was quite low at the start of the project but had more than doubled by the end of the project.

Another interesting impact has been on the household concerns of (male) heads of household. Following the Social Research Project, it appears they have a much stronger focus on education of children and on income-earning opportunities for women as shown in Figure 8.4 below.



**Figure 8.4: Comparison of household concerns of Heads of Household between the baseline survey and the end line survey**

Young people from the various focal villages were selected to participate in the **Innovative Futures Rural Youth Camp** (see agenda at Appendix 11.10). This youth camp was organized and run by the Social Research Team and held in Islamabad to introduce young people from the focal villages to a number of new technologies both directly related to ASLP2 and also more broadly (e.g. on ICT). It appears to have had a profound impact on most of the 48 young people who attended. For many it was the first time out of their village and for all it was the first time to be exposed to activities at the National Agriculture Research Centre (NARC). This exposure awakened in them the realisation that there are many viable career options for them in agriculture which can be of benefit to their villages as well as provide them with meaningful employment. Following the youth camp, we visited them in their villages where they were invited to talk about their experiences. Some of their comments are as follows:

- *Our families are happy now they know it is safe for our young people to go to such things and families who would not let their daughters go are now willing to let them go and also to go outside the village for education*
- *Now we are a TEAM - we are part of ASLP and can work with others in the village*
- *Now we can discuss with the men and boys about livestock and feeding from what we learned at our NARC visit*
- *I (young woman) help my father with the cattle and the crops. I do all the dairy work collecting fodder, watering the cattle. I have learned new methods to make my work easier and my father has agreed to let me try them out.*

### 8.3 Community impacts – now and in 5 years

For the Social Research Project there are two types of community: (1) the community of researchers from the various commodity-based projects; and (2) the communities of the focal villages. With regard to the community of researchers, the four years of the project and more

particularly this final reporting period has seen a growth in trust and confidence between the Pakistan Social Research Project team and the Pakistan commodity-based project teams. This was partly attributable to the combined collaborative training workshops conducted by the social teams in villages and partner institutions and the strengthened linkages between social research coordinators and commodity coordinators in particular regions. As mentioned earlier, the place-based methodology for research and development through the establishment of Community Service Centres has been adopted by the commodity-based teams during ASLP2 and is being utilised in the next phase of the project (AVCCR)

With regard to the communities of the focal villages, a key development was that of the Community Service Centres. In the end line survey, we asked respondents: “how useful is the Community Service Centre?” The responses are summarized in Table 8.2 below.

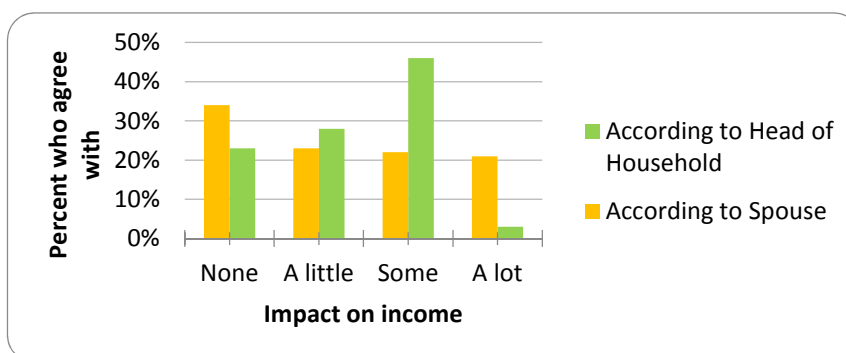
**Table 8.2: End line survey responses to the question: “How useful is the Community Service Centre?”**

| According to...          | Not at all | Somewhat | Very     | Mean | TOTAL RESPONSES |
|--------------------------|------------|----------|----------|------|-----------------|
| Head of Household (male) | 0 (0%)     | 31 (34%) | 59 (66%) | 2.66 | 90 (100%)       |
| Spouse (female)          | 0 (0%)     | 23 (26%) | 64 (74%) | 2.74 | 87 (100%)       |

As may be seen, the respondents were very positive about the usefulness of the Community Service Centres.

### 8.3.1 Economic impacts

Activities for income generation were commenced in the last 2 years of the project in the first 3 focal villages (and only within the last 6-9 months in the next 3 focal villages.) Thus, considering the first 3 focal villages, respondents in the end line survey were asked: “what difference has ASLP2 made to your income?” The perception of the respondents is summarized in Figure 8.5 below.



**Figure 8.5: Villagers perception of impact of ASLP2 on income**

Of course, not all of these impacts can be attributed just to the Social Research Project. Rather these impacts are the result of a collaborative effort between the Social Research Project and the commodity-based projects. However, none of these villages had been previously included as work sites by the commodity-based projects. Hence, we can safely say that without the Social Research Project, none of these villages would have benefited from ASLP2.

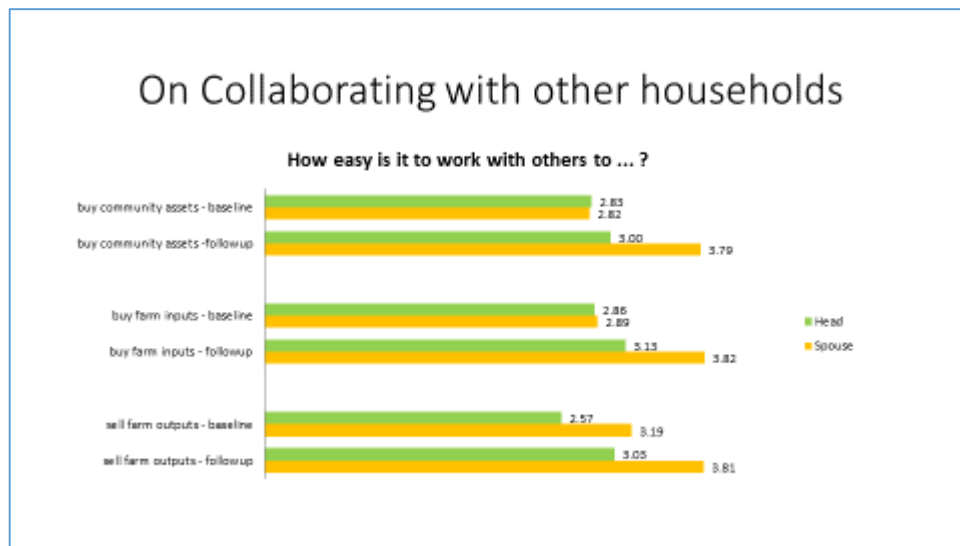


### 8.3.2 Social impacts

Construction of the **Community Service Centres (CSC)** in each of the focal villages has enabled villagers to have a common meeting place. Apart from skills training, value addition activities (particularly for females) and meeting with outside experts (e.g. health educators and financial advisors), the CSCs also are forums for social activities involving collaboration with other households (i.e. bridging).

Bridging is an important way to achieve economic outcomes that are often not possible if working individually or within the individual family/clan. For example, buying inputs collectively or joint selling of outputs. Unfortunately, bridging activities are often very difficult to achieve in low trust societies like Pakistan.

In the baseline and end line surveys, we asked respondents about their attitude to collaboration with other households. We asked: “How easy is it work with others to ...?” The responses are summarized in Figure 8.6 below.



**Figure 8.6: Villagers’ perception of the ease of collaboration with other households**

It is clear that, for all three types of economic collaboration considered (buying community assets, buying farm inputs together and selling farm outputs together), the attitude to collaboration is stronger at the end of the Social Research Project than it was at the start of the project. What is interesting is that this improvement in attitude to collaboration is stronger in the (female) spouses than in the (male) heads of household.

### 8.3.3 Environmental impacts

While little in the way of actual environmental impacts can be demonstrated there has been a constant request for bio-gas to be made available in the villages. This was particularly so in Chak 45GD, Okara where women asked at every meeting when it would be available. From discussion with project partners at UAF it seems the money has been made available to universities to train

and support villagers in the use of bio-gas but to date the funding for assistance of villagers to install the plants has not been forthcoming from the Government of Pakistan.

At the **Innovative Futures Rural Youth camp**, one of the highlights according to participants was the tour of the Bio-remediation site at NARC. Young people asked numerous questions as to how it works, how to install a system and where to obtain the plants for the ponds. On return to the villages after the camp the young people in particular the females spoke to the elders in the village about being able to establish such sites in their village as waste water is a huge problem for them and causes disease among the children.

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## 8.4 Communication and dissemination activities

There were six broad categories of communication and dissemination activities as discussed below:

1. *Digital Social Networking for ASLP2:*
  - a. ALSP2 Social Ecology – Information architecture of the proposed ASLP2 social ecology 16 March 2011
  - b. CO-LAB – an early attempt by the Social Research Team to introduce social networking to ASLP2. This was a dedicated, interactive website for ASLP2. While technically successfully, it did not gain sufficient traction with the various project teams of ASLP2 to be considered useful.
  - c. Hence we turned to Facebook which has been successful in engaging with project and program team members. There is a dedicated 'Aslp2 Social Project' page, where useful information and practices are posted from all commodity teams, partners in Pakistan and Australia together with relevant socio-cultural material, especially on gender from CGIAR and IFPRI. In addition, people post social information on News Feed that enables better understanding and insights into daily life affecting researchers and farmers. It is proposed that this page be continued.
  
2. *Formal Interactions with the Commodity-based Projects:*
  - a. Two major workshops were held by the Social Research Project involving the various commodity-based projects:
    - i. *Linkages for Livelihoods*, Canberra, April 2012 – for disseminating information to the commodity-based projects on the results of the baseline survey, for explaining our methodology and with the aim of enhancing collaboration among the various projects
    - ii. *More for Less - Linkages to Enhance Livelihoods*, Bhurban, February 2014 – to reflect on the lessons learnt from the integrative work in the focal villages, the results of the collaboration initiatives with the commodity-based projects, and a discussion of where to next.
  - b. Presentations at ASLP2 Annual Meetings. One of the challenges of a large multi-project program such as ASLP2 is making opportunities for providing and exchanging information, as well as inter-disciplinary perspectives. With geographically scattered teams in Australia and Pakistan, it was difficult to find meaningful ways to communicate and collaborate on research. Apart from the Social Research Project workshops, the only way that everyone got an opportunity to share research practices, issues and outcomes was the ASLP2 Annual Meeting. The Social Research Project gave progress reports at these meetings. However, these annual meetings tended to be basically instructive rather than interactive, so there was little opportunity at these venues for the commodity teams to instruct the social team, or indeed each other.
  - c. Site visits. These were used to provide for the type of interaction that was not possible at the annual ASLP2 meetings. These were annual visits to each commodity site where follow-up discussions based on previous workshops were held and actions proposed for the field were fine-tuned prior to implementation.

- d. Symposium – The Social Research Project organized and funded a Symposium on 18 June 2015 prior to the Final Project Review the next day. The invited audience included the Pakistan High Commissioner, ACIAR senior staff, the Deputy Vice Chancellor (Research), the Deputy Vice Chancellor (Global), the Dean of the ESTeM Faculty, senior commodity and social researchers from Pakistan and Australia and co-researchers in the Australian Institute for Sustainable Communities (AISC). Apart from sharing research outcomes and recommendations for future research in Pakistan, the audience was asked to give critical feedback to each presenter with a view to publication of their research. It was the first time the University of Canberra (UC) had put on such a research symposium and the feedback was very positive. Subsequently, there have been more research symposia at UC and the AISC plans another later in the year.

### 3. Publications:

- a. John Spriggs, Barbara Chambers, Sandra Heaney-Mustafa, Nadeem Akmal, Sajida Taj, Tehmina Mangan, Izhar A. Khan and Shubhra Roy (2015). *Women's Empowerment and Economic Collaboration in Rural Pakistan*. Paper under review, Journal of International Development.
- b. Barbara Chambers, John Spriggs, Sandra Heaney-Mustafa and Robert Fitzgerald (2015). *Identifying and Interpreting Participatory Impact Pathways of Social Development Research*. Paper under review, Journal of International Development.
- c. RN Fitzgerald, Jaume Nualart, John Spriggs, Barbara Chambers and Sandra Heaney-Mustafa (In preparation). An evaluation of the Community Service Centre Model in Rural Pakistan. Information Technology & People.
- d. RN Fitzgerald et al (In preparation). A multimodal approach to rural information exchange using IVR and SMS. Information Technology & People.
- e. Sajida Taj, Sandra Heaney-Mustafa, Nadeem Akmal and Barbara Chambers (In preparation). *Dynamics of Youth Engagement in Citrus Value Chain Development in Rural Pakistan* for publication in New Direction in Youth Development.
- f. Sandra Heaney-Mustafa, Barbara Chambers, Sajida Taj and John Spriggs (In preparation). *Women and Value Chains in Pakistan* for publication in Journal of Agricultural Education and Extension
- g. Sandra Heaney-Mustafa, Sajida Taj, Barbara Chambers and John Spriggs (In preparation). *Now We Don't Vote Like Our Husbands* for publication in International Journal of Gender Studies in Developing Societies

### 4. Conference Papers:

- a. John Spriggs, Barbara Chambers and Sandra Heaney-Mustafa (2012). *Collaborative Development (CD) in Rural Pakistan*. Presentation at the conference on **The Challenges for Participatory Development in Contemporary Development Practice**, Australian National University, 28-29 November.
- b. Mustafa Nangraj (2014). *Developing ICT options for the effective dissemination of information to farmers in Sindh Pakistan*. Presentation at the 9<sup>th</sup> Conference

of the **Asian Federation for Information Technology in Agriculture**, Edith Cowan University, Perth, Western Australia, 29 September – 2 October.

5. *Contributions to the Broader mandate of ACIAR resulting from the Project:*

- a. One-day course given by John Spriggs and Barbara Chambers on the use of our approach to Participatory Action Research at the ACIAR-funded workshop on ***Pro-poor Market Development in Rural Areas methodology***, University of Queensland, 26 November 2012.
- b. Seminar on Visual Ethnography – In July 2013, Barbara Chambers gave a seminar to ACIAR staff about the technique of using visual ethnographic techniques to illuminate stakeholder engagement with specific value chains (mango, citrus, dairy). Pictures promote discussion in small groups amongst low literacy communities particularly in cases where there is no common language and only a couple of interpreters are needed. For more information on this technique, see <http://aciarblog.blogspot.com.au/2013/07/a-pictures-worth-thousand-words-using.html>.
- c. Presentations by Prof Robert Fitzgerald on ICT4D (ICT for Development) and Instructional Design Principles at the Bhurban Communication Workshop, Bhurban, Pakistan, 29 September 2013.
- d. Presentation by Sandra Heaney-Mustafa at ACIAR in 2013 for the delegation visit by the National Institute of Management (Lahore) to Canberra, on the Social Research Project. The Deputy High Commissioner for Pakistan attended and invited the team to meet with the High Commissioner to discuss the possibilities of a roll out of the focal village model to other villages in Pakistan.
- e. As a result of work in Pakistan (and PNG), in May 2014 Barbara Chambers was contracted by ACIAR to assist with their submission on the *Inquiry into the Human rights issues confronting women and girls in the Indian Ocean – Asia Pacific region*, House of Representatives Joint Standing Committee of the Department of Foreign Affairs and Trade (DFAT). In June 2014, she was contracted to write with Dr Mellissa Wood and Dr John Dixon and an in-house working paper on *Women and Girls in Agriculture* as part of an internal review of Gender and Agriculture guidelines for ACIAR project submissions, implementation, monitoring and review. In addition, she also worked with Dr Karen Williams and Dr Robert Edis on a *Gender Strategy for the Burma (Myanmar) Research Program*.
- f. Skype Presentation by Robert Fitzgerald on ICT4D (ICT for Development) to ACIAR conference in Brisbane, 13 August 2014
- g. Presentation by Robert Fitzgerald on the role of ICTs in a new ACIAR project on cropping in Bangladesh, 25 September 2014

6. *Other contributions resulting from the Project to the broader academic community:*

- a. Sandra Heaney-Mustafa and Robert Fitzgerald were invited to share their work on the Social Research Project in Pakistan with youth at a Symposium at the University of Canberra in May 2014 as well as to speak about the role of sport in international development.
- b. Sandra Heaney-Mustafa has done several guest lectures at the University of Canberra on the research methodology and activities of the Social Research

Project and uses it as an example in the Community education Project Units offered in the Bachelor of Social and Community Studies. So this research methodology is reaching the next generation of community development workers.

- c. Barbara Chambers and John Spriggs gave a three hour lecture/workshop for a post-graduate unit on International Sustainable Communities on Organic Research and Collaborative Development in Pakistan

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## 9 Conclusions and recommendations

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### 9.1 Conclusions

1. The end line survey of target beneficiary households suggests that the Social Research Project met the needs of both the (male) head of household and his spouse to a very significant extent. Respondents were asked: To what extent has the Social Research Project addressed your needs? Assigning values of:
  - 1 = Not at all,
  - 2 = Partially, and
  - 3 = Fully,the mean response for (male) heads of household was a very positive 2.66 while for (female) spouses it was 2.74. This, in turn, suggests that our approach to the use of Participatory Action Research (PAR) involving the use of CPSM (collaborative problem solving methodology) and a two-pronged action research cycle process has been broadly successful in being responsive to the development needs as perceived by the target beneficiary groups. Being demand-responsive is the best way to ensure that program innovations are sustainable beyond the end of the program.
2. Application of our PAR methodology resulted in general agreement among the commodity-based projects on the use of focal *villages* as sites for integrative research and, within those villages, on the development of *Community Service Centres* (CSCs) as meeting places for training and other development activities. These two innovations were implemented by the Social Research Project and proved to be fundamentally important to the achievement of the project's objectives. We kept records on the use of the CSCs for the first eight months of 2015 and found that during this time the CSCs generated nearly 560 workshop activity hours across 185 unique workshop activity sessions for 3269 villagers. These activities addressed 363 specific learning outcome distributed across three categories of attitudes (83), skills (111) and knowledge (167). In less than one year the CSC have been shown to be a rich and productive social initiative.
3. A key objective of the project was to engage the *poor and marginalized* so they can benefit more from ASLP2. Two groups of people that are highly represented here are *women* and *youth*. Hence, special attention was paid to these two groups in the work in the focal villages. With regard to the women it was important to respect the cultural and traditional practices including the segregation of women from men. The CSCs played a particularly important role as a safe place for women to meet and learn. From a comparison of the baseline and end line surveys, it is apparent that by the end of the Social Research Project women were more confident and empowered as demonstrated by their increased involvement in household decision making, increased use and ownership of mobile phones and greater willingness to work collaboratively with other women in the village.
4. Women were keen to learn to earn, but were often faced with cultural and knowledge constraints on participation in training programs. For many women, their lack of knowledge of what was possible, meant there was a strong tendency for them to request

training in traditional skills (e.g. sewing, embroidery and beautician) that could be done in the home. This tendency was exacerbated by cultural restrictions, particularly on young women, which limited their ability to leave the home without a male chaperon to undertake non-traditional training (e.g. value adding to ASLP commodities using community-owned facilities, computing, or English language training). We found that providing traditional training first was a good strategy. It allowed trust to build between the research team and the households so that less traditional types of training could then be pursued at a later stage. When women were exposed to such training, many embraced the idea and some went on to develop small enterprises such as in seedling raising, cheese production and ice cream production for sale.

5. The male head of household plays a very dominant role in household decision-making and hence has an important voice in whether and what type of training can be undertaken by the women. Following on from the previous point, it was interesting that at the start of the Social Research Project (according to the baseline survey), heads of household did not rate employment opportunities for women as an important household concern. However, by the end of the project (according to the end line survey), they had changed their attitude considerably and rated employment opportunities for women as very important for the household.
6. One of the key contributors to development is the ability of individual households to work with others outside the household. This may be in economic initiatives (e.g. joint marketing of outputs, joint purchase of inputs, purchase of community assets like a fodder cutter) or in social initiatives (e.g. organizing a village festival). Our baseline survey conducted with 750 low income households found that women had a much more positive attitude to collaboration with other households than men. Hence, if projects are interested in pursuing joint activities as part of their development plan, a strategy of involving women may be a key to success.
7. Youth are the great untapped resource in the village. Most young people want a meaningful role in the village but there do not appear to be any opportunities for them. However, the youth camp opened their eyes to new ideas and technologies and many went back to their villages with new knowledge they had gained on ASLP2 commodities. Following the youth camp, young women and men reported being listened to by their fathers and brothers about the various commodities and that some men had allowed them to put new ideas into practice. The young people also learned about other ideas such as bioremediation and were interested in seeing how they could bring it to their villages to deal with waste water. The youth camp was an important and successful initiative and would be worthwhile replicating in the future for other villages and other topics. However, to make this possible it is important to assure the safety and security of the youth (particularly young women) who need to leave the village to attend such events. This was an important issue that challenged the organizers of the youth camp organized by the Social Research Project.
8. With regard to the ICT initiative, the project found that the *mobile phone* continues to be the device of choice in Pakistan. Further, there was evidence that women's access and use of mobile phones increased significantly over the project duration and is now at a similar



level to men's use & access. The provision of mobile phones services such as Farmphone, that enabled information services to be customised to the target audience, helped demonstrate a strong value proposition for women to demand access to, and use mobile information services.

9. In the case of *computer use*, both male and female use was quite low at the start of the project but increased over two-fold for both men and women. It is our contention that change can be attributed largely to the impact of the Community Service Centres and the provision of a community computer with access to the internet and support.
10. The interactive voice recording system, *Farmphone* and text messaging platform, *FarmSMS*, helped support a multimodal approach to the application of ICTs to support rural stakeholders. In particular the focus on the audio capabilities of the Farmphone system helped increase access to information and knowledge particularly for those villagers who had low levels of literacy.
11. One important learning from the work of the Social Research Team in facilitating collaboration with and among the (technical) commodity-based projects has been the difficulty in achieving collaboration. There are good reasons for this as discussed in the recent presentation by Barbara Chambers and John Spriggs (see Section 7.4). But it does make clear that a prerequisite for successful collaboration among a set of technical projects is the need for an overall coordinating project with leverage over the individual technical projects and a champion to make it work. These were not available to the Social Research Project, but we see the development of "umbrella projects" such as TADEP in PNG as responding to this learning and so this must also be considered a scientific impact. Incidentally, one of the co-chief investigators of the Social Research Project (Barbara Chambers) has been involved in the development of TADEP and has brought her experience in the Social Research Project to her work in TADEP.

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## 9.2 Recommendations

In preparing the recommendations it was hoped to have had feedback from the External Review of this Project which took place on 18-19 June 2015. However, the Review has not yet been received and so the recommendations have been completed without the benefit of the Reviewers' comments or our reflections on them. Nonetheless, we are confident that the recommendations below are grounded in the research of this project.

1. Change the funding arrangements with ICARDA – the organisation is not proactive. It is suggested that alternative funding arrangements be made, possibly with a key research partner in Pakistan. A great deal of the project leaders' time was spent on tracking payments and problem solving with follow-up by our project coordinator at NARC.
2. Provision of safe meeting and learning places in villages is important for allowing commodity based teams to engage with poor and marginalized groups. The implementation of Community Service Centres as described in Section 8.2 (Capacity Impacts) was successful and the place based rationale for this concept has been adopted

by the commodity-based teams during ASLP2, is being utilised in the next phase of the project (AVCCR) and has been taken up by other Institutions and organisations. For example, a USAID funded project with four Pakistani and three US Universities will undertake collaborative research under the project of Centre for Advanced Studies' (CAS) to harness applied research to find innovative solutions in water, agriculture and energy challenges for Pakistan. Working with one of our partner institutions, UAF, they are following ASLP2 Social Research Team methodology for development of their outreach project.

3. Further to Section 8.2 (Community impacts), engaging women in the commodity extension knowledge and skill development is important as they do influence the men and are involved in decision making. Promoting education for youth of both genders at the village level and beyond and sourcing scholarships for rural youth to study for agriculture related employment will address long term impacts on pro-poor development.
4. With respect to introducing an ICT initiative in a development context it is important to adopt an expanded view of its design and application which acknowledges the complex interaction between technology, people and their context. (See further, Heeks, 2008 and Donner, 2008). In practice this could be described as a place-based approach to the adaptation and customization of ICT solutions. This approach places collaboration at the centre and requires users and designers across the different sectors to work together. There are significant benefits for rural communities by leveraging ICTs for pro-poor development and collaboration by co-designing human-centric ICT systems (i.e. High tech, high touch) and developing places for innovation, training and exchange such as the Community Service Centres. Other recommendations for ICT initiatives include:
  - improving their impact by adopting a design approach that focuses on continuous product improvement throughout the course of the project;
  - adopting a multimodal approach that will help address the challenges of literacy while encouraging both low-tech and high tech solutions. It is important to develop both low-tech & high tech applications, that don't 'crowd out' each other;
  - having champions on the ground. In the case of the Social Research Project this was Mustafa Nangraj (Sindh) and Babar Shahbaz (Punjab);
  - adopting both ICT connectivity and content as both are important and need to be valued;
  - improving the impact and reach of development projects through the better use of ICT for monitoring and evaluation, and
  - taking advantage of the opportunities with ICT to engage youth and young women in particular in new ways of using technology.
5. In Section 8.4 (Communication and dissemination impacts) we identified that **Facebook** has been successful in engaging with project and program team members. There is a dedicated 'Aslp2 Social Project' page, where useful information and practices are posted from all commodity teams, partners in Pakistan and Australia together with relevant socio-cultural material, especially on gender from CGIAR and IFPRI. In addition, people posted social information on News Feed that enabled a better understanding and insight into daily life affecting researchers and farmers. It is proposed that this page or similar –

with modified title - be continued for future program work in Pakistan, or indeed in any country.

6. It is difficult to make a specific recommendation about the integration of social and technical researchers in a particular program and much depends on the preference of the in-country partners. For some, it is better to have social scientists appointed to each technical project; for others, it is better to have a coordinating project that identifies important social science components (e.g. gender, capacity building, participatory measurement and evaluation) that must be met by each technical project team with concomitant training provided. Our experience suggests the latter option as the appointment of one social scientist to a technical team of several commodity specialists may lead to an imbalance of influence.

It was identified in Section 8.1 (Scientific impacts) that a prerequisite for successful collaboration between social and technical projects and among technical projects is the need for:

- an overall coordinating project with some leverage over the individual technical projects and a champion with leadership skills to make it work;
  - the appointment of a program coordinator and possibly one or two program officers with relevant facilitation and coordination expertise to work with project leaders and to complement the operational role of a country manager. Such appointments may better facilitate linkages between and amongst technical and social teams.
7. It is recommended that a place based methodology be used in Pakistan. Differences in clan affiliation, education levels and other village demographics means that specific findings cannot be applied to all rural villages where poverty and illiteracy are evident. Therefore working respectfully from the ground level in partnership with local and provincial agencies, technical project teams, as well as religious and civic leadership, may enhance recognition of key competencies that exist within a community and key issues that need to be addressed by training or some other intervention. This approach appears through evidence in the end line survey to reinforce sustainability of the initiatives or innovations after the project is finished.

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## 10.2 List of publications produced by project

1. John Spriggs, Barbara Chambers, Sandra Heaney-Mustafa, Nadeem Akmal, Sajida Taj, Tehmina Mangan, Izhar A. Khan and Shubhra Roy (2015). *Women's Empowerment and Economic Collaboration in Rural Pakistan*. Paper under review, Journal of International Development.
2. Barbara Chambers, John Spriggs, Sandra Heaney-Mustafa and Robert Fitzgerald (2015). *Identifying and Interpreting Participatory Impact Pathways of Social Development Research*. Paper under review, Journal of International Development.

In addition, the following five publications are in preparation as a result of critical feedback by the Social Research Symposium in June 2015:

3. RN Fitzgerald, Jaume Nualart, John Spriggs, Barbara Chambers and Sandra Heaney-Mustafa (In preparation). An evaluation of the Community Service Centre Model in Rural Pakistan. *Information Technology & People*.
4. RN Fitzgerald et al (In preparation). A multimodal approach to rural information exchange using IVR and SMS. *Information Technology & People*.
5. Sajida Taj, Sandra Heaney-Mustafa, Nadeem Akmal and Barbara Chambers (In preparation). *Dynamics of Youth Engagement in Citrus Value Chain Development in Rural Pakistan* for publication in *New Direction in Youth Development*.
6. Sandra Heaney-Mustafa, Barbara Chambers, Sajida Taj and John Spriggs (In preparation). *Women and Value Chains in Pakistan* for publication in *Journal of Agricultural Education and Extension*
7. Sandra Heaney-Mustafa, Sajida Taj, Barbara Chambers and John Spriggs (In preparation). *Now We Don't Vote Like Our Husbands* for publication in *International Journal of Gender Studies in Developing Societies*



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# 11 Appendixes

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## 11.1 Preliminary Analysis of the Baseline Survey

- |           |       |
|-----------|-------|
| 1. Citrus | p. 48 |
| 2. Dairy  | p. 68 |
| 3. Mango  | p. 82 |

## **PRELIMINARY ANALYSIS OF BASELINE SURVEY: CITRUS<sup>3</sup>**

**University of Canberra (UC), National Agriculture Research Centre (NARC) and University of Agriculture Faisalabad (UAF)**

**Summary Report By:  
John Spriggs  
University of Canberra  
17 April 2012**

### **SURVEY TEAM**

Prof. John Spriggs, University of Canberra (lead, Australia)  
Dr. Muhammad Azeem Khan, NARC (lead, Pakistan)  
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<sup>3</sup>This survey was conducted in October - December 2011 as part of the Social Research Project of the Agriculture Sector Linkages Program, Phase 2 (ASLP2) managed by ACIAR for AusAID. The survey was conducted in KPK and Sargodha, Punjab by NARC and in Faisalabad, Punjab by UAF. For correspondence, contact Prof. John Spriggs at [John.Spriggs@canberra.edu.au](mailto:John.Spriggs@canberra.edu.au).

## INTRODUCTION

There were 255 households surveyed in Nowshera (64), Haripur (61), Sargodha (64) and Faisalabad (62).

## CHARACTERISTICS OF RESPONDENTS AND HOUSEHOLD.

Of the 255 households surveyed, the responses are summarised as follows

- a. **Marital status** - 231 married, 16 single, 6 widowed
- b. **Gender of head of household** - 247 male, 5 female
- c. **Type of family** - 130 nuclear, 120 joint, 4 extended
- d. **Mother tongue:**

|                       | Regional | Urdu | Other |
|-----------------------|----------|------|-------|
| <b>Head of H/hold</b> | 235      | 2    | 18    |
| <b>Spouse</b>         | 241      | 0    | 13    |

- e. **The average composition of the household was as follows:**

|                         | Total       | In School   | At Work     |             |             |
|-------------------------|-------------|-------------|-------------|-------------|-------------|
|                         |             |             | On farm     | At home     | Off farm    |
| Male ( $\geq 15$ yrs)   | 2.80        | 0.32        | 1.30        | 0.18        | 0.93        |
| Male (<15 yrs)          | 1.36        | 0.99        | 0.01        | 0.09        | 0.00        |
| Female ( $\geq 15$ yrs) | 2.64        | 0.24        | 0.05        | 2.24        | 0.04        |
| Female (<15 yrs)        | 1.20        | 0.73        | 0.01        | 0.17        | 0.00        |
| <b>TOTAL</b>            | <b>8.00</b> | <b>2.27</b> | <b>1.36</b> | <b>2.69</b> | <b>0.97</b> |

- f. **The age profile of the respondents is:**

| Age Group          | Head of H/H | Spouse      |
|--------------------|-------------|-------------|
| $\leq 20$ years    | 3           | 2           |
| 21 - 30 years      | 26          | 34          |
| 31 - 40 years      | 48          | 82          |
| 41 - 50 years      | 67          | 74          |
| 51 - 60 years      | 57          | 56          |
| > 60 years         | 54          | 7           |
| <b>Average Age</b> | <b>47.7</b> | <b>42.1</b> |

g. **Schooling of the respondent is:**

|                         | <b>Head of H/H</b> | <b>Spouse</b> |
|-------------------------|--------------------|---------------|
| Years at school         | 7.51               | 3.76          |
| Highest Level Achieved: |                    |               |
| - None                  | 50                 | 136           |
| - Primary               | 30                 | 28            |
| - Middle                | 49                 | 27            |
| - Secondary             | 67                 | 26            |
| - High                  | 37                 | 17            |
| - Vocational            | 9                  | 3             |
| - University            | 9                  | 10            |

h. **Literacy in Household**

| <b>Literacy Questions</b>     | <b>Head of H/H</b> |           | <b>Spouse</b> |           |
|-------------------------------|--------------------|-----------|---------------|-----------|
|                               | <b>Yes</b>         | <b>No</b> | <b>Yes</b>    | <b>No</b> |
| Can you read?                 | 208                | 47        | 124           | 129       |
| Can you write?                | 205                | 50        | 121           | 132       |
| Can anyone else in H/H read?  | 232                | 23        | 232           | 21        |
| Can anyone else in H/H write? | 230                | 24        | 230           | 21        |

i. **Income**

## i. Monthly Household Income

| <b>Monthly H/H Income (Rs.)</b> | <b>According to Head of H/H</b> | <b>According to Spouse</b> |
|---------------------------------|---------------------------------|----------------------------|
| ≤ 5,000                         | 25                              | 31                         |
| 5,001 - 10,000                  | 43                              | 45                         |
| 10,001 - 15,000                 | 46                              | 44                         |
| 15,001 - 20,000                 | 36                              | 41                         |
| 20,001 - 25,000                 | 30                              | 30                         |
| 25,001 - 30,000                 | 24                              | 22                         |
| 30,001 - 40,000                 | 12                              | 23                         |
| 40,001 - 50,000                 | 7                               | 6                          |
| > 50,000                        | 12                              | 9                          |
| Don't Know                      | 18                              | 0                          |
| Weighted Average/month          | 18,400                          | 18,100                     |

- ii. Last month, was there any H/H income left over for your individual personal use after paying for essentials?

| Personal disposable income last month | Head of H/H | Spouse |
|---------------------------------------|-------------|--------|
| Yes                                   | 115         | 30     |
| If yes, how much?                     | 10,400      | 5,300  |

**j. House construction:**

| Type  | Number |
|-------|--------|
| Brick | 219    |
| Mud   | 27     |
| Other | 0      |

**k. Assets in the House**

| Asset                | Yes | No |
|----------------------|-----|----|
| 1. Piped water       | 217 | 38 |
| 2. Electric lighting | 249 | 5  |
| 3. Indoor toilet     | 226 | 26 |
| 4. Stove             | 163 | 92 |
| 5. TV*               | 203 | 52 |
| 6. Washing machine   | 208 | 47 |

\* TV with cable (64), without cable (139)

**FARM OPERATION OF THE HOUSEHOLD**

- a. Average area owned by household: 6.75 acres

**b. Rented and Sharefarmed Land**

|             | Households which rent or sharefarm other land |                      |   |
|-------------|---|----------------------|---|
|             | Number  | Average Area (acres) | Rental cost (Rs./acre) or Cropshare (%) |
| Rented      | 29  | 5.73                 | *                                       |
| Sharefarmed | 9   | 3.42                 | *                                       |

|                 | Households which rent <u>out</u> or sharefarm <u>out</u> their land |                      |   |
|-----------------|---|----------------------|---|
|                 | Number  | Average Area (acres) | Rental cost (Rs./acre) or Cropshare (%) |
| Rented out      | 1   | 2.50                 | *                                       |
| Sharefarmed out | 4   | 3.50                 | *                                       |

**c. Crops Grown**

## i. Orchard Crops

| <b>Orchard Crop</b> | <b>Number of Households</b> | <b>Area (acres)</b> | <b>No. of trees</b> | <b>No. of fruit bearing trees</b> |
|---------------------|-----------------------------|---------------------|---------------------|-----------------------------------|
| Citrus              | 232                         | 3.68                | 260                 | 220                               |
| Mango               | 12                          | 0.75                | 5.7                 | 5.0                               |
| Other               | 78                          | 1.90                | 98                  | 78                                |

## ii. Rabi (Winter) Crops

| <b>Rabi Crop</b> | <b>Number of Households</b> | <b>Area (acres)</b> |
|------------------|-----------------------------|---------------------|
| Fodder           | 167                         | 2.06                |
| Wheat            | 212                         | 3.15                |
| Hybrid Maize     | 9                           | 3.33                |
| Mustard          | 7                           | 1.29                |
| Sugar Cane       | 46                          | 3.61                |
| Vegetables       | 36                          | 1.42                |
| Other            | 35                          | 1.96                |

## iii. Kharif (Summer) Crops

| <b>Rabi Crop</b> | <b>Number of Households</b> | <b>Area (acres)</b> |
|------------------|-----------------------------|---------------------|
| Fodder           | 139                         | 2.09                |
| Maize            | 103                         | 2.21                |
| Rice             | 16                          | 2.03                |
| Cotton           | 25                          | 2.70                |
| Sugar Cane       | 34                          | 3.41                |
| Vegetables       | 32                          | 1.41                |
| Other            | 64                          | 3.21                |

d. **Unprocessed Farm Produce in past 12 months**

## (a) Home Use

|               | Units     | Number of Households | Quantity for home use |
|---------------|-----------|----------------------|-----------------------|
| Citrus        | kilograms | 180                  | 1140                  |
| Mangoes       | kilograms | 3                    | 60                    |
|               | maunds    | 2                    | 7.0                   |
| Milk          | litres    | 152                  | 7.85                  |
| Male calves   | number    | 18                   | 1.12                  |
| Rabi Fodder   | acres     | 104                  | 1.97                  |
| Kharif Fodder | acres     | 94                   | 2.23                  |

## (b) For Sale

|               | Units  | Number of Households | For Sale |            | Sold to* |    |   |    |   |   |   |   |   |
|---------------|--------|----------------------|----------|------------|----------|----|---|----|---|---|---|---|---|
|               |        |                      | Quantity | Price/unit | 1        | 2  | 3 | 4  | 5 | 6 | 7 | 8 |   |
| Citrus        | crates | 1                    | 40       | 900        | 0        | 1  | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
|               | trees  | 64                   | 113      | 7,780      | 3        | 14 | 0 | 36 | 2 | 0 | 0 | 0 | 0 |
|               | acres  | 157                  | 4.02     | 109,600    | 7        | 69 | 0 | 79 | 0 | 0 | 0 | 0 | 0 |
| Mango         | maunds | 3                    | 50       | 240        | 0        | 0  | 0 | 0  | 1 | 0 | 0 | 0 | 0 |
| Milk          | litres | 73                   | 10.56    | 43.38      | 20       | 36 | 4 | 0  | 0 | 4 | 0 | 0 | 0 |
| Male Calves   | number | 4                    | 1.00     | 36,300     | 0        | 3  | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Rabi Fodder   | acres  | 8                    | 1.58     | 28,600     | 4        | 2  | 0 | 0  | 0 | 0 | 0 | 0 | 0 |
| Kharif Fodder | acres  | 8                    | 1.41     | 18,200     | 3        | 4  | 0 | 0  | 0 | 0 | 0 | 0 | 0 |

- \*  
 1= direct to consumer/other farmer  
 2=village dealer (e.g. village dodhi, village bopari)  
 3= producers' marketing association  
 4= contractor  
 5= wholesaler/commission agent (Ahrti)  
 6=retailer/hotel  
 7= processor/pack house  
 8= exporter

## (c) Citrus are sold by households at:

| Stage of Harvest | Number of Households |
|------------------|----------------------|
| 1. Flowering     | 16                   |
| 2. Fruit Setting | 107                  |
| 3. Harvest       | 73                   |

e. **Processed Products of Household during past 12 months**

## (a) For Home Use

|                | Units     | Number of Households | Quantity for home use |
|----------------|-----------|----------------------|-----------------------|
| Citrus: juice  | litres    | 2                    | 20                    |
| Mango: pickles | kilograms | 13                   | 23.2                  |
| Dairy:         |           |                      |                       |
| ghee           | kilograms | 27                   | 51.9                  |
| Desi ghee      | kilograms | 8                    | 41.0                  |
| butter         | kilograms | 17                   | 30.4                  |
| yogurt         | kilograms | 1                    | 1.0                   |

## (b) For Sale

|                   | Units  | Number of Households | For Sale |            | Sold to* |   |   |   |
|-------------------|--------|----------------------|----------|------------|----------|---|---|---|
|                   |        |                      | Quantity | Price/unit | 1        | 2 | 3 | 4 |
| Dairy: ghee       | Kgs.   | 1                    | 4        | 500        | 1        | 0 | 0 | 0 |
| Sewing: suits     | number | 1                    | 6.00     | 100.00     | 1        | 0 | 0 | 0 |
| Marigold Garlands | number | 1                    | 6,000    | 3          | 0        | 0 | 0 | 1 |

- \*  
 1 = direct to consumer  
 2 = cooperative/producer marketing association  
 3 = commercial buyer (village)  
 4 = commercial buyer (other)

f. **Dairy Livestock**

## (a) Inventory of Dairy Livestock

| Type    | Number of Households Reporting | Average Number/Household | Average Number/ Household Reporting |               |      |             |
|---------|--------------------------------|--------------------------|-------------------------------------|---------------|------|-------------|
|         |                                |                          | Total                               | Adult Females |      | Adult Males |
|         |                                |                          |                                     | Milking       | Dry  |             |
| Cattle  | 112                            | 1.05                     | 2.40                                | 1.02          | 0.88 | 0.51        |
| Buffalo | 128                            | 2.00                     | 3.98                                | 2.19          | 1.32 | 0.47        |
| Goats   | 55                             | 0.95                     | 4.40                                | *             | *    | *           |
| Sheep   | 5                              | 0.17                     | 8.60                                | *             | *    | *           |



## (b) Dairy Cattle/Buffalo Transactions

**Purchases**

| Type    | Number of Households Reporting | Average Number Purchased/ Household reporting | Ave Price/ head | Bought From* |   |   |   |   |   |
|---------|--------------------------------|---|-----------------|--------------|---|---|---|---|---|
|         |                                |   |                 | 1            | 2 | 3 | 4 | 5 | 6 |
| Cattle  | 17                             | 1.41  | 62,100          | 10           | 2 | 1 | 0 | 0 | 1 |
| Buffalo | 16                             | 1.94  | 90,300          | 3            | 4 | 6 | 0 | 0 | 0 |

\* 1=another farmer

2=village bopari

3=livestock mandi

4=butcher/slaughter house

5=retailer/mini store/super store

6=other

**Sales**

| Type    | Number of Households Reporting | Average Number Sold/ Household reporting | Ave Price/ head | Sold to* |    |   |   |   |   |
|---------|--------------------------------|--|-----------------|----------|----|---|---|---|---|
|         |                                |  |                 | 1        | 2  | 3 | 4 | 5 | 6 |
| Cattle  | 26                             | 1.23                                     | 39,700          | 6        | 13 | 3 | 3 | 0 | 0 |
| Buffalo | 23                             | 1.35                                     | 76,300          | 2        | 10 | 0 | 7 | 0 | 0 |

\* 1=another farmer

2=village bopari

3=livestock mandi

4=butcher/slaughter house

5=retailer/mini store/super store

6=other

**Deaths**

| Type    | Number of Households Reporting | Average Number Deaths/ Household reporting |
|---------|--------------------------------|--|
|         |                                |  |
| Cattle  | 9                              | 1.38                                       |
| Buffalo | 16                             | 1.50                                       |

## HOUSEHOLD DECISIONS AND ACTIVITIES

### a. Household Money Decisions

| Type of Decision       | According to Head of Household (H of H), the decision is made by: |        |                   |       | According to Spouse, the decision is made by |        |                   |       |
|------------------------|---|--------|-------------------|-------|--|--------|-------------------|-------|
|                        | H of H  | Spouse | H of H and Spouse | Other | H of H                                       | Spouse | H of H and Spouse | Other |
| Everyday H/H purchases | 122   | 10     | 106               | 17    | 128  | 16     | 93                | 15    |
| Large H/H purchases    | 131   | 4      | 101               | 18    | 128  | 7      | 89                | 19    |
| Purchase/sale of       | 165   | 2      | 34                | 8     | 140  | 2      | 52                | 15    |
| Purchase/sale of farm  | 208   | 1      | 24                | 13    | 178  | 2      | 44                | 17    |
| Dowry expenses         | 91  | 5      | 54                | 5     | 49   | 1      | 61                | 9     |
| Education expenses     | 123   | 2      | 94                | 11    | 114  | 5      | 87                | 12    |
| Medical expenses       | 132   | 1      | 108               | 11    | 126  | 5      | 108               | 11    |

### b. Percent of Households in which decisions involve spouse

|  | According to Head of Household | According to Spouse |
|--|--------------------------------|---------------------|
| Farm Business decisions involving spouse | 13%                            | 22%                 |
| Other H/H decisions involving spouse     | 34%                            | 37%                 |

**c. Farm and Household Activities (Estimated probability that a particular category of individual is primarily responsible for a particular activity in the type of households surveyed)**

(a) Orchard

According to Head of Household

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs      | 82.0%  | 0.4%   | 7.8%              | 0.4%             |                     |                     | 7.8%             |                    |
| 2. Prepare for planting | 69.4%  |        | 6.7%              |                  |                     |                     | 22.4%            |                    |
| 3. Planting             | 62.4%  |        | 6.7%              |                  |                     |                     | 25.5%            |                    |
| 4. Tree management      | 62.4%  |        | 7.1%              |                  |                     |                     | 29.4%            |                    |
| 5. Weeding              | 59.6%  |        | 5.9%              |                  |                     |                     | 32.5%            |                    |
| 6. Irrigating           | 61.6%  |        | 8.2%              |                  |                     |                     | 28.2%            |                    |
| 7. Harvesting           | 31.4%  | 1.2%   | 1.6%              |                  |                     |                     | 27.5%            |                    |
| 8. Post-harvest         | 28.2%  | 3.5%   | 3.5%              |                  |                     |                     | 11.0%            |                    |
| 9. Processing           | 3.9%   | 0.8%   |                   |                  |                     |                     | 1.6%             |                    |
| 10. Marketing           | 70.2%  | 0.4%   | 3.9%              |                  |                     |                     | 3.5%             |                    |

According to Spouse

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs      | 80.0%  | 1.2%   | 8.6%              |                   |                     |                     | 8.2%             |                    |
| 2. Prepare for planting | 72.2%  | 1.2%   | 7.5%              |                   |                     |                     | 16.9%            |                    |
| 3. Planting             | 65.5%  |        | 9.8%              |                   |                     |                     | 22.0%            |                    |
| 4. Tree management      | 64.3%  | 0.4%   | 9.0%              |                   |                     |                     | 24.7%            |                    |
| 5. Weeding              | 59.6%  | 2.4%   | 8.6%              |                   | 0.8%                | 0.8%                | 26.7%            |                    |
| 6. Irrigating           | 60.4%  | 0.4%   | 9.8%              |                   |                     | 0.8%                | 25.9%            |                    |
| 7. Harvesting           | 30.6%  | 0.4%   | 3.9%              |                   |                     | 0.8%                | 32.2%            |                    |
| 8. Post-harvest         | 34.9%  | 5.5%   | 4.3%              |                   | 0.4%                | 0.8%                | 20.4%            |                    |
| 9. Processing           | 13.3%  | 5.5%   | 1.2%              |                   | 1.2%                |                     | 5.9%             |                    |
| 10. Marketing           | 65.1%  | 0.4%   | 4.7%              |                   |                     |                     | 5.9%             |                    |

## (b) Livestock

According to Head of Household

| Activity               | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs     | 67.8%  | 0.4%   | 5.5%              |                   | 0.4%                |                     | 1.6%             |                    |
| 2. Fodder cutting      | 39.6%  | 13.3%  | 3.9%              | 0.4%              | 1.6%                |                     | 19.2%            | 0.4%               |
| 3. Feed, water animals | 31.8%  | 19.6%  | 2.0%              | 0.4%              | 4.3%                |                     | 19.6%            | 0.4%               |
| 4. Milking             | 27.8%  | 21.6%  | 2.7%              |                   | 5.1%                |                     | 16.5%            | 0.4%               |
| 5. Tend to birth       | 34.1%  | 13.7%  | 3.1%              | 0.4%              | 2.7%                |                     | 19.6%            | 1.6%               |
| 6. Collect dung        | 16.5%  | 26.3%  | 1.2%              |                   | 5.5%                |                     | 23.1%            | 1.2%               |
| 7. Make dung pats      | 8.6%   | 18.0%  | 0.4%              |                   | 2.0%                |                     | 7.5%             | 2.7%               |
| 8. Clean shelters      | 20.4%  | 26.3%  | 0.8%              | 0.4%              | 5.1%                |                     | 22.7%            | 0.8%               |
| 9. Rear young animals  | 33.3%  | 16.1%  | 2.4%              | 0.4%              | 2.4%                |                     | 200.0%           | 0.4%               |
| 10. Buy/sell milk      | 62.7%  | 1.2%   | 2.7%              |                   | 0.4%                |                     | 4.3%             |                    |
| 11. Process milk       | 2.4%   | 34.1%  |                   |                   | 4.3%                |                     | 0.8%             | 0.8%               |
| 12. Marketing          | 22.7%  | 9.8%   | 1.2%              | 0.4%              | 0.8%                |                     |                  |                    |

According to Spouse

| Activity               | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs     | 60.4%  | 1.6%   | 6.7%              | 0.4%              | 1.2%                |                     | 5.9%             |                    |
| 2. Fodder cutting      | 31.4%  | 16.5%  | 4.3%              | 0.4%              | 4.3%                |                     | 18.8%            | 0.4%               |
| 3. Feed, water animals | 29.8%  | 19.2%  | 2.4%              | 0.4%              | 4.7%                |                     | 18.4%            | 0.4%               |
| 4. Milking             | 27.1%  | 20.4%  | 4.3%              | 0.4%              | 5.9%                |                     | 13.7%            | 0.4%               |
| 5. Tend to birth       | 25.1%  | 18.8%  | 3.5%              | 0.4%              | 4.3%                |                     | 200.0%           | 1.6%               |
| 6. Collect dung        | 13.7%  | 24.7%  | 2.0%              | 0.4%              | 5.9%                |                     | 23.1%            | 1.2%               |
| 7. Make dung pats      | 7.5%   | 14.1%  | 0.8%              | 0.4%              | 3.9%                |                     | 13.3%            | 2.7%               |
| 8. Clean shelters      | 14.5%  | 24.3%  | 3.1%              | 0.4%              | 6.3%                |                     | 23.1%            | 0.8%               |
| 9. Rear young animals  | 26.7%  | 18.4%  | 3.1%              | 0.4%              | 3.9%                |                     | 19.2%            | 0.4%               |
| 10. Buy/sell milk      | 60.4%  | 2.4%   | 5.9%              | 0.4%              | 0.4%                |                     | 2.7%             |                    |
| 11. Process milk       | 8.2%   | 22.4%  | 0.4%              |                   | 1.6%                |                     | 1.2%             | 0.8%               |
| 12. Marketing          | 23.9%  | 7.8%   | 1.6%              |                   | 1.2%                |                     | 2.0%             |                    |

## (c) Agriculture

According to Head of Household

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs      | 84.7%  | 0.4%   | 5.1%              |                   |                     |                     | 4.7%             |                    |
| 2. Prepare for planting | 67.1%  | 0.4%   | 6.3%              |                   |                     |                     | 20.8%            |                    |
| 3. Planting             | 63.9%  |        | 6.7%              |                   |                     |                     | 23.1%            |                    |
| 4. Crop management      | 63.5%  |        | 7.5%              |                   |                     |                     | 23.1%            |                    |
| 5. Weeding              | 60.4%  | 0.4%   | 8.2%              |                   |                     |                     | 25.1%            |                    |
| 6. Irrigating           | 60.8%  | 0.4%   | 7.5%              |                   |                     |                     | 25.5%            |                    |
| 7. Harvesting           | 42.7%  | 0.4%   | 6.3%              |                   |                     |                     | 44.3%            |                    |
| 8. Post-harvest         | 52.9%  | 10.2%  | 5.9%              |                   | 0.8%                |                     | 19.6%            |                    |
| 9. Processing           | 7.1%   | 14.5%  |                   |                   | 1.6%                |                     | 4.7%             | 0.8%               |
| 10. Marketing           | 64.3%  | 0.8%   | 1.6%              |                   |                     |                     | 3.9%             |                    |

According to Spouse

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs      | 73.7%  | 0.4%   | 7.8%              |                   |                     |                     | 11.0%            |                    |
| 2. Prepare for planting | 61.6%  | 0.4%   | 8.6%              |                   |                     |                     | 21.6%            |                    |
| 3. Planting             | 60.4%  | 0.4%   | 9.0%              |                   |                     |                     | 22.0%            |                    |
| 4. Crop management      | 61.6%  | 0.4%   | 8.6%              |                   | 0.8%                |                     | 20.8%            |                    |
| 5. Weeding              | 56.5%  | 1.6%   | 8.6%              |                   | 0.8%                | 0.8%                | 23.5%            |                    |
| 6. Irrigating           | 56.5%  | 0.4%   | 9.0%              |                   |                     | 0.8%                | 25.1%            |                    |
| 7. Harvesting           | 45.5%  | 1.2%   | 8.2%              |                   |                     | 0.8%                | 34.5%            |                    |
| 8. Post-harvest         | 50.2%  | 11.4%  | 6.3%              |                   |                     |                     | 16.5%            |                    |
| 9. Processing           | 13.7%  | 7.5%   | 0.4%              |                   | 0.4%                |                     | 2.7%             | 0.8%               |
| 10. Marketing           | 43.5%  | 0.4%   | 2.7%              |                   | 0.4%                |                     | 3.1%             |                    |

(d) Household Activities  
According to Head of Household

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Cooking              |        | 80.8%  |                   |                   | 18.8%               |                     |                  | 0.4%               |
| 2. Making tea           |        | 79.6%  |                   | 0.4%              | 19.6%               |                     |                  | 0.4%               |
| 3. Caring for infants   |        | 70.6%  | 0.4%              | 0.4%              | 16.1%               |                     |                  |                    |
| 4. Take kids to school  | 9.0%   | 29.8%  | 1.2%              |                   | 4.3%                |                     | 0.4%             | 0.4%               |
| 5. Wash clothes         | 2.0%   | 69.4%  | 0.4%              |                   | 20.8%               |                     |                  | 7.1%               |
| 6. Wash dishes          | 2.0%   | 65.5%  | 0.4%              |                   | 21.2%               |                     |                  | 9.8%               |
| 7. Gather firewood      | 20.8%  | 26.7%  | 3.9%              |                   | 4.7%                |                     | 5.1%             | 5.5%               |
| 8. Collect water        | 3.5%   | 31.8%  | 1.2%              |                   | 5.1%                |                     | 1.2%             | 6.3%               |
| 9. Dispose of H/H waste | 2.7%   | 62.7%  | 2.0%              | 0.4%              | 16.5%               |                     | 0.8%             | 11.8%              |
| 10. Earn income at home | 1.6%   | 2.4%   |                   |                   | 1.2%                |                     |                  | 1.2%               |

According to Spouse

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Cooking              | 0.8%   | 70.6%  |                   |                   | 27.1%               | 0.4%                |                  | 0.4%               |
| 2. Making tea           | 0.4%   | 69.8%  |                   |                   | 27.8%               | 0.4%                |                  | 0.4%               |
| 3. Caring for infants   | 0.8%   | 52.5%  |                   |                   | 19.6%               | 0.4%                |                  |                    |
| 4. Take kids to school  | 5.1%   | 22.7%  | 2.4%              |                   | 4.3%                | 0.4%                | 1.2%             | 0.4%               |
| 5. Wash clothes         | 0.4%   | 60.8%  |                   |                   | 28.2%               | 0.4%                |                  | 7.1%               |
| 6. Wash dishes          | 0.8%   | 56.5%  |                   |                   | 29.0%               | 0.4%                |                  | 9.8%               |
| 7. Gather firewood      | 22.7%  | 11.0%  | 2.7%              |                   | 7.1%                |                     | 8.6%             | 5.5%               |
| 8. Collect water        | 3.9%   | 14.9%  |                   |                   | 3.9%                |                     |                  | 6.3%               |
| 9. Dispose of H/H waste | 5.1%   | 52.9%  | 1.6%              |                   | 16.1%               |                     | 3.5%             | 11.8%              |
| 10. Earn income at home | 3.1%   | 3.5%   |                   |                   | 1.6%                |                     |                  | 1.2%               |

**d. Hours spent yesterday working on various activities**According to Head of Household

|                          | Household chores | Income-earning work in H/H | Farm chores | Income-earning work off farm | Total |
|--------------------------|------------------|----------------------------|-------------|------------------------------|-------|
| <b>Head of Household</b> | 0.19             | 0.10                       | 4.90        | 0.98                         | 6.16  |
| <b>Spouse</b>            | 5.40             | 0.04                       | 0.50        | 0.19                         | 6.13  |

According to Spouse

|                          | Household chores | Income-earning work in H/H | Farm chores | Income-earning work off farm | Total |
|--------------------------|------------------|----------------------------|-------------|------------------------------|-------|
| <b>Head of Household</b> | 2.13             | 0.01                       | 1.98        | 0.47                         | 4.60  |
| <b>Spouse</b>            | 3.01             | 0.00                       | 2.76        | 0.57                         | 6.34  |

**PROBLEMS AND OPPORTUNITIES****a. Household Concerns**

| Key Concern                                | Aggregate Score*               |                     |
|--|--------------------------------|---------------------|
|  | According to Head of Household | According to Spouse |
| 1. Not enough food/water/shelter           | 96                             | 109                 |
| 2. Lack of dowry for daughter              | 15                             | 40                  |
| 3. Lack of education for children          | 153                            | 88                  |
| 4. Lack of training to improve my skills   | 63                             | 48                  |
| 5. Lack of health care for household       | 115                            | 91                  |
| 6. Lack of opportunities for women to earn | 36                             | 92                  |
| 7. Lack of credit                          | 135                            | 21                  |
| 8. Lack of security                        | 130                            | 16                  |
| 9. Other                                   | 204                            | 90                  |

\* Aggregate Score =  $(N_1*3 + N_2*2 + N_3*1)$ , where:N<sub>1</sub> = number of respondents who ranked this concern most importantN<sub>2</sub> = number of respondents who ranked this concern second most importantN<sub>3</sub> = number of respondents who ranked this concern third most important**b. If child was sick would you have money for medicine?**

|     | According to HoH | According to Spouse |
|-----|------------------|---------------------|
| Yes | 153              | 121                 |
| No  | 46               | 53                  |

**c. Best Options to Increase Household Income**

| <b>Option</b>                                    | <b>According to Head of Household</b> | <b>According to Spouse</b> |
|--|---------------------------------------|----------------------------|
| 1. Citrus (more quantity and/or better quality)  | 158                                   | 20                         |
| 2. Mangoes (more quantity and/or better quality) | 0                                     | 0                          |
| 3. Dairy (more quantity and/or better quality)   | 9                                     | 1                          |
| 4. Other crops                                   | 14                                    | 1                          |
| 5. Other livestock                               | 7                                     | 1                          |
| 6. Income-earning work in the home               | 2                                     | 3                          |
| 7. Income-earning work off-farm                  | 46                                    | 11                         |

**d. What is the biggest obstacle to increasing income?**

| <b>Obstacle</b>                        | <b>Head of Household</b> | <b>Obstacle</b>                        | <b>Spouse</b> |
|--|--------------------------|--|---------------|
| Lack of credit/money/resources/finance | 72                       | Lack of credit/money/resources/finance | 40            |
| Lack of irrigation/water/tube wells    | 42                       | Lack of irrigation/water/tube wells    | 23            |
| Inputs (high cost, low quality)        | 31                       | Lack of jobs                           | 9             |
| Lack of jobs                           | 22                       | Electricity cost                       | 7             |
| Citrus plants (old varieties)          | 9                        | Inputs (high cost, low quality)        | 2             |
| Government inaction                    | 5                        | Lack of training/guidance              | 4             |
| Lack of training/guidance              | 4                        |  |               |
| Marketing                              | 2                        |  |               |

**e. In generating income from citrus, where is the biggest challenge?**

| <b>Biggest Challenge</b>   | <b>Number of respondents (Heads of Household)</b> |
|--|---|
| 1. Inputs (availability, quality, cost)                                    | 62%   |
| 2. Production (planting, tree management, weeding, irrigating, harvesting) | 32%   |
| 3. Post-harvest management (handling, storage, transportation)             | 1%  |
| 4. Processing activity (e.g. making pickles, juice)                        | 0%  |
| 5. Marketing (selling crop and crop products, market information)          | 4%  |



**f. Do you have hope for the future?**

|     | <b>Response by Head of Household</b> | <b>Response by Spouse</b> |
|-----|--------------------------------------|---------------------------|
| Yes | 48%                                  | 30%                       |
| No  | 52%                                  | 70%                       |

Among reasons for hope for the future most were predicated on “if” – we get:

- Government support for inputs and tube wells for water
- Good crops, off farm work, husbands, sons and daughters get jobs,
- modern machinery and machine inputs
- micro credit and wealth problem solved
- more education and training

Some were hopeful as they had

- increased production
- fruit would start next year
- big orchards

A number commented that they trust in Allah and ‘*we are Muslim we hope for the best*’.

Of those who commented they were not hopeful the main themes emerging were:

- poor leadership and government
- Inflation
- High cost of inputs and decreasing returns
- Lack of opportunities for children
  - *No opportunities of jobs as one daughter is skilled and has diploma of 3 years of stitching and sons are also jobless*

For both the YES and NO responses however the most common theme was “work hard”

**INFORMATION AND COMMUNICATION****a. Extension advice**

## (a) Production (how to improve)

| Source of Advice            | Number of respondents<br>(Heads of Household) | Quality of the Advice |             |      |
|-----------------------------|---|-----------------------|-------------|------|
|                             |   | Poor                  | Indifferent | Good |
| 1. Relative/friend          | 147   | 4%                    | 21%         | 75%  |
| 2. Input supplier/buyer     | 62  | 5%                    | 34%         | 61%  |
| 3. Village extension worker | 93  | 4%                    | 10%         | 86%  |
| 4. Farmer field school      | 12  | 0%                    | 17%         | 83%  |
| 5. ASLP citrus              | 9   | 0%                    | 11%         | 89%  |
| 6. TV                       | 5   | 20%                   | 40%         | 40%  |
| 7. Radio                    | 0   | *                     | *           | *    |

## (b) Post-harvest management (how to improve)

| Source of Advice            | Number of respondents<br>(Heads of Household) | Quality of the Advice |             |      |
|-----------------------------|---|-----------------------|-------------|------|
|                             |   | Poor                  | Indifferent | Good |
| 1. Relative/friend          | 3   | 0                     | 1           | 2    |
| 2. Input supplier/buyer     | 0   | *                     | *           | *    |
| 3. Village extension worker | 2   | 0                     | 0           | 2    |
| 4. Farmer field school      | 0   | 0                     | 0           | 0    |
| 5. ASLP mango               | 1   | 0                     | 0           | 1    |
| 6. TV                       | 0   | *                     | *           | *    |
| 7. Radio                    | 0   | *                     | *           | *    |

## (c) Marketing (how to improve)

| Source of Advice            | Number of respondents<br>(Heads of Household) | Quality of the Advice |             |      |
|-----------------------------|---|-----------------------|-------------|------|
|                             |   | Poor                  | Indifferent | Good |
| 1. Relative/friend          | 34  | 3%                    | 26%         | 71%  |
| 2. Input supplier/buyer     | 13  | 8%                    | 62%         | 31%  |
| 3. Village extension worker | 13  | 0%                    | 0%          | 100% |
| 4. Farmer field school      | 0   | *                     | *           | *    |
| 5. ASLP mango               | 1   | 0%                    | 0%          | 100% |
| 6. TV                       | 2   | 50%                   | 50%         | 0%   |
| 7. Radio                    | 1   | 0%                    | 0%          | 100% |

**b. Mobile Phone**

|  | <b>Response by Head of Household</b> | <b>Response by Spouse</b> |
|--|--------------------------------------|---------------------------|
| 1. Do you own/have access to a mobile phone?     |                                      |                           |
| Yes  | 197                                  | 95                        |
| No   | 55                                   | 158                       |
| 2. Rate your skill level:                        |                                      |                           |
| Beginner   | 102                                  | 65                        |
| Competent  | 65                                   | 18                        |
| Expert   | 24                                   | 8                         |
| 3. Rate your children's skill level:             |                                      |                           |
| Beginner   | 61                                   | 41                        |
| Competent  | 57                                   | 17                        |
| Expert   | 30                                   | 18                        |
| 3. How much do you spend on mobile (Rs./month)   | Rs800                                | Rs490                     |
| 4. Type of phone use:                            |                                      |                           |
| All personal                                     | 53                                   | 79                        |
| Most personal                                    | 60                                   | 3                         |
| Half and half                                    | 60                                   | 3                         |
| Most business                                    | 13                                   | 1                         |
| All business                                     | 6                                    | 0                         |
| 5. Do you use SMS on your mobile phone?          |                                      |                           |
| Yes  | 64                                   | 27                        |
| No   | 128                                  | 60                        |
| 6. Would you use market information sent by SMS? |                                      |                           |
| Yes  | 54                                   | 16                        |
| No   | 138                                  | 71                        |
| 7. Can mobile phone access the internet?         |                                      |                           |
| Yes  | 21                                   | 1                         |
| No   | 165                                  | 86                        |

**c. Computer**

|   | <b>Response by Head of Household</b> | <b>Response by Spouse</b> |
|---|--------------------------------------|---------------------------|
| 1. Do you have access to a computer?        |                                      |                           |
| Yes   | 30                                   | 32                        |
| No  | 221                                  | 218                       |
| 2. Do you have a home computer?             |                                      |                           |
| Yes   | 28                                   | 28                        |
| No  | 19                                   | 4                         |
| 2. Rate your skill level:                   |                                      |                           |
| Beginner                                    | 8                                    | 13                        |
| Competent                                   | 11                                   | 4                         |
| Expert                                      | 1                                    | 3                         |
| 3. Rate your children's skill level:        |                                      |                           |
| Beginner                                    | 6                                    | 2                         |
| Competent                                   | 11                                   | 13                        |
| Expert                                      | 9                                    | 9                         |
| 4. Do you use computer for internet/email?  |                                      |                           |
| Yes   | 10                                   | 5                         |
| No  | 22                                   | 22                        |
| 5. Do you use computer for watching videos? |                                      |                           |
| Yes   | 11                                   | 7                         |
| No  | 21                                   | 19                        |
| 6. Type of computer use:                    |                                      |                           |
| All personal                                | 5                                    | 16                        |
| Most personal                               | 8                                    | 3                         |
| Half and half                               | 1                                    | 0                         |
| Most business                               | 0                                    | 1                         |
| All business                                | 0                                    | 0                         |

**d. Skills Training**

|                                      | <b>Response by Head of Household</b> | <b>Response by Spouse</b> |
|--------------------------------------|--------------------------------------|---------------------------|
| 1. Have you had any skills training? |                                      |                           |
| Yes                                  | 28                                   | 12                        |
| No                                   | 227                                  | 235                       |

**e. What type of training would you like in future?**

| Type of training                       | Response by HoH | Type of training           | Response by Spouse |
|--|-----------------|----------------------------|--------------------|
| Citrus/orchard management <sup>4</sup> | 139             | Sewing & Embroidery        | 110                |
| Livestock management <sup>5</sup>      | 32              | Food processing/preserving | 32                 |
| Crops/farm management                  | 33              | Vocational training        | 18                 |
| Vegetable production                   | 13              | Livestock management       | 12                 |
| Vocational training esp. for women     | 13              | Computer                   | 7                  |
|  |                 | Farm management            | 7                  |
|  |                 | Orchard management         | 5                  |

### COLLABORATION and COMMUNITY

| How easy is it to work with other households to achieve something? | Weighted Average Response* |           |
|--|----------------------------|-----------|
|  | by Head of Household       | by Spouse |
| 1. Buy community assets (e.g. storage shed)                        | 2.71                       | 3.16      |
| 2. Buy farm inputs together (e.g. fertilizer, seedlings)           | 2.72                       | 3.09      |
| 3. Sell farm outputs together (e.g. fruit, milk)                   | 2.62                       | 3.21      |
| 4. Other community activities (e.g. women's group, festival)       | 3.21                       | 3.76      |

\*Weighted average response uses as weights: 1=very difficult, 2=difficult, 3=neither, 4=easy, 5=very easy

### AGRICULTURE SECTOR LINKAGES PROGRAM (ASLP)

|  | Response by HoH | Response by Spouse |
|--|-----------------|--------------------|
| 1. Have you heard about the ASLP citrus      |                 |                    |
| Yes  | 33              | 10                 |
| No   | 218             | 238                |
| 2. Have you attended an ASLP citrus workshop |                 |                    |
| Yes  | 26              | 0                  |

### 9. OTHER COMMENTS

From the heads of household the main issue they wished to raise here was the shortage of water. Some suggested model or experimental farms could help as well as government seeking further export markets.

While for spouses it was a village vocational centre, secondary schooling for children both boys and girls and issues such as gas shortages and poor market access that are important.

<sup>4</sup> Esp. pest and disease control, fertilising

<sup>5</sup> Esp. dairy, but also goats and poultry

## **PRELIMINARY ANALYSIS OF BASELINE SURVEY: DAIRY<sup>6</sup>**

**University of Canberra (UC), University of Agriculture Faisalabad (UAF),  
National Agricultural Research Centre (NARC) and  
Sindh Agricultural University**

**Summary Report By:  
John Spriggs  
University of Canberra  
17 April 2012**

### **SURVEY TEAM**

Prof. John Spriggs, UC (lead, Australia)  
Dr. Muhammad Azeem Khan, NARC (lead, Pakistan)  
Dr. Izhar Ahmed Khan, UAF (lead, Pakistan)  
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Akhter,  
Habibullah Rajper, M. Ali Bhatti, Shoaib Ahmed Wagan, Nasreen, Qurat-ul-ain, Samina Baloch

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<sup>6</sup>This survey was conducted in October - December 2011 as part of the Social Research Project of the Agriculture Sector Linkages Program, Phase 2 (ASLP2) managed by ACIAR for AusAID. The survey was conducted in KPK and Sargodha, Punjab by NARC and in Faisalabad, Punjab by UAF. For correspondence, contact Prof. John Spriggs at [John.Spriggs@canberra.edu.au](mailto:John.Spriggs@canberra.edu.au).

## INTRODUCTION

There were 253 households surveyed in Bhakkar (60 households), Jhelum (73), Pakpattan (60) and Badin (60).

### CHARACTERISTICS OF RESPONDENTS AND HOUSEHOLD.

Of the 253 households surveyed, the responses are summarised as follows

- a. **Marital status** - 241 married, 6 single, 3 widowed
- b. **Gender of head of household** - 246 male, 2 female
- c. **Type of family** - 166 nuclear, 79 joint, 2 extended
- d. **Mother tongue:**

|                          | Regional | Urdu | Other |
|--------------------------|----------|------|-------|
| <b>Head of Household</b> | 240      | 4    | 3     |
| <b>Spouse</b>            | 246      | 3    | 0     |

- e. **The average composition of the household was as follows:**

|                         | Total       | In School   | At Work     |             |             |
|-------------------------|-------------|-------------|-------------|-------------|-------------|
|                         |             |             | On farm     | At home     | Off farm    |
| Male ( $\geq 15$ yrs)   | 2.88        | 0.37        | 1.54        | 0.36        | 0.62        |
| Male (<15 yrs)          | 1.50        | 0.88        | 0.07        | 0.44        | 0.02        |
| Female ( $\geq 15$ yrs) | 2.32        | 0.13        | 0.22        | 1.85        | 0.06        |
| Female (<15 yrs)        | 1.32        | 0.61        | 0.02        | 0.53        | 0.00        |
| <b>TOTAL</b>            | <b>8.02</b> | <b>1.99</b> | <b>1.85</b> | <b>3.18</b> | <b>0.70</b> |

- f. **The age profile of the respondents is:**

| Age Group               | Head of H/H | Spouse      |
|-------------------------|-------------|-------------|
| $\leq 20$ years         | 2           | 6           |
| 21 - 30 years           | 29          | 42          |
| 31 - 40 years           | 45          | 76          |
| 41 - 50 years           | 78          | 77          |
| 51 - 60 years           | 62          | 44          |
| > 60 years              | 36          | 7           |
| <b>Weighted Average</b> | <b>46.5</b> | <b>40.8</b> |

- g. **Schooling of the respondent is:**

|                         | Head of H/H | Spouse |
|-------------------------|-------------|--------|
| Years at school         | 5.28        | 2.88   |
| Highest Level Achieved: |             |        |
| - None                  | 80          | 176    |
| - Primary               | 55          | 2      |
| - Middle                | 45          | 0      |
| - Secondary             | 35          | 0      |
| - High                  | 19          | 31     |
| - Vocational            | 1           | 2      |
| - University            | 4           | 0      |





**h. Literacy in Household**

| Literacy Questions            | Head of H/H |    | Spouse |     |
|-------------------------------|-------------|----|--------|-----|
|                               | Yes         | No | Yes    | No  |
| Can you read?                 | 160         | 85 | 64     | 178 |
| Can you write?                | 156         | 88 | 59     | 182 |
| Can anyone else in H/H read?  | 214         | 35 | 219    | 32  |
| Can anyone else in H/H write? | 213         | 35 | 217    | 34  |

**i. Monthly Household Income**

| Monthly H/H Income (Rs.) | According to Head of H/H | According to Spouse |
|--------------------------|--------------------------|---------------------|
| ≤ 5,000                  | 33                       | 39                  |
| 5,001 - 10,000           | 59                       | 62                  |
| 10,001 - 15,000          | 39                       | 34                  |
| 15,001 - 20,000          | 32                       | 32                  |
| 20,001 - 25,000          | 9                        | 13                  |
| 25,001 - 30,000          | 12                       | 9                   |
| 30,001 - 40,000          | 11                       | 1                   |
| 40,001 - 50,000          | 4                        | 7                   |
| > 50,000                 | 5                        | 1                   |
| Don't Know               | 42                       | 49                  |
| Weighted Average/month   | 14,400                   | 12,600              |

**j. Last month, was there any H/H income left over for your individual personal use after paying for essentials?**

| Personal disposable income last month | Head of H/H | Spouse |
|---------------------------------------|-------------|--------|
| Yes                                   | 152         | 144    |
| If yes, how much?                     | 2,300       | 1,500  |

**k. House construction:**

| Type  | Number |
|-------|--------|
| Brick | 172    |
| Mud   | 81     |
| Other | 0      |

**l. Assets in the House**

| Asset                | Yes | No  |
|----------------------|-----|-----|
| 1. Piped water       | 166 | 85  |
| 2. Electric lighting | 234 | 19  |
| 3. Indoor toilet     | 162 | 90  |
| 4. Stove             | 112 | 137 |
| 5. TV*               | 179 | 71  |
| 6. Washing machine   | 131 | 121 |

\* TV with cable (35), without cable (142)

**FARM OPERATION OF THE HOUSEHOLD**

a. Average area owned by household: 5.56 acres

b. Rented and Sharefarmed Land

|             | Households which rent or sharefarm other land |                      |   |
|-------------|---|----------------------|---|
|             | Number  | Average Area (acres) | Rental cost (Rs./acre) or Cropshare (%) |
| Rented      | 84  | 6.64                 | 14,300                                  |
| Sharefarmed | 27  | 6.81                 | 50                                      |

|                 | Households which rent out or sharefarm out their land |                      |   |
|-----------------|---|----------------------|---|
|                 | Number  | Average Area (acres) | Rental cost (Rs./acre) or Cropshare (%) |
| Rented out      | 9   | 15.72                | 15,500                                  |
| Sharefarmed out | 5   | 2.50                 | *                                       |

c. Crops Grown

i. Orchard Crops

| Orchard Crop | Number of Households | Area of Households reporting (acres) | No. of trees | No. of fruit bearing trees |
|--------------|----------------------|--------------------------------------|--------------|----------------------------|
| Mango        | 3                    | 1.0                                  | 8            | 10                         |
| Citrus       | 6                    | 1.9                                  | 139          | 114                        |
| Other        | 1                    | *                                    | 7            | 12                         |

ii. Rabi (Winter) Crops

| Rabi Crop    | Number of Households | Area of Households reporting (acres) |
|--------------|----------------------|--------------------------------------|
| Fodder       | 225                  | 1.38                                 |
| Wheat        | 217                  | 6.27                                 |
| Hybrid Maize | 14                   | 3.32                                 |
| Mustard      | 23                   | 2.33                                 |
| Sugar Cane   | 33                   | 2.10                                 |
| Vegetables   | 22                   | 2.74                                 |
| Other        | 34                   | 2.10                                 |

iii. Kharif (Summer) Crops

| Rabi Crop  | Number of Households | Area of Households reporting (acres) |
|------------|----------------------|--------------------------------------|
| Fodder     | 219                  | 1.80                                 |
| Maize      | 58                   | 2.59                                 |
| Rice       | 52                   | 2.23                                 |
| Cotton     | 119                  | 3.48                                 |
| Sugar Cane | 49                   | 2.32                                 |
| Vegetables | 15                   | 1.51                                 |

|       |    |      |
|-------|----|------|
| Other | 57 | 3.00 |
|-------|----|------|

**d. Unprocessed Farm Produce in past 12 months**

## i. Home Use

|               | Units  | Number of Households | Quantity for home use/household reporting |
|---------------|--------|----------------------|---|
| Milk          | litres | 247                  | 4.99                                      |
| Mango         | maunds | 60                   | 0.22                                      |
| Male calves   | number | 91                   | 0.67                                      |
| Rabi Fodder   | acres  | 47                   | 1.16                                      |
|               | maunds | 3                    | 101                                       |
| Kharif Fodder | acres  | 40                   | 1.39                                      |
|               | maunds | 15                   | 280                                       |

## ii. For Sale

|               | Units  | Number of Households | For Sale |            | Sold to* |    |   |   |   |    |   |   |
|---------------|--------|----------------------|----------|------------|----------|----|---|---|---|----|---|---|
|               |        |                      | Quantity | Price/unit | 1        | 2  | 3 | 4 | 5 | 6  | 7 | 8 |
| Milk          | litres | 165                  | 7.65     | 38.95      | 53       | 90 | 6 | 1 | 0 | 13 | 0 | 0 |
| Male Calves   | number | 58                   | 1.21     | 30,100     | 9        | 32 | 2 | 1 | 1 | 0  | 0 | 0 |
| Rabi Fodder   | acres  | 1                    | 1.00     | *          | 1        | 0  | 0 | 0 | 0 | 0  | 0 | 0 |
| Kharif Fodder | acres  | 4                    | 0.25     | 23,000     | 4        | 0  | 0 | 0 | 0 | 0  | 0 | 0 |

- \* 1= direct to consumer/other farmer  
2=village dealer (e.g. village dodhi, village bopari)  
3= producers' marketing association  
4= contractor  
5= wholesaler/commission agent (Ahrti)  
6=retailer/hotel  
7= processor/pack house  
8= exporter

**e. Processed Products of Household during past 12 months**

## i. For Home Use

|              | Units     | Number of Households | Quantity for home use |
|--------------|-----------|----------------------|-----------------------|
| Dairy: ghee  | kilograms | 83                   | 5.02                  |
| cheese       | kilograms | 5                    | 0.58                  |
| Sewing: rali | number    | 10                   | 1.10                  |
| quilt        | number    | 4                    | 4.50                  |
| embroidery   | number    | 2                    | 9.50                  |

## ii. For Sale

|              | Units  | Number of Households | For Sale |            | Sold to* |   |    |   |
|--------------|--------|----------------------|----------|------------|----------|---|----|---|
|              |        |                      | Quantity | Price/unit | 1        | 2 | 3  | 4 |
| Dairy: ghee  | Kgs.   | 83                   | 4.98     | 270.00     | 11       | 2 | 16 | 1 |
| Sewing: rali | number | 12                   | 2.67     | 285.56     | 0        | 2 | 5  | 1 |
| quilt        | number | 4                    | 6.67     | 400.00     | 3        | 0 | 0  | 0 |

- \* 1 = direct to consumer  
2= cooperative/producer marketing association

3 = commercial buyer (village)

4 = commercial buer (other)

**Dairy Livestock**

## iii. Inventory of Dairy Livestock

| Type    | Number of Households Reporting | Average Number/Household | Average Number/ Household Reporting |               |      |             |
|---------|--------------------------------|--------------------------|-------------------------------------|---------------|------|-------------|
|         |                                |                          | Total                               | Adult Females |      | Adult Males |
|         |                                |                          |                                     | Milking       | Dry  |             |
| Cattle  | 124                            | 1.60                     | 3.27                                | 1.03          | 1.31 | 0.94        |
| Buffalo | 232                            | 3.44                     | 3.75                                | 1.67          | 1.64 | 0.44        |
| Goats   | 107                            | 1.36                     | 3.21                                | *             | *    | *           |
| Sheep   | 16                             | 0.24                     | 3.75                                | *             | *    | *           |

## iv. Dairy Cattle/Buffalo Transactions

**Purchases**

| Type    | Number of Households Reporting | Average Number Purchased/ Household reporting | Ave Price/ head | Bought From* |    |      |        |    |   |
|---------|--------------------------------|---|-----------------|--------------|----|------|--------|----|---|
|         |                                |   |                 | 1            | 2  | 3    | 4      | 5  | 6 |
|         |                                |   |                 | Cattle       | 29 | 1.38 | 43,600 | 10 | 5 |
| Buffalo | 39                             | 1.64  | 66,700          | 15           | 7  | 12   | 0      | 0  | 0 |

\* 1=another farmer

2=village bopari

3=livestock mandi

4=butcher/slaughter house

5=retailer/mini store/super store

6=other

**Sales**

| Type    | Number of Households Reporting | Average Number Sold/ Household reporting | Ave Price/ head | Sold to* |    |      |        |   |    |
|---------|--------------------------------|--|-----------------|----------|----|------|--------|---|----|
|         |                                |  |                 | 1        | 2  | 3    | 4      | 5 | 6  |
|         |                                |  |                 | Cattle   | 33 | 2.12 | 39,000 | 5 | 14 |
| Buffalo | 60                             | 1.48                                     | 71,100          | 12       | 25 | 17   | 5      | 0 | 0  |

\* 1=another farmer

2=village bopari

3=livestock mandi

4=butcher/slaughter house

5=retailer/mini store/super store

6=other

**Deaths**

| Type    | Number of Households Reporting | Average Number Deaths/ Household reporting |
|---------|--------------------------------|--|
| Cattle  | 11                             | 3.64                                       |
| Buffalo | 35                             | 1.66                                       |

**HOUSEHOLD DECISIONS AND ACTIVITIES****a. Household Money Decisions**

| Type of Decision                        | According to Head of Household (H of H), the decision is made by: |        |                   |       | According to Spouse, the decision is made by |        |                   |       |
|---|---|--------|-------------------|-------|--|--------|-------------------|-------|
|   | H of H  | Spouse | H of H and Spouse | Other | H of H                                       | Spouse | H of H and Spouse | Other |
| 1. Everyday H/H purchases               | 14  | 54     | 19                | 14    | 146  | 14     | 63                | 30    |
| 2. Large H/H purchases                  | 3   | 42     | 20                | 3     | 172  | 2      | 46                | 26    |
| 3. Purchase/sale of Livestock           | 2   | 39     | 17                | 2     | 189  | 1      | 44                | 19    |
| 4. Purchase/sale of farm inputs/outputs | 3   | 13     | 15                | 3     | 195  | 1      | 37                | 20    |
| 5. Dowry expenses                       | 5   | 77     | 15                | 5     | 93   | 12     | 71                | 8     |
| 6. Education expenses                   | 6   | 55     | 15                | 6     | 146  | 11     | 63                | 5     |
| 7. Medical expenses                     | 5   | 59     | 15                | 5     | 166  | 9      | 67                | 11    |

**b. Percent of Households in which decisions involve spouse**

|   | According to Head of Household | According to Spouse |
|---|--------------------------------|---------------------|
| %Farm Business decisions involving spouse | 11%                            | 16%                 |
| %Other H/H decisions involving spouse     | 23%                            | 27%                 |

**c. Farm and Household Activities (Estimated probability that a particular category of individual is primarily responsible for a particular activity in the type of households surveyed)**

## (a) Orchard

According to Head of Household

| Activity                | H of H | Spouse | Males ≥ 15 yrs | Males < 15 yrs | Females ≥ 15 yrs | Females < 15 yrs | Male Laborers | Female Laborers |
|-------------------------|--------|--------|----------------|----------------|------------------|------------------|---------------|-----------------|
| 1. Purchase inputs      | 4.7%   |        | 0.4%           |                |                  |                  |               |                 |
| 2. Prepare for planting | 2.8%   |        | 1.2%           |                |                  |                  | 1.2%          |                 |
| 3. Planting             | 2.4%   | 0.4%   | 1.2%           |                |                  |                  | 1.2%          |                 |
| 4. Tree management      | 2.8%   |        | 1.2%           |                |                  |                  | 1.2%          |                 |
| 5. Weeding              | 2.4%   |        | 1.2%           |                |                  |                  | 1.2%          |                 |
| 6. Irrigating           | 2.0%   |        | 1.6%           |                |                  |                  | 1.2%          |                 |
| 7. Harvesting           | 1.6%   |        | 1.6%           |                |                  |                  | 0.8%          |                 |
| 8. Post-harvest         | 1.6%   |        | 1.6%           |                |                  |                  | 0.8%          |                 |

|               |      |      |      |  |  |  |  |  |
|---------------|------|------|------|--|--|--|--|--|
| 9. Processing | 0.8% | 0.4% | 0.4% |  |  |  |  |  |
| 10. Marketing |      |      | 0.8% |  |  |  |  |  |

According to Spouse

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs      | 7.9%   |        | 1.6%              | 0.4%              |                     |                     |                  |                    |
| 2. Prepare for planting | 7.5%   |        | 2.0%              | 0.4%              |                     |                     |                  |                    |
| 3. Planting             | 6.7%   |        | 2.0%              | 0.4%              |                     |                     | 0.4%             |                    |
| 4. Tree management      | 7.1%   |        | 2.0%              | 0.4%              |                     |                     | 0.4%             |                    |
| 5. Weeding              | 7.1%   |        | 2.0%              | 0.4%              |                     |                     | 0.4%             |                    |
| 6. Irrigating           | 7.1%   |        | 2.0%              | 0.4%              |                     |                     | 0.4%             |                    |
| 7. Harvesting           | 7.1%   |        | 2.0%              | 0.4%              |                     |                     | 0.4%             |                    |
| 8. Post-harvest         | 6.7%   |        | 2.4%              | 0.4%              |                     |                     | 0.4%             |                    |
| 9. Processing           | 2.8%   | 0.4%   |                   |                   |                     |                     | 0.4%             |                    |
| 10. Marketing           | 7.1%   |        | 1.6%              | 0.4%              |                     |                     | 0.4%             |                    |

## (b) Livestock

According to Head of Household

| Activity               | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs     | 89.3%  | 0.8%   | 9.5%              |                   |                     |                     |                  |                    |
| 2. Fodder cutting      | 71.5%  | 4.3%   | 15.4%             | 2.0%              |                     |                     | 6.3%             |                    |
| 3. Feed, water animals | 64.4%  | 11.9%  | 13.8%             | 2.0%              | 1.6%                |                     | 5.9%             |                    |
| 4. Milking             | 63.6%  | 15.4%  | 10.7%             | 1.2%              | 3.2%                |                     | 4.3%             |                    |
| 5. Tend to birth       | 67.6%  | 12.3%  | 9.1%              | 1.6%              | 4.3%                |                     | 4.0%             |                    |
| 6. Collect dung        | 27.7%  | 47.8%  | 7.1%              | 1.2%              | 9.1%                |                     | 4.7%             | 2.0%               |
| 7. Make dung pats      | 19.4%  | 47.8%  | 2.8%              | 1.2%              | 10.3%               | 0.4%                | 1.6%             | 2.8%               |
| 8. Clean shelters      | 35.6%  | 37.2%  | 6.7%              | 1.2%              | 7.9%                | 1.2%                | 6.7%             | 1.2%               |
| 9. Rear young animals  | 62.5%  | 18.2%  | 5.9%              | 1.6%              | 4.7%                |                     | 4.7%             | 0.4%               |
| 10. Buy/sell milk      | 88.1%  | 2.0%   | 5.9%              | 0.8%              | 0.4%                |                     | 0.8%             |                    |
| 11. Process milk       |        | 42.7%  | 1.6%              | 1.2%              | 3.2%                |                     | 0.4%             |                    |
| 12. Marketing          |        | 17.0%  | 4.0%              | 2.0%              |                     |                     |                  |                    |

According to Spouse

| Activity               | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs     | 79.8%  | 1.6%   | 13.0%             | 3.6%              |                     |                     | 1.6%             |                    |
| 2. Fodder cutting      | 47.8%  | 21.7%  | 17.4%             | 4.7%              | 1.2%                |                     | 6.7%             |                    |
| 3. Feed, water animals | 44.3%  | 24.1%  | 18.2%             | 4.3%              | 1.6%                |                     | 7.1%             |                    |
| 4. Milking             | 55.7%  | 17.4%  | 17.0%             | 3.6%              | 0.8%                |                     | 4.0%             |                    |
| 5. Tend to birth       | 53.4%  | 17.0%  | 18.6%             | 3.2%              | 1.6%                |                     | 5.9%             |                    |
| 6. Collect dung        | 16.2%  | 54.5%  | 7.9%              | 3.6%              | 7.9%                |                     | 7.9%             | 1.6%               |
| 7. Make dung pats      | 13.4%  | 56.5%  | 5.1%              | 3.6%              | 9.5%                | 0.4%                | 7.1%             | 1.6%               |
| 8. Clean shelters      | 20.2%  | 50.6%  | 8.7%              | 3.6%              | 7.9%                |                     | 8.3%             | 0.4%               |
| 9. Rear young animals  | 30.8%  | 42.3%  | 12.3%             | 4.0%              | 2.4%                |                     | 7.5%             | 0.4%               |
| 10. Buy/sell milk      | 75.1%  | 6.3%   | 11.9%             | 3.6%              |                     |                     | 2.0%             |                    |
| 11. Process milk       | 7.5%   | 31.6%  | 0.4%              | 1.6%              | 0.8%                |                     |                  |                    |



|               |       |       |      |      |      |  |      |  |
|---------------|-------|-------|------|------|------|--|------|--|
| 12. Marketing | 45.1% | 12.3% | 6.3% | 2.4% | 0.4% |  | 1.2% |  |
|---------------|-------|-------|------|------|------|--|------|--|

## (c) Agriculture

According to Head of Household

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs      | 86.2%  | 0.8%   | 10.7%             | 0.8%              |                     |                     | 0.4%             |                    |
| 2. Prepare for planting | 75.9%  | 0.8%   | 15.4%             | 1.6%              |                     |                     | 5.1%             |                    |
| 3. Planting             | 75.1%  | 1.6%   | 15.4%             | 1.2%              |                     |                     | 5.5%             |                    |
| 4. Crop management      | 73.1%  | 1.6%   | 16.2%             | 1.2%              |                     |                     | 6.7%             |                    |
| 5. Weeding              | 71.9%  | 3.2%   | 15.8%             | 0.8%              |                     |                     | 7.1%             |                    |
| 6. Irrigating           | 73.5%  | 2.4%   | 15.8%             | 1.2%              |                     |                     | 6.3%             |                    |
| 7. Harvesting           | 69.2%  | 3.6%   | 13.4%             | 1.2%              |                     |                     | 11.1%            |                    |
| 8. Post-harvest         | 65.2%  | 11.9%  | 12.6%             | 1.6%              |                     |                     | 4.7%             |                    |
| 9. Processing           | 15.0%  | 26.9%  | 2.4%              | 1.6%              | 0.8%                |                     | 0.8%             |                    |
| 10. Marketing           |        | 3.2%   | 5.9%              | 0.4%              | 0.4%                |                     | 0.4%             |                    |

According to Spouse

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs      | 73.1%  | 0.8%   | 17.4%             | 3.2%              |                     |                     | 1.2%             |                    |
| 2. Prepare for planting | 61.3%  | 0.8%   | 16.6%             | 3.6%              |                     |                     | 13.4%            |                    |
| 3. Planting             | 66.4%  | 0.8%   | 18.6%             | 3.6%              |                     |                     | 6.3%             |                    |
| 4. Crop management      | 69.6%  | 0.8%   | 17.8%             | 3.6%              |                     |                     | 4.0%             |                    |
| 5. Weeding              | 53.0%  | 11.5%  | 17.8%             | 3.6%              | 0.4%                |                     | 9.5%             |                    |
| 6. Irrigating           | 60.5%  | 0.8%   | 21.3%             | 4.3%              |                     |                     | 8.7%             |                    |
| 7. Harvesting           | 46.2%  | 13.4%  | 15.4%             | 4.7%              | 0.8%                |                     | 12.6%            | 0.4%               |
| 8. Post-harvest         | 56.1%  | 13.8%  | 14.2%             | 4.0%              | 1.6%                |                     | 2.8%             | 0.4%               |
| 9. Processing           | 6.3%   | 8.7%   | 1.6%              | 1.2%              |                     |                     | 0.4%             |                    |
| 10. Marketing           | 55.3%  | 1.2%   | 10.3%             | 2.8%              | 0.4%                |                     | 0.4%             |                    |

## (d) Household Activities

According to Head of Household

| Activity                            | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Cooking                          | 4.3%   | 75.9%  | 0.8%              |                   | 18.2%               |                     |                  |                    |
| 2. Making tea                       | 3.6%   | 75.9%  | 0.8%              |                   | 19.0%               |                     |                  |                    |
| 3. Caring for infants               | 7.1%   | 71.9%  | 0.8%              |                   | 13.8%               |                     |                  |                    |
| 4. Take kids to school              | 17.8%  | 29.6%  | 1.6%              |                   | 5.1%                |                     |                  |                    |
| 5. Wash clothes                     | 3.6%   | 72.3%  |                   |                   | 20.9%               | 0.4%                |                  | 1.2%               |
| 6. Wash dishes                      | 4.0%   | 69.6%  | 0.8%              |                   | 20.6%               | 2.4%                |                  | 1.2%               |
| 7. Gather firewood                  | 35.6%  | 42.3%  | 11.9%             |                   | 3.2%                |                     | 2.8%             | 1.2%               |
| 8. Collect water                    | 3.6%   | 58.5%  | 0.8%              |                   | 6.7%                | 0.4%                | 0.8%             | 1.2%               |
| 9. Dispose of H/H waste             | 2.0%   | 67.2%  | 0.4%              |                   | 15.0%               | 2.0%                | 1.2%             | 2.4%               |
| 10. Income earning activity at home | 1.6%   | 11.5%  |                   |                   | 2.4%                |                     |                  |                    |

According to Spouse

| Activity                            | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Cooking                          | 0.8%   | 68.8%  | 0.8%              | 3.2%              | 25.3%               | 0.4%                |                  |                    |
| 2. Making tea                       | 0.8%   | 65.6%  | 0.8%              | 3.2%              | 28.1%               | 0.4%                |                  |                    |
| 3. Caring for infants               | 2.0%   | 62.1%  | 0.4%              | 0.4%              | 23.3%               |                     |                  |                    |
| 4. Take kids to school              | 5.5%   | 20.6%  | 2.0%              | 1.2%              | 12.3%               | 1.2%                |                  | 0.8%               |
| 5. Wash clothes                     | 1.2%   | 64.8%  | 0.8%              | 2.8%              | 26.5%               | 0.4%                |                  | 0.8%               |
| 6. Wash dishes                      | 1.2%   | 57.7%  | 1.2%              | 3.2%              | 32.4%               | 1.2%                |                  | 0.8%               |
| 7. Gather firewood                  | 25.7%  | 32.4%  | 17.0%             | 2.4%              | 12.6%               | 0.4%                | 6.3%             | 0.8%               |
| 8. Collect water                    | 1.6%   | 36.8%  | 2.8%              |                   | 14.6%               |                     |                  | 1.2%               |
| 9. Dispose of H/H waste             | 2.4%   | 62.1%  | 1.2%              | 1.2%              | 22.9%               | 1.2%                | 1.2%             | 2.0%               |
| 10. Income earning activity at home | 2.4%   | 15.8%  | 0.4%              |                   | 3.2%                |                     |                  | 0.8%               |

**d. Percent of Farm and Household Activities Carried out Primarily by Females in Average Household**

| TYPE OF ACTIVITY | According to Head of Household | According to Spouse |
|------------------|--------------------------------|---------------------|
| Orchard          | 2%                             | 0%                  |
| Livestock        | 28%                            | 34%                 |
| Agriculture      | 6%                             | 7%                  |
| Household        | 87%                            | 88%                 |

**e. Hours spent yesterday working on various activities**According to Head of Household

|                          | Household chores | Income-earning work in H/H | Farm chores | Income-earning work off farm | Total |
|--------------------------|------------------|----------------------------|-------------|------------------------------|-------|
| <b>Head of Household</b> | 0.40             | 0.08                       | 5.40        | 0.57                         | 6.45  |
| <b>Spouse</b>            | 4.85             | 0.16                       | 1.16        | 0.00                         | 6.18  |

According to Spouse

|                          | Household chores | Income-earning work in H/H | Farm chores | Income-earning work off farm | Total |
|--------------------------|------------------|----------------------------|-------------|------------------------------|-------|
| <b>Head of Household</b> | 2.58             | 0.10                       | 1.34        | 0.06                         | 4.07  |
| <b>Spouse</b>            | 3.25             | 0.01                       | 3.07        | 0.63                         | 6.96  |

**PROBLEMS AND OPPORTUNITIES****a. Household Concerns**

| Key Concern                                       | Aggregate Score*               |                     |
|---|--------------------------------|---------------------|
|   | According to Head of Household | According to Spouse |
| 1. Not enough food/water/shelter                  | 92                             | 234                 |
| 2. Lack of dowry for daughter                     | 66                             | 159                 |
| 3. Lack of education for children                 | 147                            | 163                 |
| 4. Lack of training to improve my skills          | 86                             | 79                  |
| 5. Lack of health care for household              | 264                            | 132                 |
| 6. Lack of opportunities for women to earn income | 31                             | 95                  |
| 7. Lack of credit                                 | 135                            | 32                  |
| 8. Lack of security                               | 94                             | 24                  |
| 9. Other  | 47                             | 140                 |

\* Aggregate Score =  $(N_1*3 + N_2*2 + N_3*1)$ , where:

$N_1$  = number of respondents who ranked this concern most important

$N_2$  = number of respondents who ranked this concern second most important

$N_3$  = number of respondents who ranked this concern third most important

**b. If child was sick would you have money for medicine?**

|     | According to Head of Household | According to Spouse |
|-----|--------------------------------|---------------------|
| Yes | 173                            | 98                  |
| No  | 57                             | 91                  |

**c. Best Options to Increase Household Income**

| Option  | According to Head of Household | According to Spouse |
|---|--------------------------------|---------------------|
| 1. Dairy (more quantity and/or better quality)  | 75                             | 128                 |
| 2. Mango (more quantity and/or better quality)  | 0                              | 0                   |
| 3. Citrus (more quantity and/or better quality) | 2                              | 0                   |
| 4. Other crops                                  | 46                             | 34                  |
| 5. Other livestock                              | 36                             | 31                  |
| 6. Income-earning work in the home              | 3                              | 2                   |
| 7. Income-earning work off-farm                 | 36                             | 19                  |

**d. What is the biggest obstacle to increasing income?**

| Obstacle                               | Head of Household | Obstacle                               | Spouse |
|--|-------------------|--|--------|
| Lack of credit/money/resources/finance | 64                | Lack of credit/money/resources/finance | 27     |

|                                 |    |   |   |
|---------------------------------|----|---|---|
| Inputs (high cost, low quality) | 32 | Inputs (high cost of fertilizer, seed, animals) | 9 |
| Lack of training/guidance       | 13 |   |   |
| Irrigation (lack of water)      | 10 |   |   |
| No jobs available               | 6  |   |   |

**e. In generating income from dairy, where is the biggest challenge?**

| Biggest Challenge   | Number of respondents (Heads of Household) |
|---|--|
| 1. Inputs (availability, quality, cost)                           | 67%  |
| 2. Production (animal health, feed rations)                       | 21%  |
| 3. Post-harvest management (handling, storage, transportation)    | 1%   |
| 4. Processing activity (e.g. making cheese, ghee, yogurt)         | 0%   |
| 5. Marketing (selling milk and milk products, market information) | 11%  |

**f. Do you have hope for the future?**

|     | Response by Head of Household | Response by Spouse |
|-----|-------------------------------|--------------------|
| Yes | 55%                           | 41%                |
| No  | 45%                           | 59%                |

## INFORMATION AND COMMUNICATION

**a. Extension advice**

(a) Production (how to improve)

| Source of Advice            | Number of respondents (Heads of Household) | Quality of the Advice |             |      |
|-----------------------------|--|-----------------------|-------------|------|
|                             |  | Poor                  | Indifferent | Good |
| 1. Relative/friend          | 193  | 11%                   | 20%         | 69%  |
| 2. Input supplier/buyer     | 21   | 15%                   | 35%         | 50%  |
| 3. Village extension worker | 36   | 6%                    | 21%         | 74%  |
| 4. Farmer field school      | 2  | 0%                    | 50%         | 50%  |
| 5. ASLP dairy               | 63   | 5%                    | 18%         | 77%  |
| 6. TV                       | 15   | 27%                   | 47%         | 27%  |
| 7. Radio                    | 3  | 0%                    | 0%          | 0%   |

(b) Post-harvest management (how to improve)

| Source of Advice            | Number of respondents (Heads of Household) | Quality of the Advice |             |      |
|-----------------------------|--|-----------------------|-------------|------|
|                             |  | Poor                  | Indifferent | Good |
| 1. Relative/friend          | 86   | 8%                    | 11%         | 80%  |
| 2. Input supplier/buyer     | 6  | 14%                   | 29%         | 57%  |
| 3. Village extension worker | 6  | 17%                   | 33%         | 50%  |
| 4. Farmer field school      | 0  | *                     | *           | *    |
| 5. ASLP dairy               | 34   | 3%                    | 6%          | 91%  |
| 6. TV                       | 4  | 0%                    | 67%         | 33%  |
| 7. Radio                    | 0  | *                     | *           | *    |

## (c) Marketing (how to improve)

| Source of Advice            | Number of respondents<br>(Heads of Household) | Quality of the Advice |             |      |
|-----------------------------|---|-----------------------|-------------|------|
|                             |   | Poor                  | Indifferent | Good |
| 1. Relative/friend          | 110   | 20%                   | 8%          | 72%  |
| 2. Input supplier/buyer     | 11  | 33%                   | 17%         | 50%  |
| 3. Village extension worker | 5   | 25%                   | 25%         | 50%  |
| 4. Farmer field school      | 0   | *                     | *           | *    |
| 5. ASLP dairy               | 38  | 3%                    | 11%         | 87%  |
| 6. TV                       | 3   | 0%                    | 0%          | 100% |
| 7. Radio                    | 0   | *                     | *           | *    |

**b. Mobile Phone**

|  | Response by HoH | Response by Spouse |
|--|-----------------|--------------------|
| 1. Do you own/have access to a mobile phone?     |                 |                    |
| Yes  | 201             | 117                |
| No   | 44              | 134                |
| 2. Rate your skill level:                        |                 |                    |
| Beginner   | 112             | 71                 |
| Competent  | 68              | 4                  |
| Expert   | 15              | 0                  |
| 3. Rate your children's skill level:             |                 |                    |
| Beginner   | 61              | 53                 |
| Competent  | 66              | 21                 |
| Expert   | 20              | 7                  |
| 3. How much do you spend on mobile (Rs./month)   | Rs1,600         | Rs400              |
| 4. Type of phone use:                            |                 |                    |
| All personal                                     | 52              | 73                 |
| Most personal                                    | 45              | 2                  |
| Half and half                                    | 84              | 10                 |
| Most business                                    | 11              | 0                  |
| All business                                     | 3               | 25                 |
| 5. Do you use SMS on your mobile phone?          |                 |                    |
| Yes  | 30              | 7                  |
| No   | 168             | 90                 |
| 6. Would you use market information sent by SMS? |                 |                    |
| Yes  | 15              | 30                 |
| No   | 180             | 56                 |
| 7. Can mobile phone access the internet?         |                 |                    |
| Yes  | 9               | 0                  |
| No   | 185             | 95                 |

**c. Computer**

|   | <b>Response by HoH</b> | <b>Response by Spouse</b> |
|---|------------------------|---------------------------|
| 1. Do you have access to a computer?        |                        |                           |
| Yes   | 10                     | 10                        |
| No  | 231                    | 240                       |
| 2. Do you have a home computer?             |                        |                           |
| Yes   | 12                     | 11                        |
| No  | 11                     | 2                         |
| 2. Rate your skill level:                   |                        |                           |
| Beginner                                    | 11                     | 1                         |
| Competent                                   | 1                      | 1                         |
| Expert                                      | 1                      | 0                         |
| 3. Rate your children's skill level:        |                        |                           |
| Beginner                                    | 9                      | 1                         |
| Competent                                   | 1                      | 5                         |
| Expert                                      | 7                      | 2                         |
| 4. Do you use computer for internet/email?  |                        |                           |
| Yes   | 1                      | 1                         |
| No  | 15                     | 2                         |
| 5. Do you use computer for watching videos? |                        |                           |
| Yes   | 2                      | 1                         |
| No  | 13                     | 2                         |
| 6. Type of computer use:                    |                        |                           |
| All personal                                | 2                      | 3                         |
| Most personal                               | 0                      | 5                         |
| Half and half                               | 0                      | 1                         |
| Most business                               | 0                      | 0                         |
| All business                                | 0                      | 0                         |

#### d. Skills Training

|                                      | <b>Response by HoH</b> | <b>Response by Spouse</b> |
|--------------------------------------|------------------------|---------------------------|
| 1. Have you had any skills training? |                        |                           |
| Yes                                  | 29                     | 5                         |
| No                                   | 215                    | 224                       |

#### e. What type of training would you like in future?

| <b>Type of training</b>        | <b>Response by Head of Household</b> | <b>Type of training</b>    | <b>Response by Spouse</b> |
|--------------------------------|--------------------------------------|----------------------------|---------------------------|
| Livestock management           | 92                                   | Sewing                     | 65                        |
| Agriculture (crops) management | 59                                   | Embroidery                 | 59                        |
| Land management                | 16                                   | Vocational training centre | 31                        |
| Handicrafts etc. for women     | 10                                   |                            |                           |

## COLLABORATION and COMMUNITY

| <b>How easy is it to work with other households to achieve something?</b> | <b>Weighted Average Response*</b> |                  |
|---|-----------------------------------|------------------|
|   | <b>by Head of Household</b>       | <b>by Spouse</b> |
| 1. Buy community assets (e.g. storage shed)                               | 2.43                              | 3.37             |
| 2. Buy farm inputs together (e.g. fertilizer, seedlings)                  | 2.32                              | 3.32             |
| 3. Sell farm outputs together (e.g. fruit, milk)                          | 2.31                              | 3.62             |
| 4. Other community activities (e.g. women's group, festival)              | 3.42                              | 4.16             |

\*Weighted average response uses as weights: 1=very difficult, 2=difficult, 3=neither, 4=easy, 5=very easy

#### **AGRICULTURE SECTOR LINKAGES PROGRAM (ASLP)**

|   | <b>Response by Head of Household</b> | <b>Response by Spouse</b> |
|---|--------------------------------------|---------------------------|
| 1. Have you heard about the ASLP dairy project? |                                      |                           |
| Yes   | 66                                   | 55                        |
| No  | 160                                  | 186                       |
| 2. Have you attended an ASLP dairy seminar?     |                                      |                           |
| Yes   | 62                                   | 38                        |
| No  | 19                                   | 46                        |
| 3. Are you a registered farmer with ASLP dairy? |                                      |                           |
| Yes   | 61                                   |                           |
| No  | 19                                   |                           |



## **PRELIMINARY ANALYSIS OF BASELINE SURVEY: MANGO<sup>7</sup>**

**University of Canberra, University of Agriculture Faisalabad and Sindh Agricultural  
University**

**Summary Report By:  
John Spriggs  
University of Canberra  
17 April 2012**

### **SURVEY TEAM**

Prof. John Spriggs, University of Canberra (lead, Australia)  
Dr. Izhar Ahmed Khan, University of Agriculture Faisalabad (lead, Pakistan)  
Ms. Tehmina Mangan, Sindh Agricultural University (lead, Pakistan)  
Dr. Sandra Heaney-Mustafa, University of Canberra  
Mr. Babar Shabhaz, University of Agriculture Faisalabad

Enumerators: Asif Iqbal, Izhar Ahmed Khan, Manzar, M. Naveed,  
Iram, Nazia Ayub, Rida Akram, Uzma Iqbal, Habibullah Rajper,  
M. Ali Bhatti, Shoaib Ahmed Wagan, Nasreen, Quart-ul-ain, Samina Baloch

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<sup>7</sup>This survey was conducted in October - December 2011 as part of the Social Research Project of the Agriculture Sector Linkages Program, Phase 2 (ASLP2) managed by ACIAR for AusAID. The survey was conducted in Multan and Rahim Yar Khan, Punjab by University of Agriculture Faisalabad and in Mirpur Khas and Tando Allah Yar, Sindh by Sindh Agricultural University. For correspondence, contact Prof. John Spriggs at [John.Spriggs@canberra.edu.au](mailto:John.Spriggs@canberra.edu.au).

## INTRODUCTION

There were 243 households surveyed in Multan (60), Rahim Yar Khan (63), Mirpur Khas (60) and Tando Allah Yar (60).

## CHARACTERISTICS OF RESPONDENTS AND HOUSEHOLD.

Of the 243 households surveyed, the responses are summarised as follows

- Marital status** - 202 married, 40 single, 0 widowed
- Gender of head of household** - 242 male, 1 female
- Type of family** - 140 nuclear, 95 joint, 1 extended
- Mother tongue:**

|                   | Regional | Urdu | Other |
|-------------------|----------|------|-------|
| Head of Household | 191      | 1    | 34    |
| Spouse            | 174      | 16   | 19    |

- The average composition of the household was as follows:**

|                         | Total | In School | At Work |         |          |
|-------------------------|-------|-----------|---------|---------|----------|
|                         |       |           | On farm | At home | Off farm |
| Male ( $\geq 15$ yrs)   | 2.63  | 0.35      | 1.46    | 0.25    | 0.60     |
| Male ( $< 15$ yrs)      | 1.88  | 1.19      | 0.08    | 0.50    | 0.02     |
| Female ( $\geq 15$ yrs) | 2.33  | 0.19      | 0.11    | 1.92    | 0.09     |
| Female ( $< 15$ yrs)    | 1.74  | 1.02      | 0.03    | 0.64    | 0.00     |
| <b>TOTAL</b>            | 8.59  | 2.76      | 1.68    | 3.32    | 0.71     |

- The age profile of the respondents is:**

| Age Group        | Head of H/H | Spouse |
|------------------|-------------|--------|
| $\leq 20$ years  | 3           | 2      |
| 21 - 30 years    | 32          | 49     |
| 31 - 40 years    | 66          | 92     |
| 41 - 50 years    | 66          | 67     |
| 51 - 60 years    | 33          | 19     |
| $> 60$ years     | 15          | 7      |
| Weighted Average | 42.1        | 38.6   |

- Schooling of the respondent is:**

|                         | Head of H/H | Spouse |
|-------------------------|-------------|--------|
| Years at school         | 7.27        | 3.32   |
| Highest Level Achieved: |             |        |
| - None                  | 57          | 145    |
| - Primary               | 36          | 43     |
| - Middle                | 29          | 12     |
| - Secondary             | 43          | 9      |
| - High                  | 27          | 14     |
| - Vocational            | 2           | 5      |
| - University            | 24          | 4      |

h. **Literacy in Household**

| Literacy Questions            | Head of H/H |    | Spouse |     |
|-------------------------------|-------------|----|--------|-----|
|                               | Yes         | No | Yes    | No  |
| Can you read?                 | 175         | 51 | 92     | 140 |
| Can you write?                | 177         | 49 | 89     | 146 |
| Can anyone else in H/H read?  | 214         | 15 | 219    | 14  |
| Can anyone else in H/H write? | 213         | 16 | 222    | 12  |

i. **Monthly Household Income**

| Monthly H/H Income (Rs.) | According to Head of H/H | According to Spouse |
|--------------------------|--------------------------|---------------------|
| ≤ 5,000                  | 25                       | 23                  |
| 5,001 - 10,000           | 51                       | 39                  |
| 10,001 - 15,000          | 22                       | 48                  |
| 15,001 - 20,000          | 36                       | 21                  |
| 20,001 - 25,000          | 31                       | 8                   |
| 25,001 - 30,000          | 18                       | 5                   |
| 30,001 - 40,000          | 7                        | 2                   |
| 40,001 - 50,000          | 8                        | 2                   |
| > 50,000                 | 3                        | 1                   |
| Don't Know               | 30                       | 71                  |
| Weighted Average/month   | 16,480                   | 12,400              |

j. **Last month, was there any H/H income left over for your individual personal use after paying for essentials?**

| Personal disposable income last month | Head of H/H | Spouse |
|---------------------------------------|-------------|--------|
| Yes                                   | 157         | 158    |
| If yes, how much?                     | 6,900       | 465    |

k. **House construction:**

| Type  | Number |
|-------|--------|
| Brick | 213    |
| Mud   | 21     |
| Other | 0      |

l. **Assets in the House**

| Asset                | Yes | No |
|----------------------|-----|----|
| 1. Piped water       | 150 | 81 |
| 2. Electric lighting | 223 | 11 |
| 3. Indoor toilet     | 160 | 68 |
| 4. Stove             | 172 | 59 |
| 5. TV*               | 177 | 33 |
| 6. Washing machine   | 136 | 79 |

\* TV with cable (35), without cable (142)



**FARM OPERATION OF THE HOUSEHOLD**a. **Average area owned by household:** 7.67 acres**b. Rented and Sharefarmed Land**

| <b>Households which rent or sharefarm other land</b> |               |                             |  |
|--|---------------|-----------------------------|--|
|  | <b>Number</b> | <b>Average Area (acres)</b> | <b>Rental cost (Rs./acre) or Cropshare (%)</b> |
| Rented   | 24            | 12.1                        | 20,500   |
| Sharefarmed  | 11            | 4.82                        | 45.8%  |

| <b>Households which rent out or sharefarm out their land</b> |               |                             |  |
|--|---------------|-----------------------------|--|
|  | <b>Number</b> | <b>Average Area (acres)</b> | <b>Rental cost (Rs./acre) or Cropshare (%)</b> |
| Rented out   | 2             | 3.5                         | *  |
| Sharefarmed out  | 4             | 6.6                         | 50%  |

**c. Crops Grown**

(a) Orchard Crops

| <b>Orchard Crop</b> | <b>Number of Households</b> | <b>Area of Households reporting (acres)</b> | <b>No. of trees</b> | <b>No. of fruit bearing trees</b> |
|---------------------|-----------------------------|---|---------------------|-----------------------------------|
| Mango               | 240                         | 4.30  | 111                 | 103                               |
| Citrus              | 4                           | 1.75  |                     |                                   |
| Other               | 5                           | 2.50  |                     |                                   |

(b) Rabi (Winter) Crops

| <b>Rabi Crop</b> | <b>Number of Households</b> | <b>Area of Households reporting (acres)</b> |
|------------------|-----------------------------|---|
| Fodder           | 181                         | 1.68  |
| Wheat            | 177                         | 3.47  |
| Hybrid Maize     | 2                           | 2.50  |
| Mustard          | 9                           | 1.79  |
| Sugar Cane       | 67                          | 3.56  |
| Vegetables       | 26                          | 2.25  |
| Other            | 10                          | 2.24  |

(c) Kharif (Summer) Crops

| <b>Rabi Crop</b> | <b>Number of Households</b> | <b>Area of Households reporting (acres)</b> |
|------------------|-----------------------------|---|
| Fodder           | 125                         | 1.85  |
| Maize            | 22                          | 1.36  |
| Rice             | 9                           | 2.06  |
| Cotton           | 141                         | 3.29  |
| Sugar Cane       | 68                          | 3.56  |
| Vegetables       | 14                          | 1.80  |
| Other            | 4                           | 1.38  |

**d. Unprocessed Farm Produce in past 12 months**

## (a) Home Use

|               | Units     | Number of Households | Quantity for home use/household reporting |
|---------------|-----------|----------------------|---|
| Mango         | crates    | 114                  | 26.74                                     |
|               | maunds    | 12                   | 7.67                                      |
|               | trees     | 14                   | 2.00                                      |
|               | acres     | 64                   | 0.76                                      |
|               |           |                      |   |
| Citrus        | kilograms | 1                    | 2.0                                       |
|               | acres     | 2                    | 0.25                                      |
|               |           |                      |   |
| Milk          | litres    | 125                  | 4.96                                      |
|               |           |                      |   |
| Male calves   | number    | 134                  | 0.22                                      |
|               |           |                      |   |
| Rabi Fodder   | acres     | 188                  | 1.35                                      |
|               |           |                      |   |
| Kharif Fodder | acres     | 176                  | 1.11                                      |

## (b) For Sale

|               | Units  | Number of Households | For Sale |            | Sold to* |    |    |    |    |   |   |   |
|---------------|--------|----------------------|----------|------------|----------|----|----|----|----|---|---|---|
|               |        |                      | Quantity | Price/unit | 1        | 2  | 3  | 4  | 5  | 6 | 7 | 8 |
| Mango         | crates | 44                   | 293      | 1,300      | 10       | 8  | 16 | 1  | 7  | 1 | 0 | 0 |
|               | trees  | 30                   | 40.2     | 1,490      | 0        | 0  | 0  | 29 | 0  | 0 | 0 | 0 |
|               | acres  | 109                  | 6.26     | 111,177    | 1        | 35 | 14 | 45 | 11 | 0 | 0 | 2 |
| Citrus        | acres  | 2                    | 1.25     | 20,000     | 0        | 0  | 0  | 0  | 1  | 0 | 0 | 0 |
| Milk          | litres | 39                   | 5.42     | 45.19      | 11       | 17 | 0  | 0  | 1  | 5 | 0 | 0 |
| Male Calves   | number | 34                   | 1.74     | 27,700     | 3        | 20 | 4  | 0  | 2  | 0 | 0 | 1 |
| Rabi Fodder   | acres  | 12                   | 0.88     | 10,040     | 8        | 3  | 0  | 0  | 0  | 0 | 0 | 0 |
|               | maunds | 6                    | 158.75   | 130.00     | 1        | 5  | 0  | 0  | 0  | 0 | 0 | 0 |
| Kharif Fodder | acres  | 10                   | 0.95     | 11,000     | 3        | 4  | 1  | 0  | 0  | 0 | 0 | 0 |
|               | maunds | 3                    | 166.67   | 150        | 0        | 3  | 0  | 0  | 0  | 0 | 0 | 0 |

- \*  
1= direct to consumer/other farmer  
2=village dealer (e.g. village dodhi, village bopari)  
3= producers' marketing association  
4= contractor  
5= wholesaler/commission agent (Ahrti)  
6=retailer/hotel  
7= processor/pack house  
8= exporter

## (c) Mango are sold by households at:

| Stage of Harvest | Number of Households |
|------------------|----------------------|
| 1. Flowering     | 46                   |

|                  |     |
|------------------|-----|
| 2. Fruit Setting | 45  |
| 3. Harvest       | 115 |

**e. Processed Products of Household during past 12 months**

## (a) For Home Use

|                | Units     | Number of Households | Quantity for home use |
|----------------|-----------|----------------------|-----------------------|
| Mango: pickles | kilograms | 126                  | 10.8                  |
| juice          | litres    | 4                    | 13.5                  |
| Dairy: ghee    | kilograms | 46                   | 3.87                  |
| cheese         | kilograms | 3                    | 4.50                  |
| Sewing: cloths | number    | 29                   | 3.58                  |
| embroidery     | number    | 7                    | 2.17                  |
| rali           | number    | 11                   | 5.71                  |

## (b) For Sale

|                | Units  | Number of Households | For Sale |            | Sold to* |   |   |   |
|----------------|--------|----------------------|----------|------------|----------|---|---|---|
|                |        |                      | Quantity | Price/unit | 1        | 2 | 3 | 4 |
| Dairy: ghee    | Kgs.   | 5                    | 2.8      | 480        | 2        | 0 | 1 | 0 |
| Sewing: cloths | number | 29                   | 11.75    | 200        | 3        | 2 | 5 | 0 |
| embroidery     | number | 7                    | 13.00    | 980        | 0        | 0 | 3 | 2 |
| dress          | number | 1                    | 30.00    | 100        | 1        | 0 | 0 | 0 |
| rali           | number | 11                   | 7.83     | 1,300      | 5        | 1 | 0 | 0 |

- \* 1 = direct to consumer  
 2 = cooperative/producer marketing association  
 3 = commercial buyer (village)  
 4 = commercial buyer (other)

**f. Dairy Livestock**

## (a) Inventory of Dairy Livestock

| Type    | Number of Households Reporting | Average Number/Household | Average Number/ Household Reporting |               |      |             |
|---------|--------------------------------|--------------------------|-------------------------------------|---------------|------|-------------|
|         |                                |                          | Total                               | Adult Females |      | Adult Males |
|         |                                |                          |                                     | Milking       | Dry  |             |
| Cattle  | 81                             | 0.73                     | 2.20                                | 0.85          | 0.64 | 0.85        |
| Buffalo | 160                            | 1.88                     | 2.86                                | 1.43          | 1.12 | 0.41        |
| Goats   | 65                             | 1.09                     | 4.08                                | *             | *    | *           |
| Sheep   | 2                              | 0.01                     | 1.50                                | *             | *    | *           |

## (b) Dairy Cattle/Buffalo Transactions

**Purchases**

| Type    | Number of Households Reporting | Average Number Purchased/ Household reporting | Ave Price/ head | Bought From* |   |   |   |   |   |
|---------|--------------------------------|---|-----------------|--------------|---|---|---|---|---|
|         |                                |   |                 | 1            | 2 | 3 | 4 | 5 | 6 |
| Cattle  | 20                             | 2.45  | 33,000          | 6            | 3 | 8 | 0 | 0 | 0 |
| Buffalo | 18                             | 2.44  | 73,200          | 7            | 4 | 5 | 0 | 0 | 0 |

\* 1=another farmer  
2=village bopari  
3=livestock mandi  
4=butcher/slaughter house  
5=retailer/mini store/super store  
6=other

**Sales**

| Type    | Number of Households Reporting | Average Number Sold/ Household reporting | Ave Price/ head | Sold to* |    |   |   |   |   |
|---------|--------------------------------|--|-----------------|----------|----|---|---|---|---|
|         |                                |  |                 | 1        | 2  | 3 | 4 | 5 | 6 |
| Cattle  | 19                             | 2.53                                     | 28,200          | 2        | 9  | 7 | 0 | 0 | 0 |
| Buffalo | 20                             | 1.95                                     | 56,000          | 3        | 11 | 3 | 2 | 0 | 0 |

\* 1=another farmer  
2=village bopari  
3=livestock mandi  
4=butcher/slaughter house  
5=retailer/mini store/super store  
6=other

**Deaths**

| Type    | Number of Households Reporting | Average Number Deaths/ Household reporting |
|---------|--------------------------------|--|
| Cattle  | 6                              | 2.50                                       |
| Buffalo | 18                             | 1.50                                       |

**HOUSEHOLD DECISIONS AND ACTIVITIES****a. Household Money Decisions**

| Type of Decision                        | According to Head of Household (H of H), the decision is made by: |        |                   |       | According to Spouse, the decision is made by |        |                   |       |
|---|---|--------|-------------------|-------|--|--------|-------------------|-------|
|   | H of H  | Spouse | H of H and Spouse | Other | H of H                                       | Spouse | H of H and Spouse | Other |
| 1. Everyday H/H purchases               | 207   | 2      | 14                | 12    | 108  | 11     | 99                | 19    |
| 2. Large H/H purchases                  | 186   | 6      | 11                | 9     | 113  | 3      | 90                | 26    |
| 3. Purchase/sale of Livestock           | 158   | 0      | 41                | 11    | 130  | 1      | 69                | 23    |
| 4. Purchase/sale of farm inputs/outputs | 197   | 0      | 16                | 14    | 158  | 3      | 47                | 26    |
| 5. Dowry expenses                       | 122   | 9      | 82                | 8     | 83   | 6      | 81                | 15    |
| 6. Education expenses                   | 178   | 1      | 32                | 8     | 122  | 6      | 81                | 17    |
| 7. Medical expenses                     | 199   | 1      | 15                | 13    | 134  | 5      | 76                | 21    |

**b. Percent of Households in which decisions involve spouse**

|   | According to Head of Household | According to Spouse |
|---|--------------------------------|---------------------|
| %Farm Business decisions involving spouse | 13%                            | 26%                 |



|                                       |     |     |
|---------------------------------------|-----|-----|
| %Other H/H decisions involving spouse | 15% | 37% |
|---------------------------------------|-----|-----|

**c. Farm and Household Activities (Estimated probability that a particular category of individual is primarily responsible for a particular activity in the type of households surveyed)**

(a) Orchard

According to Head of Household

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs      | 88.5%  | 0.4%   | 6.2%              | 0.4%              |                     |                     |                  |                    |
| 2. Prepare for planting | 72.0%  | 0.4%   | 11.5%             | 1.2%              | 0.4%                |                     | 9.9%             | 1.6%               |
| 3. Planting             | 68.7%  | 0.8%   | 10.7%             | 1.2%              | 0.8%                |                     | 13.2%            | 1.2%               |
| 4. Tree management      | 70.0%  | 0.4%   | 11.5%             | 1.6%              | 0.8%                |                     | 10.3%            | 1.6%               |
| 5. Weeding              | 63.0%  | 0.4%   | 11.9%             | 2.1%              | 0.8%                |                     | 16.0%            | 1.6%               |
| 6. Irrigating           | 64.6%  | 0.4%   | 13.6%             | 1.6%              | 0.8%                |                     | 13.6%            | 1.2%               |
| 7. Harvesting           | 43.2%  | 0.4%   | 7.4%              | 1.6%              | 0.4%                |                     | 13.2%            | 1.6%               |
| 8. Post-harvest         | 39.9%  |        | 7.4%              | 1.2%              | 0.8%                |                     | 9.5%             | 2.1%               |
| 9. Processing           | 23.5%  | 4.1%   | 1.6%              | 0.8%              | 0.8%                |                     | 2.5%             | 0.8%               |
| 10. Marketing           | 45.7%  |        | 4.9%              | 1.2%              |                     |                     | 2.1%             |                    |

According to Spouse

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs      | 80.2%  | 1.2%   | 8.2%              | 2.1%              |                     |                     | 2.9%             |                    |
| 2. Prepare for planting | 65.8%  | 0.4%   | 14.0%             | 2.1%              |                     |                     | 12.8%            |                    |
| 3. Planting             | 59.3%  | 1.2%   | 10.7%             | 2.1%              |                     |                     | 17.7%            | 3.3%               |
| 4. Tree management      | 63.0%  | 0.8%   | 12.3%             | 2.5%              |                     |                     | 13.2%            | 2.9%               |
| 5. Weeding              | 52.3%  | 7.0%   | 10.3%             | 2.9%              | 1.2%                |                     | 16.5%            | 4.9%               |
| 6. Irrigating           | 56.4%  | 1.2%   | 14.4%             | 2.9%              |                     |                     | 17.3%            | 2.9%               |
| 7. Harvesting           | 47.3%  | 0.8%   | 9.9%              | 2.9%              |                     |                     | 30.0%            | 2.9%               |
| 8. Post-harvest         | 58.8%  | 0.8%   | 9.9%              | 2.5%              |                     |                     | 19.3%            | 2.9%               |
| 9. Processing           | 9.1%   | 29.6%  | 0.8%              | 0.8%              | 7.8%                |                     | 1.2%             | 1.2%               |
| 10. Marketing           | 49.0%  |        | 6.2%              | 2.5%              |                     |                     | 9.1%             |                    |

(c) Livestock

According to Head of Household

| Activity               | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs     | 63.4%  |        | 5.8%              | 0.8%              |                     |                     | 0.4%             |                    |
| 2. Fodder cutting      | 44.0%  | 0.4%   | 14.8%             | 2.9%              | 0.4%                |                     | 10.3%            |                    |
| 3. Feed, water animals | 39.1%  | 8.2%   | 7.4%              | 3.3%              | 9.9%                |                     | 5.3%             |                    |
| 4. Milking             | 29.6%  | 18.9%  | 8.2%              | 1.2%              | 7.8%                |                     | 5.3%             | 0.4%               |
| 5. Tend to birth       | 35.8%  | 11.9%  | 6.2%              | 2.1%              | 10.3%               |                     | 5.3%             | 0.4%               |
| 6. Collect dung        | 19.3%  | 23.0%  | 3.3%              | 1.2%              | 15.2%               | 0.4%                | 9.1%             | 0.8%               |
| 7. Make dung pats      | 15.2%  | 12.8%  | 2.9%              | 0.8%              | 8.6%                | 0.8%                | 4.1%             | 0.8%               |
| 8. Clean shelters      | 18.9%  | 21.8%  | 3.3%              | 1.6%              | 16.0%               | 0.8%                | 8.2%             | 0.8%               |
| 9. Rear young animals  | 37.9%  | 13.2%  | 1.2%              | 2.1%              | 10.3%               |                     | 6.6%             | 0.4%               |
| 10. Buy/sell milk      | 56.0%  | 3.7%   | 5.8%              | 2.5%              |                     |                     | 2.1%             | 0.4%               |

|                  |       |       |      |      |      |      |      |  |
|------------------|-------|-------|------|------|------|------|------|--|
| 11. Process milk | 14.8% | 18.1% | 0.8% | 0.8% | 2.9% | 0.4% | 1.6% |  |
| 12. Marketing    | 28.4% | 4.1%  | 2.1% | 1.2% | 0.4% |      |      |  |

According to Spouse

| Activity               | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs     | 58.4%  | 4.5%   | 11.5%             | 0.8%              | 1.2%                |                     | 7.0%             |                    |
| 2. Fodder cutting      | 36.6%  | 15.2%  | 14.0%             | 1.6%              | 4.1%                |                     | 11.1%            |                    |
| 3. Feed, water animals | 28.0%  | 30.5%  | 9.5%              | 1.6%              | 4.9%                |                     | 8.6%             |                    |
| 4. Milking             | 30.9%  | 26.3%  | 11.1%             | 1.6%              | 8.2%                |                     | 3.7%             |                    |
| 5. Tend to birth       | 34.6%  | 18.9%  | 14.4%             | 0.8%              | 4.5%                |                     | 9.1%             |                    |
| 6. Collect dung        | 22.2%  | 33.3%  | 6.6%              | 0.4%              | 5.3%                | 0.8%                | 9.9%             |                    |
| 7. Make dung pats      | 22.2%  | 21.8%  | 4.5%              | 0.4%              | 4.1%                |                     | 5.3%             |                    |
| 8. Clean shelters      | 22.2%  | 37.0%  | 7.0%              | 0.4%              | 5.3%                | 0.8%                | 9.9%             |                    |
| 9. Rear young animals  | 25.5%  | 34.6%  | 7.4%              | 0.8%              | 4.9%                |                     | 9.5%             |                    |
| 10. Buy/sell milk      | 61.7%  | 2.5%   | 12.3%             | 1.6%              | 0.4%                |                     | 1.6%             |                    |
| 11. Process milk       | 8.6%   | 34.6%  | 0.8%              | 0.4%              | 4.1%                |                     | 0.8%             |                    |
| 12. Marketing          | 20.2%  | 12.3%  | 2.5%              | 0.8%              | 2.5%                |                     | 0.4%             |                    |

## (c) Agriculture

According to Head of Household

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs      | 84.8%  |        | 6.2%              | 0.4%              |                     |                     | 0.4%             |                    |
| 2. Prepare for planting | 67.5%  |        | 12.8%             | 2.1%              | 0.4%                |                     | 8.2%             | 0.8%               |
| 3. Planting             | 64.2%  |        | 14.4%             | 1.2%              | 0.4%                |                     | 10.7%            | 0.8%               |
| 4. Crop management      | 63.8%  |        | 14.8%             | 1.2%              | 0.4%                |                     | 9.9%             | 0.8%               |
| 5. Weeding              | 60.5%  |        | 15.2%             | 1.2%              | 0.4%                |                     | 12.8%            | 0.8%               |
| 6. Irrigating           | 61.7%  |        | 14.8%             | 1.2%              | 0.4%                |                     | 11.9%            | 0.8%               |
| 7. Harvesting           | 58.8%  |        | 15.2%             | 1.2%              | 0.4%                |                     | 14.0%            | 0.8%               |
| 8. Post-harvest         | 59.3%  | 0.4%   | 14.0%             | 1.6%              | 0.4%                |                     | 8.6%             | 0.8%               |
| 9. Processing           | 19.3%  | 4.1%   | 2.9%              | 1.2%              |                     |                     | 2.9%             |                    |
| 10. Marketing           | 59.3%  |        | 6.2%              | 0.8%              |                     |                     | 1.6%             |                    |

According to Spouse

| Activity                | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Purchase inputs      | 59.3%  | 0.8%   | 12.3%             | 4.9%              |                     |                     | 1.2%             |                    |
| 2. Prepare for planting | 45.7%  | 0.4%   | 11.1%             | 5.8%              |                     |                     | 15.6%            |                    |
| 3. Planting             | 42.4%  | 0.8%   | 14.0%             | 5.8%              |                     |                     | 15.2%            |                    |
| 4. Crop management      | 43.6%  | 0.8%   | 13.6%             | 5.8%              |                     |                     | 14.8%            |                    |
| 5. Weeding              | 36.6%  | 5.8%   | 12.8%             | 5.3%              | 0.4%                |                     | 16.9%            | 0.8%               |
| 6. Irrigating           | 41.6%  | 0.4%   | 14.8%             | 6.2%              |                     |                     | 15.2%            |                    |
| 7. Harvesting           | 32.5%  | 3.3%   | 10.3%             | 6.2%              | 0.4%                |                     | 25.1%            | 0.8%               |
| 8. Post-harvest         | 46.9%  | 0.4%   | 11.1%             | 6.2%              |                     |                     | 13.6%            |                    |
| 9. Processing           | 12.8%  | 11.5%  | 0.4%              | 0.4%              |                     |                     |                  |                    |
| 10. Marketing           | 44.9%  | 1.6%   | 7.4%              | 6.2%              |                     |                     | 0.4%             |                    |



## (d) Household Activities

According to Head of Household

| Activity                            | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Cooking                          | 0.8%   | 74.9%  |                   | 0.4%              | 18.5%               | 0.4%                |                  |                    |
| 2. Making tea                       | 1.6%   | 73.3%  |                   | 0.4%              | 19.8%               |                     |                  |                    |
| 3. Caring for infants               | 4.1%   | 69.5%  |                   | 0.4%              | 15.6%               | 1.2%                |                  |                    |
| 4. Take kids to school              | 18.5%  | 31.7%  | 4.9%              |                   | 0.4%                |                     | 1.2%             |                    |
| 5. Wash clothes                     | 1.2%   | 69.1%  |                   | 0.4%              | 20.2%               | 1.6%                |                  |                    |
| 6. Wash dishes                      | 1.2%   | 66.7%  |                   | 0.4%              | 23.0%               | 2.1%                |                  |                    |
| 7. Gather firewood                  | 9.9%   | 46.5%  | 4.5%              | 0.8%              | 1.2%                |                     | 0.4%             |                    |
| 8. Collect water                    | 4.1%   | 62.1%  | 5.3%              | 0.4%              | 4.9%                | 2.9%                |                  | 0.8%               |
| 9. Dispose of H/H waste             | 1.2%   | 56.4%  |                   | 0.4%              | 22.6%               | 1.6%                |                  | 0.4%               |
| 10. Income earning activity at home | 0.4%   | 21.8%  |                   |                   | 9.1%                | 0.8%                |                  | 0.4%               |

According to Spouse

| Activity                            | H of H | Spouse | Males<br>≥ 15 yrs | Males<br>< 15 yrs | Females<br>≥ 15 yrs | Females<br>< 15 yrs | Male<br>Laborers | Female<br>Laborers |
|-------------------------------------|--------|--------|-------------------|-------------------|---------------------|---------------------|------------------|--------------------|
| 1. Cooking                          | 3.7%   | 77.8%  |                   |                   | 15.6%               | 0.4%                |                  |                    |
| 2. Making tea                       | 3.7%   | 77.8%  | 0.4%              |                   | 15.6%               |                     |                  |                    |
| 3. Caring for infants               | 4.9%   | 76.1%  |                   |                   | 11.9%               |                     |                  |                    |
| 4. Take kids to school              | 9.9%   | 30.9%  | 2.9%              | 0.4%              | 7.8%                |                     |                  | 0.4%               |
| 5. Wash clothes                     | 1.2%   | 73.3%  |                   |                   | 17.3%               | 0.4%                |                  | 1.6%               |
| 6. Wash dishes                      | 4.9%   | 65.8%  | 0.4%              |                   | 23.9%               | 1.2%                |                  | 1.2%               |
| 7. Gather firewood                  | 10.3%  | 32.5%  | 4.1%              | 0.4%              | 7.8%                |                     | 6.2%             | 0.8%               |
| 8. Collect water                    | 4.1%   | 53.1%  | 3.7%              |                   | 17.3%               | 0.4%                | 2.1%             | 0.4%               |
| 9. Dispose of H/H waste             | 4.1%   | 64.2%  | 0.4%              |                   | 25.5%               | 0.4%                | 0.4%             | 1.6%               |
| 10. Income earning activity at home | 1.6%   | 21.0%  |                   |                   | 9.9%                |                     |                  |                    |

**d. Percent of Farm and Household Activities Carried out Primarily by Females in Average Household**

| TYPE OF ACTIVITY | According to Head of Household | According to Spouse |
|------------------|--------------------------------|---------------------|
| Orchard          | 3%                             | 8%                  |
| Livestock        | 29%                            | 37%                 |
| Agriculture      | 2%                             | 4%                  |
| Household        | 92%                            | 91%                 |

**e. Hours spent yesterday working on various activities**According to Head of Household

|                   | Household chores | Income-earning work in H/H | Farm chores | Income-earning work off farm | Total |
|-------------------|------------------|----------------------------|-------------|------------------------------|-------|
| Head of Household | 0.67             | 0.26                       | 3.55        | 0.61                         | 5.09  |
| Spouse            | 4.54             | 0.36                       | 0.26        | 0.07                         | 5.22  |

According to Spouse

|                   | Household chores | Income-earning work in H/H | Farm chores | Income-earning work off farm | Total |
|-------------------|------------------|----------------------------|-------------|------------------------------|-------|
| Head of Household | 3.72             | 0.52                       | 0.79        | 0.15                         | 5.17  |
| Spouse            | 1.48             | 0.07                       | 2.04        | 0.84                         | 4.43  |

## PROBLEMS AND OPPORTUNITIES

### a. Household Concerns

| Key Concern                                       | Aggregate Score*               |                     |
|---|--------------------------------|---------------------|
|   | According to Head of Household | According to Spouse |
| 1. Not enough food/water/shelter                  | 86                             | 239                 |
| 2. Lack of dowry for daughter                     | 99                             | 108                 |
| 3. Lack of education for children                 | 175                            | 176                 |
| 4. Lack of training to improve my skills          | 217                            | 148                 |
| 5. Lack of health care for household              | 243                            | 180                 |
| 6. Lack of opportunities for women to earn income | 104                            | 108                 |
| 7. Lack of credit                                 | 158                            | 89                  |
| 8. Lack of security                               | 106                            | 58                  |
| 9. Other  | 11                             | 120                 |

\* Aggregate Score =  $(N_1 \times 3 + N_2 \times 2 + N_3 \times 1)$ , where:

$N_1$  = number of respondents who ranked this concern most important

$N_2$  = number of respondents who ranked this concern second most important

$N_3$  = number of respondents who ranked this concern third most important

### b. If child was sick would you have money for medicine?

|     | According to Head of Household | According to Spouse |
|-----|--------------------------------|---------------------|
| Yes | 108                            | 96                  |
| No  | 87                             | 88                  |

### c. Best Options to Increase Household Income

| Option   | According to Head of Household | According to Spouse |
|--|--------------------------------|---------------------|
| 1. Mangoes (more quantity and/or better quality) | 134                            | 163                 |
| 2. Citrus (more quantity and/or better quality)  | 0                              | 0                   |
| 3. Dairy (more quantity and/or better quality)   | 5                              | 0                   |
| 4. Other crops                                   | 52                             | 24                  |

|                                    |    |    |
|------------------------------------|----|----|
| 5. Other livestock                 | 6  | 39 |
| 6. Income-earning work in the home | 5  | 0  |
| 7. Income-earning work off-farm    | 21 | 0  |

d. **What is the biggest obstacle to increasing income?**

| Obstacle                               | Head of Household | Obstacle                               | Spouse |
|--|-------------------|--|--------|
| Lack of credit/money/resources/finance | 54                | Lack of credit/money/resources/finance | 18     |
| Inputs (high cost, low quality)        | 20                | Lack of access to seed, fertilizer     | 18     |
| Lack of training/guidance              | 19                | Poverty                                | 5      |
| Weather (esp. floods)                  | 5                 |  |        |

e. **In generating income from mango, where is the biggest challenge?**

| Biggest Challenge  | Number of respondents (Heads of Household) |
|--|--|
| 1. Inputs (availability, quality, cost)                                    | 46%  |
| 2. Production (planting, tree management, weeding, irrigating, harvesting) | 20%  |
| 3. Post-harvest management (handling, storage, transportation)             | 1%   |
| 4. Processing activity (e.g. making pickles, juice)                        | 0%   |
| 5. Marketing (selling crop and crop products, market information)          | 32%  |

f. **Do you have hope for the future?**

|     | Response by Head of Household | Response by Spouse |
|-----|-------------------------------|--------------------|
| Yes | 70%                           | 51%                |
| No  | 30%                           | 49%                |

Among reasons for hope for the future most were predicated on “if” – we get:

- Government support for inputs and tube wells for water
- Good crops, off farm work, husbands, sons and daughters get jobs,
- modern machinery and machine inputs
- micro credit and wealth problem solved
- more education and training

Some were hopeful as they had

- increased production
- fruit would start next year
- big orchards

A number commented that they trust in Allah and ‘*we are Muslim we hope for the best*’.

Of those who commented they were not hopeful the main themes emerging were:

- poor leadership and government
- Inflation



- High cost of inputs and decreasing returns
- Lack of opportunities for children
  - *No opportunities of jobs as one daughter is skilled and has diploma of 3 years of stitching and sons are also jobless*

For both the YES and NO responses however the most common theme was “work hard”

**INFORMATION AND COMMUNICATION****a. Extension advice**

## (a) Production (how to improve)

| Source of Advice            | Number of respondents<br>(Heads of Household) | Quality of the Advice |             |      |
|-----------------------------|---|-----------------------|-------------|------|
|                             |   | Poor                  | Indifferent | Good |
| 1. Relative/friend          | 167   | 21%                   | 19%         | 60%  |
| 2. Input supplier/buyer     | 67  | 33%                   | 44%         | 23%  |
| 3. Village extension worker | 54  | 6%                    | 15%         | 79%  |
| 4. Farmer field school      | 8   | 13%                   | 38%         | 50%  |
| 5. ASLP mango               | 4   | 0%                    | 0%          | 100% |
| 6. TV                       | 12  | 25%                   | 58%         | 17%  |
| 7. Radio                    | 3   | 0%                    | 100%        | 0%   |

## (b) Post-harvest management (how to improve)

| Source of Advice            | Number of respondents<br>(Heads of Household) | Quality of the Advice |             |      |
|-----------------------------|---|-----------------------|-------------|------|
|                             |   | Poor                  | Indifferent | Good |
| 1. Relative/friend          | 119   | 11%                   | 18%         | 71%  |
| 2. Input supplier/buyer     | 17  | 38%                   | 25%         | 38%  |
| 3. Village extension worker | 39  | 0%                    | 5%          | 95%  |
| 4. Farmer field school      | 3   | 0%                    | 0%          | 0%   |
| 5. ASLP mango               | 3   | 0%                    | 0%          | 100% |
| 6. TV                       | 1   | 0%                    | 100%        | 0%   |
| 7. Radio                    | 3   | 0%                    | 100%        | 0%   |

## (c) Marketing (how to improve)

| Source of Advice            | Number of respondents<br>(Heads of Household) | Quality of the Advice |             |      |
|-----------------------------|---|-----------------------|-------------|------|
|                             |   | Poor                  | Indifferent | Good |
| 1. Relative/friend          | 164   | 16%                   | 21%         | 63%  |
| 2. Input supplier/buyer     | 12  | 33%                   | 0%          | 67%  |
| 3. Village extension worker | 40  | 3%                    | 0%          | 98%  |
| 4. Farmer field school      | 5   | 0%                    | 0%          | 0%   |
| 5. ASLP mango               | 3   | 0%                    | 0%          | 100% |
| 6. TV                       | 3   | 25%                   | 75%         | 0%   |
| 7. Radio                    | 5   | 0%                    | 100%        | 0%   |

**b. Mobile Phone**

|  | Response by Head of Household | Response by Spouse |
|--|-------------------------------|--------------------|
| 1. Do you own/have access to a mobile phone? |                               |                    |
| Yes  | 182                           | 160                |
| No   | 51                            | 71                 |
| 2. Rate your skill level:                    |                               |                    |
| Beginner                                     | 50                            | 83                 |
| Competent                                    | 113                           | 20                 |
| Expert                                       | 22                            | 0                  |
| 3. Rate your children's skill level:         |                               |                    |

|  |       |       |
|--|-------|-------|
| Beginner   | 36    | 56    |
| Competent  | 72    | 49    |
| Expert   | 14    | 18    |
| 3. How much do you spend on mobile (Rs./month)   | Rs820 | Rs580 |
| 4. Type of phone use:                            |       |       |
| All personal                                     | 19    | 62    |
| Most personal                                    | 43    | 3     |
| Half and half                                    | 102   | 21    |
| Most business                                    | 11    | 0     |
| All business                                     | 1     | 62    |
| 5. Do you use SMS on your mobile phone?          |       |       |
| Yes  | 50    | 18    |
| No   | 130   | 120   |
| 6. Would you use market information sent by SMS? |       |       |
| Yes  | 20    | 79    |
| No   | 159   | 44    |
| 7. Can mobile phone access the internet?         |       |       |
| Yes  | 11    | 4     |
| No   | 158   | 132   |

### c. Computer

|   | Response by Head of Household | Response by Spouse |
|---|-------------------------------|--------------------|
| 1. Do you have access to a computer?        |                               |                    |
| Yes   | 41                            | 19                 |
| No  | 191                           | 214                |
| 2. Do you have a home computer?             |                               |                    |
| Yes   | 23                            | 12                 |
| No  | 33                            | 11                 |
| 2. Rate your skill level:                   |                               |                    |
| Beginner                                    | 5                             | 1                  |
| Competent                                   | 15                            | 2                  |
| Expert                                      | 4                             | 0                  |
| 3. Rate your children's skill level:        |                               |                    |
| Beginner                                    | 5                             | 3                  |
| Competent                                   | 13                            | 6                  |
| Expert                                      | 6                             | 6                  |
| 4. Do you use computer for internet/email?  |                               |                    |
| Yes   | 5                             | 3                  |
| No  | 31                            | 10                 |
| 5. Do you use computer for watching videos? |                               |                    |
| Yes   | 24                            | 9                  |
| No  | 12                            | 6                  |
| 6. Type of computer use:                    |                               |                    |

|               |    |    |
|---------------|----|----|
| All personal  | 16 | 10 |
| Most personal | 6  | 6  |
| Half and half | 2  | 1  |
| Most business | 0  | 0  |
| All business  | 0  | 0  |

#### d. Skills Training

|                                      | Response by Head of Household | Response by Spouse |
|--------------------------------------|-------------------------------|--------------------|
| 1. Have you had any skills training? |                               |                    |
| Yes                                  | 15                            | 0                  |
| No                                   | 189                           | 210                |

#### e. What type of training would you like in future?

| Type of training            | Response by Head of Household | Type of training                | Response by Spouse |
|-----------------------------|-------------------------------|---------------------------------|--------------------|
| Agriculture <sup>8</sup>    | 32                            | Embroidery                      | 97                 |
| Orchard <sup>9</sup>        | 18                            | Sewing                          | 75                 |
| Land management             | 14                            | Basic education                 | 41                 |
| New production technologies | 13                            | New techniques/<br>technologies | 33                 |
| Handicrafts etc. for women  | 11                            | Computer                        | 17                 |
| New seed varieties          | 10                            | English                         | 7                  |
| Pesticides & fertilizers    | 10                            | Computer                        | 5                  |
| Mango post-harvest          | 6                             | Vocational training             | 2                  |
| Non-farm opportunities      | 5                             | Veterinary                      | 97                 |

### COLLABORATION and COMMUNITY

| How easy is it to work with other households to achieve something? | Weighted Average Response* |           |
|--|----------------------------|-----------|
|  | by Head of Household       | by Spouse |
| 1. Buy community assets (e.g. storage shed)                        | 2.44                       | 3.74      |
| 2. Buy farm inputs together (e.g. fertilizer, seedlings)           | 2.42                       | 3.71      |
| 3. Sell farm outputs together (e.g. fruit, milk)                   | 2.28                       | 4.00      |
| 4. Other community activities (e.g. women's group, festival)       | 3.72                       | 4.26      |

\*Weighted average response uses as weights: 1=very difficult, 2=difficult, 3=neither, 4=easy, 5=very easy

### AGRICULTURE SECTOR LINKAGES PROGRAM (ASLP)

<sup>8</sup> Esp. seed sowing, crop protection, new seed varieties

<sup>9</sup> Esp. pest and disease control

|   | <b>Response by Head of Household</b> | <b>Response by Spouse</b> |
|---|--------------------------------------|---------------------------|
| 1. Have you heard about the ASLP mango project? |                                      |                           |
| Yes   | 3                                    | 1                         |
| No  | 220                                  | 225                       |

### **OTHER COMMENTS**

From the heads of household the main issue they wished to raise here was the shortage of water. Some suggested model or experimental farms could help as well as government seeking further export markets.

While for spouses it was a village vocational centre, secondary schooling for children both boys and girls and issues such as gas shortages and poor market access that are important.

## 11.2 Capacity Inventory Questionnaire – citrus (similar questionnaires were developed for dairy and mango)

Notes for the enumerator

1. Everyone who lives in the community has skills, experiences, and abilities that can be used for community building.
2. Use this inventory to identify the talents, skills, and experiences of individuals in your community starting with your farmers, women and youth.
3. Copy this form for use with each individual.
4. Adapted by Sandra Heaney-Mustafa in consultation with Pakistan social project partners and the citrus, dairy and mango production teams and mango value chain teams from:
5. Kretzmann, J. P. and McKnight J.L. Capacity Inventory .*Building Communities from the Inside Out*. Chicago, IL: ACTA Publications, c1993, 23
6. *Community Participation and Leadership Inventory in Mapping the Assets of Your Community*. Retrieved November 1, 2006 from [http://srdc.msstate.edu/publications/227/227\\_asset\\_mapping.pdf](http://srdc.msstate.edu/publications/227/227_asset_mapping.pdf)

| <b>Skills Information</b>  |   |
|--|---|
| Hello. I'm with (local organization's name). We're talking to local people about their skills. With this information, we hope to help people contribute to improving your livelihoods. May I ask you some questions about your skills and abilities? |   |
| 1. When you think of your skills, what three things do you think you do best?  |   |
| a.   |   |
| b.   |   |
| c.   |   |
| 2. Out of all of your skills, which skills are good enough that someone would hire   |   |
| a.   |   |
| b.   |   |
| c.   |   |
| 3. Are there any skills you would like to teach?   |   |
| a.   |   |
| b.   |   |
| c.   |   |
| 4. Are there any skills you would like to learn?   |   |
| a.   |   |
| b.   |   |
| c.   |   |
| <b>Commodity Skills</b>  |   |
| <b>Nursery management</b>  |   |
|  | disinfect your pots   |
|  | make a potting mix without using soil or silt                   |
|  | test your potting media   |
|  | test the pH of you potting media                                |
|  | access rootstock seed   |
|  | grow your own rootstocks  |
|  | make your own trees   |
|  | distinguish trueness to type of rootstocks                      |
|  | bud / graft citrus trees  |
|  | chip bud citrus trees   |
|  | T-bud citrus trees  |
|  | wedge graft citrus trees  |
|  | select budwood for grafting                                     |
|  | access or cut budwood for grafting                              |
|  | apply the type, amount and timing of fertiliser to potted trees |
|  | apply water to potted trees at required intervals               |
| <b>Orchard management</b>  |   |
|  | match rootstock to soil type                                    |
|  | plant trees in the field at the right time of year              |
|  | make furrows to apply water to the trees                        |
|  | use a tensiometer to plan irrigations                           |
|  | apply fertiliser to match the phenological (growth) stages      |
|  | use a counting frame to assess crop load                        |

|   |  |
|---|--|
| prune a tree to remove dead wood                                  |  |
| prune a tree to improve fruit quality                             |  |
| prune a tree to increase yield                                    |  |
| <b>Diseases</b>   |  |
| identify Phytophthora root rot                                    |  |
| identify Huanglongbing (greening)                                 |  |
| identify Canker   |  |
| reduce the damage from Phytophthora root rot                      |  |
| reduce the damage from Huanglongbing                              |  |
| reduce the damage from Canker                                     |  |
| <b>Pests</b>  |  |
| identify an Asian citrus psyllid                                  |  |
| recognise leaf miner damage on citrus                             |  |
| Identify fruit flies  |  |
| identify fruit fly damage on citrus fruit                         |  |
| <b>Harvest</b>  |  |
| Optimize your harvesting time                                     |  |
| Optimize your harvesting method                                   |  |
| <b>Post-harvest</b>   |  |
| Treat your citrus correctly post-harvest                          |  |
| Transport your citrus fruit appropriately                         |  |
| value add to your crop post harvest                               |  |
| <b>Co-commodities</b>   |  |
| <b>Vegetable</b>  |  |
| Prepare soil for planting vegetable                               |  |
| Sow vegetable seeds   |  |
| Plant vegetable seedlings   |  |
| Irrigate vegetable plots  |  |
| Control pests on vegetables                                       |  |
| Fertilize vegetable crop appropriately                            |  |
| Harvest vegetables  |  |
| Transport vegetables to market                                    |  |
| <b><i>To whom or where have you sold vegetables?</i></b>          |  |
| In the village  |  |
| To middle man (dodi)  |  |
| To shops in towns/cities  |  |
| To factories for processing                                       |  |
| Other (please list)   |  |
| <b>Dairy</b>  |  |
| Care for pregnant and lactating cows                              |  |
| Care for calves appropriately                                     |  |
| Give calves colostrums  |  |
| Rear male calves for market                                       |  |
| Milk cows correctly   |  |
| Use a chiller   |  |
| Transport milk safely to market                                   |  |
| Value add to milk e.g. make ghee                                  |  |
| <b><i>To whom or where have you sold milk, milk products?</i></b> |  |
| In the village  |  |
| To middle man (dodi)  |  |



|   |                                     |
|---|-------------------------------------|
|   | To shops in towns/cities            |
|   | To factories for processing         |
|   | Other (please list)                 |
| <b><i>To whom or where have you sold male calves?</i></b> |                                     |
|   | In the village                      |
|   | To middle man (dodi)                |
|   | To shops in towns/cities            |
|   | To factories for processing         |
|   | Other (please list)                 |
| <b>Office Skills</b>                                      |                                     |
|   | Typing                              |
|   | Use a Calculator                    |
|   | Enter Information into Computer     |
|   | Word Processing                     |
|   | Write Business Letters (not typing) |
|   | Bookkeeping                         |
|   | Keep Track of Supplies              |
|   | Use a mobile phone                  |
|   | Send and receive text messages      |
|   | Banking                             |
|   | Prepare a farm budget               |
| <b>Construction and Repair</b>                            |                                     |
|   | Painting                            |
|   | Tearing Down Buildings              |
|   | Knocking Out Walls                  |
|   | Furniture Repairs                   |
|   | Repairing Locks                     |
|   | Building Sheds                      |
|   | Plumbing Repairs                    |
|   | Electrical Repairs                  |
|   | Bricklaying                         |
|   | Furniture Making                    |
|   | Plastering                          |
|   | Soldering & Welding                 |
|   | Concrete Work                       |
|   | Installing Windows                  |
|   | Carpentry Skills                    |
|   | Roofing Repair                      |
| <b>Maintenance</b>  |                                     |
|   | Window Washing                      |
|   | Repairing mud brick walls           |
|   | Washing and Cleaning Carpets/Rugs   |
|   | Clearing Clogged Drains             |
|   | General Household Cleaning          |
|   | Fixing Leaky Taps                   |
|   | Planting & Caring for Gardens       |
|   | Pruning Trees & Shrubbery           |
|   | Wood Stripping/Refinishing          |

|  |  |
|--|--|
| <b>Food</b>  |  |
| <b>Prepare food for family</b>                           |  |
| Slaughter animals for family                             |  |
| Meat cutting for family                                  |  |
| Baking bread for family                                  |  |
| Baking cakes/biscuits for family                         |  |
| Make fruit juice for family                              |  |
| Make jam for family                                      |  |
| Dry mangoes for family                                   |  |
| Make pickles for family                                  |  |
| <b>Operating Commercial Food Preparation Equipment</b>   |  |
| Serving Food to Large Numbers of People (over 10)        |  |
| Preparing Meals for Large Numbers of People (over 10)    |  |
| Washing Dishes for Large Numbers of People (over 10)     |  |
| Baking bread   |  |
| Baking cakes/biscuits                                    |  |
| Make fruit juice   |  |
| Make jam /marmalade                                      |  |
| Dry mangoes  |  |
| Make pickles   |  |
| <b>Transportation</b>                                    |  |
| Operating Farm Equipment                                 |  |
| Driving a Car  |  |
| Driving a motor bike                                     |  |
| Driving a Van  |  |
| Driving a Bus  |  |
| Driving a Taxi   |  |
| Driving a Tractor Trailer                                |  |
| Driving a Commercial Truck                               |  |
| Driving a Vehicle/Delivering Goods                       |  |
| <b>Operating Equipment &amp; Repairing Machinery</b>     |  |
| Repairing Farm Equipment                                 |  |
| Repairing Radios, TVs, VCRs, Tape Recorders              |  |
| Repairing Automobiles                                    |  |
| Repairing Trucks/Buses                                   |  |
| Repairing Auto/Truck/Bus Bodies                          |  |
| Using a Forklift   |  |
| Repairing Large Household Equipment (e.g., refrigerator) |  |
| <b>Supervision</b>                                       |  |
| Employing labourers                                      |  |
| Supervising labourers                                    |  |
| Planning Work for Other People                           |  |
| Directing the Work of Other People                       |  |
| Writing Reports  |  |
| Filling out Forms  |  |
| Making a Budget  |  |
| Keeping Records of All Your Activities                   |  |
| Interviewing People                                      |  |

|  |  |
|--|--|
| <b>Sales</b>   |  |
| Selling Products Wholesale or for Manufacturer (If yes, which products?)           |  |
| Selling Products Retail (If yes, which products?)                                  |  |
| Selling Services (If yes, which services?)   |  |
| <b><i>To whom or where have you sold these products or services?</i></b>           |  |
| In the village   |  |
| To middle man (dodi)   |  |
| To shops in towns/cities   |  |
| To factories for processing  |  |
| Other (please list)  |  |
| Keep records of financial transactions   |  |
| Keep records of volumes or amounts of products sold                                |  |
| Use mobile phones or SMS messages for market information                           |  |
| <b>Security</b>  |  |
| Guarding Residential Property  |  |
| Guarding Agricultural Property   |  |
| Guarding Industrial Property   |  |
| Armed Guard  |  |
| Crowd Control  |  |
| Firefighting   |  |
| Flood control  |  |
| <b>Health</b>  |  |
| Caring for the Elderly   |  |
| Caring for the Mentally Ill  |  |
| Caring for the Sick  |  |
| Caring for the Physically Disabled or Developmentally Disabled                     |  |
| <b>Child Care</b>  |  |
| Caring for Babies (under 1 year)   |  |
| Caring for Children (1 to 6)   |  |
| Caring for Children (7 to 13)  |  |
| <b>Other</b>   |  |
| Upholstering   |  |
| Sewing   |  |
| Dressmaking  |  |
| Crocheting   |  |
| Knitting   |  |
| Tailoring  |  |
| Moving Furniture or Equipment to Different Locations                               |  |
| Managing Property  |  |
| Assisting in the Classroom   |  |
| Hair Dressing  |  |
| Hair Cutting   |  |
| Jewelry or Watch Repair  |  |
| <b><i>Are there any other skills that you have which we haven't mentioned?</i></b> |  |
|  |  |
|  |  |
|  |  |

|  |                  |                   |
|--|------------------|-------------------|
| <b>Part II -- Community Skills</b>   |                  |                   |
| Have you ever organized or participated in any of the following community activities?                |                  |                   |
| Mosque/church Fundraisers  |                  |                   |
| Famer Field Trips  |                  |                   |
| Political Campaigns  |                  |                   |
| Community Groups   |                  |                   |
| Community Gardens  |                  |                   |
| Village Organization   |                  |                   |
| Other Groups or Community Work?  |                  |                   |
| <b>Let me read the list again. Tell me in which areas you would be willing to participate in the</b> |                  |                   |
| Mosque/church Fundraisers  |                  |                   |
| Famer Field Trips  |                  |                   |
| Political Campaigns  |                  |                   |
| Community Groups   |                  |                   |
| Community Gardens  |                  |                   |
| Village Organization   |                  |                   |
| Other Groups or Community Work?  |                  |                   |
| <b>Community Participation and Leadership Inventory</b>  |                  |                   |
| <b>Political and government-related activities: Have you ever –</b>                                  |                  |                   |
| written or talked to a public official about a public issue?   |                  |                   |
| spoken out in a public meeting on a community issue of concern to you?                               |                  |                   |
| been elected or appointed to a position in running the village?                                      |                  |                   |
| List organizations to which you currently belong, or have ever been a member of:                     |                  |                   |
| <b>Leadership in Voluntary Organizations:</b>  |                  | <b>Circle</b>     |
| <b>Involvement in Local Issues:</b>  |                  | <b>Circle</b>     |
| <b>If YES, please place a checkmark by the items below that best represent the type of</b>           |                  |                   |
| Helped bring an issue or project to the attention of my community,                                   |                  |                   |
| Helped investigate the issue or project (e.g., gathered facts; tried to find out                     |                  |                   |
| Helped decide what was to be done about the issue or project (e.g., what                             |                  |                   |
| Worked on putting the plan of action together (e.g., helped figure out who                           |                  |                   |
| Helped carry out activities to get the project off the ground and completed,                         |                  |                   |
| <b>Identify other types of community work in which you have participated:</b>                        |                  |                   |
| <b>Background Information:</b>   |                  |                   |
| <b>Name:</b>   |                  |                   |
| <b>Address:</b>  |                  |                   |
| <b>Phone:</b>  |                  |                   |
| <b>E-mail:</b>   |                  |                   |
| Number of years you have lived in the community  | <b>Village</b>   |                   |
| Gender:  | Male      Female | <b>Enumerator</b> |

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## 11.3 Focus Group Discussion

### Opening of Discussions

- The purpose of the focus group was explained to the participants
  1. To seek richer information than we got from the baseline survey
  2. To develop a deeper understanding of village life
  3. To explore more fully issues for the participants
    - Social
    - Financial
    - Agricultural
  4. To ask participants how they would like to overcome some of the issues
- Each participant was given a few minutes to identify themselves and speak about their household before the formal questions were commenced this allowed the team to identify **the main characteristics of the participants** for example:
  - Involvement in agriculture (male V female)
  - Opportunities for women involvement
  - Size of land holding or landless
  - Levels of education (M V F)
  - Mobile phone use
  - IT use
  - Decision making in family

### Questions

Basic questions surrounded the below areas but as discussion progressed responses were probed for deeper understanding and questions reframed to facilitate understanding

1. What is it you like about living in your village?
2. What are the main problems/issues/ concern in this village?
  2. Social Issues
  3. Agricultural Issues
  4. Economic Issues
3. What do see as some of the solutions to these matters?
4. What assistance do you think you might need to overcome some of these problems?

## 11.4 Case Study Contractor Small and large

For the contractor's case study two contractors were interviewed in detail and following are the main characteristics of both contractors.

| Small/Local market contractor   | Large/ export oriented factory contractor   |
|---|---|
|   |   |
| <b>Age:</b>   | <b>Age:</b>                                 |
| <b>Experience:</b>  | <b>Experience:</b>                          |
| <b>Total Area of contract this season :</b>   | <b>Total Area of contract this season :</b> |
| % age of varieties  |   |
| <b>Average contract amount/acre:</b>  |   |
| <b>Contract Time:.</b>  |   |
| <b>Payment procedure to owners:</b><br>At Contract:<br>Start of harvest:<br>Mid of Harvest:<br>End of Harvest:            |   |
| <b>Picking start :</b><br>No of pickings:   |   |
| <b>Production/ acre:</b><br>Grade/s::   |   |
| <b>Market distribution</b><br>Export:<br>Local Market/distant:<br>Pulp making Factories:<br><b>Open Market commission</b> |   |
| <b>Packing Material use:</b>  | <b>Packing Material use:</b>                |
| <b>Packing Material Price:</b>  | <b>Packing Material Price:</b>              |
| <b>Rates:</b>   | <b>Rates:</b>                               |
| <b>Transportation cost:</b>   | <b>Transportation cost:</b>                 |
| <b>Labour use for Harvesting:</b>   | <b>Labour use for Harvesting:</b>           |
| <b>Rates of labour :</b>  |   |
| <b>Investment in Business this year: Rs.</b>  | <b>Investment in Business this year:</b>    |
| <b>Problems of the Contractor:</b>  |   |
| <b>Other Comments:</b>  |   |

## 11.5 Collaborative Planning Workshop Agenda

### SOCIAL RESEARCH PROJECT

#### “Linkages for Livelihoods”

INSPIRE CENTRE, UNIVERSITY OF CANBERRA

Thursday 26 April – Friday 27 April, 2012

**Objective 1:** To report on the baseline survey results for each commodity group

**Objective 2:** To collaboratively plan social research activities for the next twelve months that will enhance the work of commodity teams.

**Objective 3:** To uncover ways to work collaboratively across project teams in Pakistan

#### THURSDAY 26 APRIL

- 8:45 – 9:00 Transport from hotel to INSPIRE Centre
- 9:00 – 9:30 Registration and trouble-shooting
- 9:30 – 10:00 **Introductions**
- Welcome to UC: Professor Frances Shannon, Deputy VC, Research
  - Background to ASLP2: Mr Les Baxter, Principal Regional Coordinator, PNG & Pacific Island countries, ACIAR
  - Overview of workshop: Professor Barbara Chambers, Facilitator
- 10:00 – 10:15 **Overview of the baseline survey** (Professor John Spriggs)
- 10:15 – 11:15 **Concurrent sessions** (See coded sheets in your folder for group allocation)
- A. Citrus
- Rapporteur: Dr Munawar Kazmi
- 10:15 – 10:35 Citrus in KPK (NARC)
- 10:35 – 10:55 Citrus in Punjab (NARC)
- 10:55 – 11:15 Follow-up questions and discussion of issues in Citrus
- 11:15– 11:30 MORNING TEA
- B. Mango
- Rapporteur: Mr. Peter Delis
- 10:15 – 10:35 Mango in Sindh (SAU)
- 10:35 – 10:55 Mango in Punjab (UAF)
- 10:55 – 11.15 Follow-up questions and discussion of issues in Mango
- 11:15 – 11:30 MORNING TEA
- C. Dairy
- Rapporteur: Mr. Mustafa Nangraj
- 10:15 – 10:35 Dairy in Punjab (UAF)
- 10:35 – 10:55 Dairy in Sindh (SAU)

- 10:55 – 11:15 Follow-up questions and discussion of issues in Dairy
- 11:15 – 11:30 MORNING TEA
- 11:30 – 12:30 Rapporteurs report back to workshop and general discussion
- 12:30 – 13:30 LUNCH and Viewing Posters
- 13.30 – 14:30 **Reflections on the Survey and Focus Groups**
- 13:30 Income Generation (Professor John Spriggs)
  - 13:45 Household and Community (Dr Sandra Heaney-Mustafa)
  - 14:00 ICT (Professor Robert Fitzgerald)
- 14:30 – 15:00 Small Group Discussions of the Issues (**WHAT CAN WE DO?** Creative possibilities for how the social team can enhance the work of commodity teams over the next twelve months using ‘Can We?’ sheets)
- (a) Citrus
  - (b) Mango Production
  - (c) Mango Value Chain
  - (d) Dairy
- Note: Allocation of participants to groups is on the list in your folder headed Concurrent Presentations
- 15:00 – 15:30 **WORLD CAFE 1** – Review each team’s creative possibilities and add ideas as necessary.
- 15:30 – 16:30 Report back to Large Group + discussion
- (a) Citrus
  - (b) Mango Production
  - (c) Mango Value Chain
  - (d) Dairy
- 16:30 – 17:00 Facilitator summarises Day 1 and foreshadows Day 2
- 18:00 – 20:00 **WORKSHOP DINNER:** Transport to the Hyatt Hotel



## FRIDAY 27 APRIL

9:00 – 9:15 Facilitator recaps on Day 1 activities. Mapping the ‘Can we...’

9:15 – 10:30 Small Group Discussions **WHAT SHOULD WE DO?**

**A. Prioritise** suggestions for the Social team to enhance the work of Commodity teams for the next twelve months.

**B. Strategic implementation** Turning priorities into strategic actions for social team to enhance the work of the commodity teams for the next twelve months.

- (a) Citrus
- (b) Mango Production
- (c) Mango Value Chain
- (d) Dairy

Note: Allocation of participants to groups is on the list in your folder headed Concurrent Presentations

10:00 – 11:00 Report **priorities and strategic actions** back to Workshop

- (a) Citrus (10:00 – 10:15)
- (b) Mango Production (10:15 – 10:30)
- (c) Mango Value Chain (10:30 – 10:45)
- (d) Dairy (10:45– 11:00)

11:00 – 11:15

### **MORNING TEA**

11:15 – 11:45

**Working collaboratively:** What opportunities have occurred during this workshop for ASLP2 groups to work together in Pakistan? Please be as specific as possible.

- (a) Red Group
- (b) Blue Group
- (c) Yellow Group

Note: Allocation of participants to groups is by the coloured dot on your name tag

11:45 – 12.15

**Reporting back to workshop on opportunities to work collaboratively**

- (a) Red Group
- (b) Blue Group
- (c) Yellow Group

12:15 – 12:45

Re-launch of the ASLP2 website – Professor Rob Fitzgerald

12:45 – 13:00

Workshop Close and Evaluation

13.00 – 14:00

### **LUNCH**

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**Note:** From 14:30 to 17.00 the Social Research Team will meet to debrief and refine Action Plan. Dinner will be provided for the team.

## 11.6 Visual Ethnography: Value Chain Needs Analysis for Mango at Hot Khan Laghari, Sindh.

### A. Introduction

Visual ethnography was used in the planning workshops for the focal villages to facilitate village-level value chain needs analysis. The villages were selected from the village clusters agreed with the commodity teams:

- **citrus** - Chak 83SB in Sargodha, Punjab;
- **dairy** - Chak 45GD in Okara, Punjab; and
- **mango** – Hot Khan Laghari in Mirpukhas, Sindh

Professor Barbara Chambers led this activity and also provided training (capacity building) to ASLP2 Social Research Project partners in how to undertake visual ethnography technique and workshops. She briefed the SAU Social Team about the Visual Ethnography technique as follows:

1. Photo cards or photo posters will show pictures of (a) Mango and (b) Dairy livestock value chain tasks that were identified during previous visits to the villages. Cards will also show pictures of activities related to their business that may have been mentioned but were not evident e.g. banking.
2. Using photo cards for (a) participants sit together in a circle of up to six members from the same village with a facilitator and with photo-cards scattered in the middle.
3. The group facilitator should make clear that the cards are meant to depict people performing different tasks representative of the category, for example pests and diseases. The participants discuss the cards, explaining to each other and to the facilitator what the different tasks are showing.
4. Next, the facilitator asks participants to divide the cards into three groups - tasks which are very difficult to perform; tasks which are easiest to perform and tasks that are in between, that is quite difficult to perform.
5. The facilitator keeps track of the discussion, noting when consensus is reached or not easily reached and the minority opinions. These must be recorded on the sheet labeled **Table 1: Ranking value chain task based on difficulty.**
6. Participants should then turn their focus to the very difficult and quite difficult tasks, discussing the obstacles and resources available to them for easing the difficulties. These must be recorded on the sheet labeled **Table 2: Obstacles, resources available in the village and resources needed.**
7. The facilitator should ask if training is needed for the most difficult tasks.
8. The facilitator then posts pictures of the most difficult and quite difficult tasks onto butcher's paper so that other groups can see them and compare what each group came up with. If there is time, the workshop facilitator will then lead a discussion about similarities and differences amongst groups and what the priority training needs are.
9. The facilitator will then ask each person to decide what tasks are the highest priority and the second highest priority **for training**. Each person is allocated two red or yellow (priority one) stickers and two green or blue (priority two) stickers to place on the relevant picture
10. The facilitator then goes around the room identifying first and second priorities for training and comparing group allocations. The workshop is asked to agree or disagree with the facilitator's assessment.

11. The workshop facilitator will convey these training priorities to the ASLP commodity specialists but the workshop needs to identify two or three men (and two or three women for the women's workshop) who can liaise with the ASLP teams about training and who should do it. In some cases, the group will nominate an existing village facilitator as a liaison person.

\* Note: the focus of this exercise need not necessarily be on identifying training needs. It could be about identifying issues and challenges in the villages with respect to the horticultural or livestock value chain, where training might be only one answer and changes to infrastructure, organization of work and resource allocation might be others.

## **B. The Visual Ethnography Workshops – Hot Khan Leghari**

The planning workshops in Hot Khan Laghari were run on Wednesday 29 January 2013. Dr. Mangan agreed to be overall facilitator for the women's workshop and Mr. Mustafa Nangraj agreed to lead the Men's Workshop. We decided to focus on the dairy value chain as well as the mango value chain because of the importance of both enterprises in the village and also to explore the possible synergies. The workshops were run consecutively with the men's workshop in the morning and the women's workshop in the afternoon. The table facilitators for both the women's and men's workshops were all post-graduate students: Qurat-ul-Ain Memon (called Annie), Samina Baloch, Nasreen Nizamani and Mehrunisa Rais (Mehtar). We were met at the village by the village facilitator/coordinator, Hussain Bux Laghari in whose house the women's workshop was held.

There were three women who agreed to act as women village liaison volunteers for the duration of the project and who would network with Tehmina Mangan:

- Ms Shameem, wife of Muhammad Hanif Kaheri, who is a lady health worker and who is willing to work as a volunteer and is comfortable to participate in mix gatherings of men and women.
- Ms Zhida, wife of Muhammad Hanif Laghari, who is a primary teacher and willing to work as a volunteer and in comfortable to participate in village development activities with the male community.
- Ms Nahma, wife of Hussain Bux Laghari, who is a housewife and belongs to the recently surveyed mango family and is willing to work as a volunteer. She is comfortable with female gatherings but reluctant to sit in gatherings of males, because of local customs. However, if males are part of that gathering, especially outsiders, she is alright with them as we have conducted the recent workshop

Dr. Tehmina Mangan (Social Research Team project officer, Sindh) provided some socio-economic background on the village of Hot Khan Laghari. Before the floods of 2005, most of the people were doing mango marketing and were not selling their crops to contractors. However, after the floods, mango diseases like sudden death and fear of insect pest attacks meant that almost all growers are selling their mango crops to the contractors at nominal rates. In any case, their mango production has been reduced and therefore they are unable to sell it to main markets, which are at distant places like Hyderabad, Karachi and Rawalpindi in the Punjab. In the case of other agricultural commodities like wheat, cotton and sugar cane, smallholders can borrow money from the local traders of these commodities, at any stage of the crop, but in the case of mango, it is not possible to borrow money from traders because of the distance from the main markets. Smallholders feel reluctant to become involved in mango marketing because they feel

they have poor contacts with the city markets and therefore feel that it is difficult for them to do their own marketing and fetch better prices.

From the baseline survey, Hot Khan Leghari compared to the other focal villages had the highest level of education for males and the second highest for females as well as the highest usage of technology, such as mobile phones and computers. Both men and women have a collaborative mind-set and although they have not heard of ASLP, are very keen to engage in more training and have little training compared with the other two focal villages. Credit, water and inputs are their biggest concerns, but in terms of the value chain, marketing and production are seen as issues to be addressed. They have fewer cattle than the other two focal villages, but more land. They see improved mango production as the best way to increase income, but at present they have fewer acres devoted to fruit trees.

What follows is a brief summary of what we found from the village baseline survey and a set of tables of results from the workshop about what tasks men and women found difficult and where they felt they faced biggest challenges and needed most help.

## Visual Ethnography of the Mango Value Chain

For mango, the various value chain activities were shown to workshop participants in the form of pictures as described by category in the table below.

**Table 11.1: Category of Mango Pictures for Men and Women**

| <b>Men's Mango Pictures</b>  | <b>Women's Mango Pictures</b>   |
|--|---|
| <b>Orchard management (OM)</b><br>OM1 & 2 Soil preparation, old and new<br>OM3 & 4 Planting<br>OM5 Irrigation<br>OM6 Crop management<br>OM7 Crop management/pesticides | Informed that in this village it would not be a culturally appropriate task for women; it was men's only work.  |
| <b>Harvest (H)</b><br>H1 Picking/shaking mangoes<br>H2 Cutting mangoes   | <b>Harvest (H)</b><br>H1 Picking/shaking mangoes<br>H2 Cutting mangoes  |
| <b>Post-Harvest (PH)</b><br>PH 1 Domestic packing<br>PH2 Export packing<br>PH3 Transport   | <b>Post-Harvest (PH)</b><br>PH 1 Domestic packing<br>PH2 Export packing<br>PH3 Transport<br><b>Post-Harvest (PH) Value Adding</b><br>PH3 Domestic pickles<br>PH4 Commercial Pickles<br>PH5 & 6 Domestic mango juice<br>PH7 & 8 Commercial mango juice |
| <b>Marketing (M)</b><br>M1 Market stall<br>M2 Roadside stall<br>M3 Large market stall  | Informed that in this village it would not be a culturally appropriate task for women; it was men's only work   |
| <b>Banking (B1) Money exchange</b>   | <b>Banking (B1) Money exchange</b>  |

The results summarized in Table 2 are from the Men's workshop while those in Table 3 are from the Women's workshop. The tasks listed in the Tables below as very or quite difficult are a summary based on the group's priority rankings for action.

**Table 2: Mango Value Chain Tasks based on Difficulty (Men)**

| Group  | Facilitator                               | Very Difficult tasks                                      |   |   | Quite Difficult tasks                 |  |  |
|--|---|---|---|---|---------------------------------------|--|--|
|  |   | What?   | Why?                                    | What Needed?  | What?                                 | Why?   | What Needed?                                       |
| 1<br>N=7   | Ainee<br>(SAU)                            | OM1 Soil preparation (traditional ploughing with buffalo) | Time wasting, nowadays don't use        | Modern ways of soil preparation, but need capital for equipment | OM 2 Soil preparation                 | Time saving but costly                                       | Lack of tractors                                   |
|  |   | OM4 Planting  | Lack of knowledge                       | Training  | OM3 Planting                          | Purchase from the market                                     | Identification of varieties                        |
|  |   | OM5 Irrigation  | Lack of knowledge                       | Training  | OM 6 Crop management (spraying trees) | Know about some diseases but not all                         | Training about plant diseases.                     |
| Aware that lack knowledge of plant diseases and newer forms of irrigation, but lack capital for modern equipment |   |   |   |   |                                       |  |  |
| 2<br>N=6   | Samina<br>(SAU)                           | OM6 Crop management (spraying trees)                      | Lack of awareness                       | Training  | PH2 Export Packing                    | Lack of money and contacts                                   | Training   |
|  |   | OM5 Irrigation  | Lack of water                           | Cost of more efficient system                                   | B1 Banking                            | Difficult process  | Need education about loans                         |
|  |   | OM7 Crop management (pesticides)                          | Danger and not sure how to protect self | Training  | OM1 soil preparation                  | Old fashioned methods are a waste of time                    | New methods require capital                        |
| A genuine concern about the safety aspects of using pesticides and the cost of improved practices                |   |   |   |   |                                       |  |  |
| 3<br>N=6   | Mustafa<br>(SAU)<br>Landless<br>Labourers | OM6 Crop management (spraying trees)                      | Training is not available               | We are very interested in crop management                       | B1 Banking                            | Banks are not giving loans to landless labourers             | Loans from banks                                   |
|  |   | OM7 Crop management (pesticides)                          | Training is not available               | We would like to learn more                                     | PH3 Transport (loading)               | Affects shoulder and back muscles                            | Any loading machine would help                     |
| Awareness that knowledge and the right equipment would safeguard their health.                                   |   |   |   |   |                                       |  |  |
| 4<br>N=5   | Mehtar                                    | OM6 Crop Management (spraying trees)                      | Lack awareness                          | Training  | PH2 Export packing                    | Lack of money  | Money or Training or equipment for all three tasks |
|  |   | OM5 Irrigation  | Lack of water                           | Training and the right equipment                                | B1 Banking                            | Lengthy process to go through banks, so go through middleman |  |
|  |   | H1 Harvest (cutting fruit)                                | Takes time and expertise                | No resources or training  | OM1 Soil preparation                  | Traditional way is a lengthy process                         |  |
| Lack of resources and lack of training are major constraints on addressing obstacles to horticulture             |   |   |   |   |                                       |  |  |

| Group   | Facilitator      | Very Difficult tasks   |   |  | Quite Difficult tasks  |  |   |
|---|------------------|--|---|--|--|--|---|
|   |                  | What?  | Why?  | What Needed?   | What?  | Why?   | What Needed?                                  |
| 5<br>N=6  | Tehmina<br>(SAU) | OM6 and 7 (Crop management, pesticides)<br><br>H1 and H2 Harvest<br><br>PH1 and 2 (Post Harvest domestic and export packaging) | Diseases and lack of knowledge of crop management<br><br>Damage of mango fruit due to harvest and post-harvest losses during cutting fruit and packing<br><br>Financial and practical knowledge | Need advanced knowledge as well as local and traditional knowledge.<br><br>Need of training for raising disease free mango nursery | OM 1 and 2 (Soil preparation)<br><br>OM5 (Irrigation)<br>OM4 Planting<br><br>PH3 Transport | We need financial knowledge and proper equipment<br><br>Water scarcity and brackish quality of water<br><br>Water scarcity<br><br>Fear of insect pests | Finance and updated knowledge for all issues. |
| All members of this group were involved in almost all activities of the mango value chain from nursery rising to harvest and post-harvest like packing and loading. Only one is now doing marketing |                  |  |   |  |  |  |   |

**Table 3 Mango Value Chain Tasks based on Difficulty (Women)**

| Group <sup>10</sup>  | Facilitator         | Very Difficult tasks   |  |   | Quite Difficult tasks  |   |   |
|--|---------------------|--|--|---|--|---|---|
|  |                     | What?  | Why?   | What Needed?  | What?  | Why?  | What Needed?  |
| 1,2 and 3<br>N=10  | Ainee and<br>Serena | H1 (Harvest through climbing tree)<br><br>PH2 (export packing)<br><br>PH4 (commercial pickles) | Time taken up collecting damaged fruit<br><br>Lack of knowledge<br><br>Lack of knowledge and money and don't know how to preserve them for selling to other villages | Not interested in doing this job<br><br>Training in how to pack to export standard<br><br>Training in the village in how to prepare commercial pickles and juices | H2 Harvest by cutting fruit from branch<br>PH3 Domestic pickles                        | Time taken up<br><br>Only a little bit knowledge about preserving   | Not interested, men's job<br><br>Training, because they want to improve quality for selling to other villagers and for home use |
| The women are very interested in value adding if it can be done on site  |                     |  |  |   |  |   |   |
| 4 and 5<br>N=8   | Nasreen and Mehar   | PH4 Commercial pickles<br>PH7 Commercial juicing<br>Ph6 Domestic mango juice                   |  | Development money<br><br>Training, money and equipment<br><br>Training, money and equipment   | PH 3 Domestic pickles<br><br>B1 Banking  | Don't know how to preserve them<br>No money to set up equipment for value adding<br>No access   | Training<br><br>Development money and training<br><br>Training and easier access to money transfer                              |
| The women were aware of the need to preserve food but had no knowledge how to do it. There was some interest in making Amchoor, a traditional dried mango powder added to many dishes. |                     |  |  |   |  |   |   |
| 6<br>N=6   | Tehmina             | PH4 Commercial pickles<br>PH6 Domestic juice<br>PH5 Commercial juice                           | Problem with quality and shelf life for pickles and juice<br><br>Lack commercial knowledge   | Local resource and updated knowledge so that quality and taste can be maintained.<br><br>Financial resources to create cottage industry in village or close by.   | PH2 Export packing<br><br>PH1 Domestic market packing<br><br>H1 Shaking fruit off tree | Lack the right kind of packing material and updated knowledge for both kinds of packing<br>Fruit gets very damaged using this technique | Packing material of the right kind<br><br>Updated knowledge   |
| The women are quite keen to get into export and domestic packing of fruit, or even harvesting, if they can get access to the right kind of material and do it in a women's only site.  |                     |  |  |   |  |   |   |

<sup>10</sup> The five groups of women formed three large tables because of the constricted nature of the courtyard we were in.



## Visual Ethnography of the Dairy Value Chain

The baseline survey data for Dolat Laghari indicated that most households had some livestock. In Hot Khan Laghari, the outreach village, about half the heads of households growing mangoes were selling milk in the village to earn money and half said that they do not have enough production of milk for sale, so they consume it within the household. The low production of milk was explained as lack of knowledge about how to properly balance the diet of cattle. Other constraints include low prices for milk and lack of transport affecting sales of milk to the city. They said they had little knowledge of alternative uses for milk and bi-products of dairy, including butter and cow dung. Apart from providing transport to sell milk in the city to earn a higher profit, the main resource needed was targeted training.

Women also talked about the low production and price of milk. However, women are mostly involved with rearing livestock and said they were not strong enough to milk cattle. They identified lack of knowledge about the proper care of cattle, the identification of diseases affecting them (diseases causing mortality in cattle, although mostly animals died during birth), calf rearing and alternative uses and bi-products of milk, butter and cow dung. Training to address these obstacles was seen to be a high priority, especially training to save new born calves. What follows are the results for men and women of the visual ethnographic workshop, whereby villagers were shown pictures of cattle representing the value chain. In Table 4 are listed the various pictures shown to the participants

**Table 4 Category of Dairy Pictures for Men and Women**

| Value Chain Code | Description of Pictures*              | Male or Female Task |
|------------------|---------------------------------------|---------------------|
| P1               | Purchasing Inputs - food              | M                   |
| P2               | Purchasing Inputs – stock (calves)    | M                   |
| CF               | Cutting Fodder                        | M                   |
| SL               | Maintaining and Constructing Shelters |                     |
| BSM              | Buying and selling milk               | M                   |
| B                | Birthing                              | M                   |
| CR               | Calf Rearing                          | F (mostly)          |
| FW               | Feeding and watering                  | F                   |
| CD               | Collecting dung and making dung pats  | F                   |
| M1               | Milking                               | M                   |
| M2               | Marketing                             | M                   |
| PM               | Processing milk                       | F                   |

\*Pictures supplied by Dr Izhar, UAF

The results summarized in Table 5 are from the Men’s workshop while those in Table 6 are from the Women’s workshop

Tables 5 Dairy Value Chain Tasks based on Difficulty (Men)

| Group  | Facilitator | Very Difficult tasks   |   |  | Quite Difficult tasks  |  |   |
|--|-------------|--|---|--|--|--|---|
|  |             | What?  | Why?  | What Needed?   | What?  | Why?   | What Needed?  |
| 1<br>N=6   | Ainee       | Buying and selling milk (BSM)<br>Purchasing inputs (P1 & 2)<br><br>Calf rearing and care of cattle (CR)                  | Lack of knowledge<br><br>Lack of knowledge about what to look for<br>Lack of knowledge      | Training in ma marketing and Training in getting loans<br>Trai<br><br>Training in how to identify diseases and how to treat them                             | None identified  |  |   |
| Buying and selling milk, calf rearing and purchasing inputs were equally important.  |             |  |   |  |  |  |   |
| 2<br>N=7   | Nasreen     | Rearing (CR)<br>Milking (M1)<br><br>Tending and Watering (FW)<br>Purchasing feed<br><br>Purchasing calves (P2)           | Lack of awareness for all very hard tasks   | Training in ways to improve milk production<br><br>Training in how to create balanced diet<br>What is most nutritious feed<br><br>What to look for in animal | Birthing (B)<br><br>Buying and Selling Milk (BSM)<br>Processing Milk       | Time taken and chance of damage  | Training  |
| For this group of men, calf rearing, milk production and feeding and watering were equally important.  |             |  |   |  |  |  |   |
| 3<br>N=6   | Samina      | Calf Rearing (CR)<br><br>Buying and selling milk (BSM)<br><br>Birthing (B1)  | Lack of vaccination<br><br>Lack of knowledge<br><br>Lack of knowledge                       | We can buy medicine but also training.<br>Transport needed and access to credit<br><br>Training  | Purchasing inputs – feed (P1)<br><br>Cutting Fodder (CF 2)                 | Not enough knowledge and high cost of plant food<br><br>Very hard work by hand | Good feed that can be purchased<br><br>Electricity to drive fodder cutter |
| Calf rearing, buying and selling milk and birthing were equally important and difficult tasks.   |             |  |   |  |  |  |   |
| 4<br>N=8   | Mehar       | Calf Rearing (CR)<br>Milking (M1)<br><br>Feeding and Watering (FW)<br>Purchasing feed (P1)<br><br>Purchasing calves (P2) | Lack of awareness<br>Lack of awareness<br>No interest<br><br>No interest<br><br>No interest | Women are our resource, but need more training<br>As above<br><br>Access to credit and training<br>Access to credit and training                             | Birthing (B1)<br><br>Buying and Selling Milk (BSM)<br>Processing Milk (PM) | No interest<br><br>No interest<br><br>No interest                              | Training, otherwise we rely on our neighbours and ourselves               |
| For this group of men, obstacles were fairly overwhelming, mangoes took up most of their time and in dairy, they relied on women a great deal. |             |  |   |  |  |  |   |

| Group   | Facilitator                  | Very Difficult tasks  |   |   | Quite Difficult tasks                                  |  |   |
|---|------------------------------|---|---|---|--|--|---|
|   |                              | What?   | Why?  | What Needed?  | What?  | Why?   | What Needed?  |
| 5<br>N=6  | Tehmina                      | Purchasing inputs (P1 and P2)<br>Shelters (SL)<br><br>Feeding and watering (FW)<br><br>Collecting and making dung pats (CD) | Lack of finance and knowledge<br><br>Lack of knowledge about hygiene<br><br>Knowledge about nutritional balance<br><br>Disgusting work  | We have local resources but lack updated knowledge<br>As above<br><br>As above<br><br>Don't know  | Calf Rearing (CR)<br><br>Buying and selling milk (BSM) | More knowledge needed<br><br>We need a selling mechanism | We have local resources but lack updated knowledge<br><br>As above                    |
| The men were concerned about disease in cattle, finance and having a marketing mechanism for buying and selling milk  |                              |   |   |   |  |  |   |
| N=6   | Mustafa (Landless labourers) | Feeding and watering (FW)<br><br>Milking (M1)<br><br>Purchasing feed (P1)<br><br>Purchasing calves (P2)                     | Lack of awareness of diet and therefore getting low milk production<br>Lack of transport<br><br>Lack of knowledge about feed and concentrates<br><br>No up to date knowledge of animal diseases | More training and money to buy good concentrates<br><br>Transport and credit to purchase it<br>Access to credit and training<br><br>Access to credit and training | Processing Milk (PM)                                   | No knowledge of what is possible                         | Training, as we want to make a good profit out of livestock and dairy animal farming. |
| <b>There were three labourers, one small shop keeper and one contractor of 15 acres of land.</b> They are selling milk at a low rate of 40 PKR per litre while in the market the rate is up to 70 PKR per litre. They want to increase milk production through knowledge of livestock feeding and disease management. |                              |   |   |   |  |  |   |

Tables 6 Dairy Value Chain Tasks based on Difficulty (Women)

| Group   | Facilitator       | Very Difficult tasks  |  |   | Quite Difficult tasks  |  |   |
|---|-------------------|---|--|---|--|--|---|
|   |                   | What?   | Why?   | What Needed?  | What?  | Why?   | What Needed?  |
| 1<br>N=6  | Tehmina           | Cutting Fodder (CF)<br><br>Calf Rearing (CR)<br><br>Collecting dung and making dung pats (CD)<br><br>Milking (M1) | Use old methods which are dangerous and take a lot of strength<br>Animals get ill or die during birthing<br>Difficult job and causes infections in nails. Young women won't do it.<br>Not enough production and women not strong enough to do it | Need updated knowledge and new technology<br>Training and an available animal doctor<br>Find ways to protect hands and find other ways to use dung.<br>Training in how increase production of milk and then can find other uses for it e.g. butter to increase income from dairy. | Buying and Selling Milk (BSM)<br><br>Purchasing inputs - feed and calves (PM 1 and 2)              | Transport is a problem. Lack of knowledge<br><br>Lack of knowledge | Need for transport to be facilitated.<br><br>More training to make better milk and meat |
| Women motivated to earn more money from dairy and to improve their animal's health and strength and that of their families through more home consumption of milk and milk products. |                   |   |  |   |  |  |   |
| 2<br>N=8  | Nasreen and Mehar | Birthing of calves (B)<br>Calf rearing (CR)<br>Purchasing inputs – feed (PI)<br>Feeding and Watering (FW)         | Lack of awareness for all very hard tasks  | Training in ways to improve health and development of calves  | Milking (M)<br>Purchasing inputs – calves (P2)<br>Buying and Selling Milk (BSM)<br>Processing Milk | Lack of knowledge for all quite difficult tasks.                   | Training and access to credit   |
| For this group of women, improving animal health and therefore production was most important.   |                   |   |  |   |  |  |   |
| 3<br>N=6  | Ainee             | Milking (M1)<br><br>Cutting Fodder<br><br>Purchasing inputs - feed<br><br>Buying and selling milk                 | Women not strong enough<br>Difficult and done men<br>Lack of knowledge<br>Lack of money & knowledge  | Not interested<br><br>Not interested<br><br>Training and identification of most nutritious feed<br>Training   | Calf Rearing (CR)  | Don't know a better way and calves get diseases                    | Training to improve chances of better dairy cattle                                      |
| Women are not interested in milking and cutting fodder partly because of tradition and partly because these jobs take strength and women feel they are not as strong as men.        |                   |   |  |   |  |  |   |

| Group   | Facilitator | Very Difficult tasks                              |   |  | Quite Difficult tasks                        |   |  |
|---|-------------|---|---|--|--|---|--|
|   |             | What?   | Why?  | What Needed?   | What?  | Why?  | What Needed?   |
| 4<br>N=7  | Samina      | Buying and selling milk (BSM)<br><br>Milking (M1) | We don't know about exporting milk to market<br><br>Don't know enough about nutrition to improve production | Training in ways to improve health and development of cattle and marketing of milk | Calf Rearing (CR)<br><br>Cutting fodder (CF) | Lack of knowledge to improve calf health<br><br>Don't know an easier way; it is very hard | Training and access to better technology for both quite difficult tasks. |
| For this group of women, marketing improving animal health and therefore production was most important. |             |   |   |  |  |   |  |

### C. Possible Steps for Action Plan

The next day, the Social Research Team met at SAU to debrief after the village workshops and to discuss ideas for an action plan. The following is a distillation of these ideas

Men expressed a preference for training in orchard management, especially pesticides, and calf rearing (which the men do in this village.) Concern about pesticides was not just about the best ones to use but also about how to protect themselves from being poisoned – what precautions should be taken and what clothes should be worn. Women were keen on value adding by getting training on commercial pickles and juice and domestically, on learning how to preserve produce and making Amchoor, which is very popular in Pakistan, especially at Ramadan.

Women also said that apart from traditional village practices, their poor health meant that some tasks were beyond them. For example, milking (handling large cattle or indeed buffalo) and cutting fodder the traditional way with a hand turned wheel machine. Therefore, improving milk production and the health of cattle for meat will affect the health of the family, including women. If most milk is sold, then the family doesn't have access to it thereby affecting their strength and resilience. They were interested in processing milk, but didn't know a lot about it because there wasn't a lot of milk to spare. Providing gloves to young women might overcome their aversion to making dung pats, protect their hands from infection and prevent their skin from being tainted by dung (Social Team will provide during their next visit in late March).

One possible development through training and to make a nutritional difference to women's health would be to encourage women to keep poultry, for home consumption and for sale in the village and to encourage the farming of smaller animals such as goats, perhaps.

These results were sent to commodity teams for their information prior to setting annual plans.

### References

1. Riviera, Diana 'Picture This: A Review of *Doing Visual Ethnography: Images, Media and Representation in Research* by Sarah Pink. **The Qualitative Report**, Volume 5 Number 4 2010 p 988 – 991
2. Pink, Sarah (2001). *Doing Visual Ethnography: Images, media and representation in research*. Thousand Oaks, CA: Sage Publications.
3. Shwartz, Dona 'Visual Ethnography: Using Photography in Qualitative Research, **Qualitative Sociology**, 12(2) Summer 1989 p 119 - 154

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## 11.7 Report on the Second Collaborative Planning Workshop

### More for Less: Linkages to Enhance Livelihoods Social Research Project Workshop, Bhurban 24 – 27 February 2014

#### Outcomes: Where to From Here?

#### ICT

##### **A. Dairy** – our focus is extension.

Problem: Communication linkages between research, field staff and farmers.

1<sup>st</sup>: Focal people are Azhar (Punjab) and Aijaz (Sindh).

2<sup>nd</sup>: Try to have an ICT Facilitator in a village with internet and a functional computer who has basic training. This person will act to extend our intense extension system to more farmers with District Extension Officers

3<sup>rd</sup>: Connect him/her with the Cyber Extension System (webpage)

4<sup>th</sup>: The Cyber Extension System should have valuable information in different formats (written & audio & pictorial & videos & SMS) so that those who cannot read can still understand. Information will be available in different languages.

5<sup>th</sup>: Expert opinions are available each day in a shift-work system and the facilitator

6<sup>th</sup>: Efficiency and impact will be evaluated through queries and responses to/from farmers

*Comment: FarmPhone can monitor efficiency and impact continuously.*

##### **B. Mango Value Chain** – our focus is on marketing

1<sup>st</sup>: Farm Phone and SMS System can provide information regarding marketing and packing material as requested by stakeholders.

*Comment: MVC is the conduit for this but Cyber Extension site may be used to share information and other material*

##### **C. Mango Production** – our focus is on communication of information

1<sup>st</sup>: Get useful information into useful format for SMS, Farmphone and Cyber

- a. What objectives?
- b. Which languages
- c. What images

##### **D. Vegetable Team** – our focus is on vegetable production technologies

As a result of this workshop we are even more convinced of the importance of mobile phones, Focal Person – Dr Muhammad Aslam Pervez, Institute of Horticultural Sciences UAF cyber extension and FM radio will be utilised by the Vegetable team.

1<sup>st</sup>: Information Requirements

- Production information on technologies of important winter and summer vegetables
- Standardised vegetable seeds production technologies for quality seeds
- Innovative vegetable production technologies
- Information regarding value addition of vegetable crops

2<sup>nd</sup>: Information Delivery

- Mobile phones, cyber extension, FM radio, are effective tools
- Small videos

- Published material in local languages
- Farmer days/ demonstration plots
- Technology to facilitate meeting from different locations
- 

3<sup>rd</sup>: What vegetable team can do?

- Vegetable team will provide required information on vegetable related technologies
- Dr Pervez requires minimal training but sufficient resources
- Dr.Babar Shahbaz will assist us to use Cyber extension system
- Capacity building

*Comment: Vegetable Team is to provide this information and need to contact Mustafa Nangraj and Babar Shahbaz about use of ICT technologies and Mustafa about the use of FM radio.*

## Collaboration

### A. **Dairy** - our focus is extension

Problem: Evaluating our extension practices

1<sup>st</sup>: Feedback from SRT on our extension methods – appointing a focal person to assist SRT run a pilot

### B. **Mango Value Chain** – our focus is on value adding and engaging women

1<sup>st</sup>: Collaborative planning meeting of projects teams

2<sup>nd</sup>: Community Service Centre can help the organization of the production of value added products as well as to organize the training of women from other villages who want to develop the similar chain.

3<sup>rd</sup>: Trial consignment (Export or Domestic) can be sourced from Production Project Demonstration Plot in Focus Village – link between MVC and MP.

*Comment: Our Pakistan partners can assist with point 2*

### C. **Mango Production** – our focus is on integrated extension and economic analysis

1<sup>st</sup>: Training youth under ASLP Mango Production and provision of tools by social project

2<sup>nd</sup>: Economic analysis of mango nursery and improved orchard technologies by social project

3<sup>rd</sup>: Joint nursery training of citrus and mango

4<sup>th</sup>: Linking target growers with supply chain project.

5<sup>th</sup>: Integration with existing extension and knowledge transfer systems

- What are the existing systems
- Where do we interact with them
- How do we interact with them
- What format does our information/ technologies need to be for integration
- How can this be coordinated across ASLP projects (*Comment: through focal villages and Mustafa and Babar*)

*Comment: Tehmina Mangan is costing the equipment mentioned in the 1<sup>st</sup> point and can provide guidance and assist with the 2<sup>nd</sup> point. There will need to be some coordination of information about the 5<sup>th</sup> point and NARC or PARC may be able to assist.*

D. **Vegetable Team** – our focus is on information sharing

Social team can be a great help in the implementation of our project

- If available, information on land utilisation (acreage) under different crops
- As a result of the workshop the awareness of other projects has improved and this opens up opportunities for collaboration
- Requires contacts list and details
- Requires a Web based central point for information sharing between projects. This will enable teams to drop and share information
- Access to information/data developed by other teams
- Use of farmyard manure for vegetable growing in collaboration with the dairy team

*Comment: In terms of the first dot point, the Vegetable Team are encouraged to work with the Dairy Team in focal villages. The CSC's are already planning community vegetable gardens, especially for women. For the third dot point, we still have the Co-lab site that we can use, or perhaps as a mobilizer, we need someone in Pakistan and ensure that there are multiple sites for sharing information – contact and liaise with Babar.*

## Focal Villages

A. **Dairy** - our focus is integration of activities and extension

1<sup>st</sup>: Try to better synergise work of SRT and Dairy Team at 45 GD & HASoomro (Sindh) + citrus + mango

B. **Mango Value Chain** – our focus is on value adding and engaging women

1<sup>st</sup>: Develop a demonstration chain of value added mango products from the village to the market. The products are produced by the women trained in the focal village and link them to the market. The project documents the material flow, financial flow and relationship.

2<sup>nd</sup>: Introducing this demo chain to women of other villages

C. **Mango Production** – our focus is on training

1<sup>st</sup>: Demonstration of good mango orchard management

2<sup>nd</sup>: Training of mango growers and extension staff

3<sup>rd</sup>: Visit of surrounding area growers and extension workers on demonstration sites.

4<sup>th</sup>: The extension staff of focal village as master trainers for surrounding areas.

5<sup>th</sup>: Field days for the growers

6<sup>th</sup>: Success stories of growers (financial) by social team

*Comment: We need to establish a person who links stories with Cyber Extension – see Dairy Project's stories as a model.*

D. **Vegetable Team** – our focus is on integration of activities

1<sup>st</sup>: To the extent possible the vegetable project should concentrate their activities in or around focal villages



## 11.8 Agenda for the Symposium

### ASLP2 SOCIAL RESEARCH PROJECT ASEM/2010/003

#### SYMPOSIUM PROGRAM: LEARNING OUTCOMES OF THE SOCIAL RESEARCH PROJECT IN RURAL PAKISTAN

TEAL ROOM, INSPIRE CENTRE, UNIVERSITY OF CANBERRA 18/06/2015

| TIME                 | ACTIVITY  | RESOURCE PEOPLE  |
|----------------------|---|--|
| 09:00 – 09:15        | Introductions<br>Welcome  | <ul style="list-style-type: none"> <li>• Professor Barbara Chambers.</li> <li>• Professor Frances Shannon, Deputy Vice-Chancellor (Research) and Professor Geoff Riordan, Dean of the Faculty of ESTeM, University of Canberra.</li> </ul> |
| 09:15 – 9:30         | Agricultural Sector Linkages Program, Pakistan  | Dr Peter Horne, General Manager of Country Programs, ACIAR   |
| 09:30 – 10:00        | Socio-economic challenges in rural Pakistan   | Dr M. Azeem Khan, Director-General, National Agricultural Research Centre (NARC), Pakistan   |
| 10:00 – 10:30        | Overview of our work in rural Pakistan  | Ms Sajida Taj, JAF PhD Student at University of Canberra and former project officer in Pakistan*   |
| <b>10:30 – 11:00</b> | <b>MORNING TEA</b>  |  |
| 11:00 – 11:45        | The challenges of cross-disciplinary collaboration<br>(30 min + 15 min questions)               | Prof Barbara Chambers, AISC, ESTeM, University of Canberra   |
| 11:45 – 12:30        | Place-based and industry-based approaches to rural development<br>(30 min + 15 min questions)   | Prof John Spriggs, AISC, ESTeM, University of Canberra   |
| <b>12:30 – 13:30</b> | <b>LUNCH</b>  |  |
| 13:30 – 14:15        | Engaging women and youth in a development context (30 min + 15 min questions)                   | Dr Sandra Heaney-Mustafa, AISC, ESTeM University of Canberra   |
| 14:15 – 15:00        | Women's empowerment and economic collaboration in rural Pakistan<br>(30 min + 15 min questions) | Prof John Spriggs, AISC, ESTeM, University of Canberra   |
| <b>15:00 – 15:30</b> | <b>AFTERNOON TEA</b>  |  |
| 15:30 – 16:15        | ICT for rural development in Pakistan   | Prof Rob Fitzgerald, Inspire Centre, Uni. of Canberra (by video conference from Vancouver – 22:30 to 23:15)  |
| 16:15 – 16:35        | Rapporteur  | Dr Katja Mikhailovich, AISC, ESTeM, University of Canberra   |

|               |                 |   |
|---------------|-----------------|---|
| 16:35 – 16:45 | Closing remarks | Professors Barbara Chambers and John Spriggs. |
|---------------|-----------------|---|

\* Assistant Symposium Coordinator

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## 11.9 Training program for the children on Farming Households

By Sadaqat Sheikhana

Published in Daily Nawa-e-Waqt on 4<sup>th</sup> April 2015

Translated by Sajida Taj Doctoral Candidate JAF Scholar University of Canberra

Community services centre are established for small farmer in four provinces of Pakistan under Australia Pakistan Linkages Social Project. These centres introduce modern agricultural techniques to male and female farmers so that they can adopt modern technologies and enhance their incomes. The purpose of these community centres is to provide training to unemployed young boys and girls to enable them to earn their livelihood and, also by adopting modern agriculture they support their parents and make their village more productive. Different types of trainings are being conducted in these community centres that include computer courses, English language courses, value addition and marketing courses. For women, From Punjab Dr. Izhar Ahmad Khan and Uzma Iqbal from University of Agriculture Faisalabad, from Tehmina and Mustafa Nangraj from Sindh Agriculture University and Miss Shehzadi from Khyber Pakhtunkhwa were assisting in this camp.

Innovative Futures: Rural Youth Camp was organized at National Agricultural Research Centre (NARC) by ASLP2 Social Project. Young boys and girls from farmer households participated in this camp from all over Pakistan. Dr. Sandra Heaney Mustafa along with Dr. John and Robert from University of Canberra were the host and chief organizer of this camp. They warmly welcome young people to NARC, Islamabad. Chairman, PARC, Dr. Iftikhar Ahmed, Director General NARC, Dr. M. Azeem, Nadeem Akmal, from Social Sciences, Dr. Munawar Raza Kazmi and scientists from other departments welcome the participants. From Punjab Dr. Izhar Ahmad Khan and Uzma Iqbal from University of Agriculture Faisalabad, from Tehmina and Mustafa Nangraj from Sindh Agriculture University and Miss Shehzadi from Khyber Pakhtunkhwa were assisting in this camp. This youth camp was innovative in its nature. The purpose of this youth camp was to introduce young people new, modern agricultural techniques and agriculture related value addition skills and their mind setting. The training program of this youth camp was set under supervision of Dr. Sandra Heaney Mustafa in a way that the less educated young people can understand and achieve easily the objective of this camp for which they came here. The author was also a part of this five day youth camp. Every activity of this youth camp was so precise purposeful and live.

Renowned Pakistani and Australian Agricultural scientists explained their years of long research findings in very simple language that was easy to understand. In addition, increased confidence and knowledge of young people was also noticeable. On first day of the camp young people were worried that how they will spend five days in the VIP environment, with highly educated officers, scientists and foreigners (Australians). But after the first day, confidence of young people increased due to the enabling environment that was friendly, encouraging, supportive, and creative and kind that was boosting their confidence. Because the purpose of this camp was to increase the confidence of youth and to change their thinking and vision in a positive way so that they can contribute in the progress of their villages and Pakistan. The people who were not even able to talk at first day of the camp, on 2<sup>nd</sup> and 3<sup>rd</sup> were participating in every activity every actively. In this camp, there was no Pathan, Punjabi, Sindhi, Baluchi, Officer and foreigner but all were respecting each other. There no biases in this camp and the place where this type of environment is created, results are always positive. On successful organization of tis youth camp, I congratulate the Australian government, Australian team, University of Canberra and from Pakistan National Agricultural Research Centre (NARC) and its teams from University of Agriculture Faisalabad, Sindh Agriculture University for their marvellous efforts as they collaboratively organized this wonderful programme for poor young farming community and exposed them to very bright future. Now we will see that how the community centres are contributing towards the progress of these poor farmers? How they can the dreams that were shown in Islamabad contribute in enhancing their livelihoods? Because, every step taken for the progress of this country remain in files or failed due to the wrong policies. Now we will see how long the ASLP2 Social Project team helps the poor farmer to achieve their dreams?

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## 11.10 Rural Youth Innovative Futures Camp, 2015

### AGENDA

| Time                                     | Activity   | Venue                      | Remarks/ Responsibility                                  |
|--|--|----------------------------|--|
| <b>Sunday 15<sup>th</sup> March 2014</b> |  |                            |  |
|  | By 5pm all participants will arrive in Islamabad, settle into accommodations and then gather at 6pm for welcome and an introduction to camp. |                            |  |
| 6:00-6:30                                | Registration and welcome tea   | SSRI, NARC, Inspire Centre | Ms. Shehzadi and Ms Mukaddas                             |
| 6:30-6:40                                | Informal welcome by Dr. Sandra H. Mustafa- feel at home  | SSRI, NARC, Inspire Centre | Dr. Sandra H. Mustafa                                    |
| 6:40-7:00                                | Tea Break  | SSRI, NARC, Inspire Centre | Mr. Nadeem Akmal   |
| 7:00-7:20                                | Writing HOPES, EXPECTATIONS and FEARS by the participants  | SSRI, NARC, Inspire Centre | Dr. Sandra H. Mustafa                                    |
| 7:20-7:30                                | Logistics & sharing of detailed program for next 4 days (distribution of jute bags)  | SSRI, NARC, Inspire Centre | Ms. Shehzadi and Ms Mukaddas                             |
| 7:30-8:00                                | Introduction through Game  | SSRI, NARC, Inspire Centre | Dr. Tehmina and Ms. Uzma Iqbal                           |
| 8:00-9:00                                | Dinner   | NARC Cafeteria             | Mr. Nadeem Akmal   |
| <b>Monday 16<sup>th</sup> March</b>      |  |                            |  |
| 9:00-9:05                                | Recitation from Holy Quran   | NARC Auditorium            | Ms. Shehzadi   |
| 9:05-9:20                                | Objectives & purpose of youth camp. Overview of youth initiatives<br>Dr. Sandra H. Mustafa   | NARC Auditorium            | Dr. Sandra H. Mustafa<br>(Translation by Dr. Tehmina)    |
| 9:20-9:40                                | Welcome address and introduction to NARC by Dr. M. Azeem Khan  | NARC Auditorium            | Dr. M. Azeem Khan, DG NARC                               |
| 9:40-9:50                                | Our Expectation- a young female  | NARC Auditorium            | From Participants  |
| 9:50-10:10                               | Challenges and opportunities for youth in agriculture by Dr. Iftikhar Ahmad  | NARC Auditorium            | Dr. Iftikhar Ahmad<br>Chairman PARC                      |
| 10:10-10:20                              | Australian Investment on youth – HE Australian High Commissioner   | NARC Auditorium            | Australian High Commissioner (Translation by Dr Tehmina) |

|                           |   |                            |   |
|---------------------------|---|----------------------------|---|
| 10:20-10:30               | Vote of thanks  | NARC Auditorium            | Dr. Tariq Hassan<br>Dir. SSRI NARC                  |
| 10:30-11:00               | Morning tea break   | NARC Cafeteria             | Mr. Nadeem Akmal                                    |
| 11:30-11:45               | Experience of Nursery training at Thailand....By (first speaker) Pakistan Hunarmand Khawateen-Pakistan Skilled Women Association Haripur-KPK  | SSRI, NARC, Inspire Centre | Ms. Shehzadi  |
| 11:45-12:15               | Speaker from Sindh  |                            | Ms. Shehzadi  |
| 12:15-12:45               | Inspirational speaker- Punjab (youngish farmer or entrepreneur)   | SSRI, NARC, Inspire Centre | Ms. Shehzadi  |
| 1245-1:45                 | Lunch   | NARC Cafeteria             | Mr. Nadeem Akmal                                    |
| 1:45-1:50                 | Energizer/Game  |                            | Dr. Kazmi   |
| 1:50-2:15                 | Guest from youth organization (VNG or similar)  | SSRI, NARC, Inspire Centre | Ms. Shehzadi  |
| 2:15-2:30                 | Experience of Nursery training at Thailand....By (second speaker) Pakistan Hunarmand Khawateen-Pakistan Skilled Women Association Haripur-KPK | SSRI, NARC, Inspire Centre | Dr. Tehmina   |
|                           | Commodity teams presentation mango, citrus and dairy---share achievements and ask participants what they can adopt in their village           |                            |   |
| 2:30-2:45                 | Mango team  | SSRI, NARC, Inspire Centre | Ms. Shehzadi  |
| 2:45-3:00                 | Dairy team  | SSRI, NARC, Inspire Centre | Ms. Shehzadi  |
| 3:00-3:15                 | Citrus team   | SSRI, NARC, Inspire Centre | Ms. Shehzadi  |
| 3:20-3:45                 | Afternoon tea   | SSRI, NARC, Inspire Centre | Mr. Nadeem Akmal                                    |
| 3:45-4:30                 | Group activity  | SSRI, NARC, Inspire Centre | Dr. Tehmina and Ms Uzma                             |
| <b>Tuesday 17th March</b> |   |                            |   |
| 9:00-10:00                | ICT possibilities and opportunities followed by Q&A   | SSRI, NARC, Inspire Centre | Dr. Rob (Translation by Dr. Babar Shahbaz)          |
| 10:00-10:30               | Sharing of any experience of ICT opportunity  | SSRI, NARC, Inspire Centre | By Participants (Facilitated by Mr. Mustafa Nagraj) |
| 10:30-11:00               | Morning tea   | SSRI, NARC, Inspire Centre | Mr. Nadeem Akmal                                    |
| 11:00-1:00                | Group work around Mustafa's initiative for videos   | SSRI, NARC, Inspire Centre | Mr. Mustafa Nagraj                                  |
| 1:00-2:00                 | Lunch   | NARC Cafeteria             | Mr. Nadeem Akmal                                    |



|                             |   |                                  |   |
|-----------------------------|---|----------------------------------|---|
|                             |   |                                  |   |
| 2:00-3:00                   | Move from mixed village groups to same village groups to begin working on “The future vision of your village: What role you can play and what you need to achieve it” | SSRI, NARC, Inspire Centre       | Dr. Shahbaz and Dr. Rob                                   |
| 3:00-3:20                   | Afternoon tea   | SSRI, NARC, Inspire Centre       | Mr. Nadeem Akmal  |
| 3:20-3:40                   | An introduction of NARC Agriculture Poly Technique Institute- regarding the courses they can offer to young people.   | SSRI, NARC, Inspire Centre       | Mr. Mustafa Nagraj/Dr Babar Shahbaz                       |
| 3:40-4:00                   | Finalization of pints by youth groups for discussion in final day presentation  | SSRI, NARC, Inspire Centre       | Mr. Mustafa Nagraj/Dr Babar Shahbaz                       |
| <b>Wednesday 18th March</b> |   |                                  |   |
| 9:00-1:00                   | Visit various institutes and activities in NARC   | NARC Campus                      | Director API and Mr. Nadeem Akmal                         |
| 1:00-1:30                   | Lunch   | NARC Cafeteria                   | Mr. Nadeem Akmal  |
| 1:30-evening                | Islamabad tour of key sites (Pakistan Museum of Natural History, Pakistan Monument Museum)  |                                  | NadeemAkmal, Ms. Shehzadi and Dr. Tehmina                 |
|                             | Outside Dinner  | Lake View Park                   | Social Project Team                                       |
| <b>Thursday 19th March</b>  |   |                                  |   |
|                             | <b>Option 1:</b>  |                                  |   |
| Leave 8:00am                | Visit to Murree   | Travel                           | Mr. WaqasFarooq, Mr. Nadeem Akmal and Social Project Team |
| 9:30-11:30                  | Each young person to speak about something that has inspired them from NARC or city tour (max 2 minutes each)   | Gathering at PARC Murree Station | Dr. Tehmina and Dr. Shahbaz                               |
| 11:30-11:45                 | Morning tea   | PARC Murree Station              | Mr. Nadeem Akmal  |
| 11:50-1:00                  | Village group work on their vision. Draw your dream village, a group work and then presentation.  | PARC Murree Station              | Dr. Izhar   |
| 1:00-2:00                   | Lunch   |                                  |   |
| 2:00-4:00                   | City Visit  |                                  | Dr. Izhar, Mr. Nadeem Akmal and Mr. Waqas Farooq          |

|                          |   |                               |   |
|--------------------------|---|-------------------------------|---|
| 4:00pm                   | Leave for Islamabad   |                               | Mr. WaqasFarooq, Mr. Nadeem Akmal and Social Project Team         |
| <b>Option 2:</b>         |   |                               |   |
| 8:30-10:30               | Each young person to speak about something that has inspired them from the stalls, the NARC or city tour (max 2 minutes each) | SSRI, NARC, Inspire Centre    | Dr. Izhar   |
| 10:30-11:00              | Morning tea   | SSRI, NARC                    | Mr. Nadeem Akmal  |
| 11:05-12:30              | Village group work on their vision  | SSRI, NARC, Inspire Centre    | Dr. Izhar   |
| 12:30-1:30               | Lunch   | NARC Cafeteria                | Mr. Nadeem Akmal  |
| 1:30pm                   | Visit to Muree substation   | Travel                        | Mr. WaqasFarooq, Mr. Nadeem Akmal and Social Project Team         |
|                          | Dinner  |                               |   |
| <b>Friday 20th March</b> |   |                               |   |
| 8:30-10:00               | Presentations on “The future vision of our village” (10 minutes for each group including QAs)                                 | SSRI, NARC, Inspire Centre    | Dr. Sandra and Dr. Shahbaz  |
| 10:00-11:00              | Closing Ceremony  |                               |   |
| 10:00-10:05              | Recitation from Holly Quran   | NARC Auditorium               | Ms Shehzadi   |
| 10:05-10:20              | Overview of Y. camp activities  | NARC Auditorium               | Dr. Sandra H. Mustafa and translation by Dr Tehmina               |
| 10:20-10:30              | Feedback by participants  | 2 persons one male one female | Ms. Shehzadi  |
| 10:30-11:00              | Presentation of certificates to participants  | NARC Auditorium               | Chairman PARC, Professor. John Spriggs and Dr Sandra              |
| 11:00-11:20              | Chief Guests Remarks  | NARC Auditorium               | Dr. Iftikhar Ahmad<br>Chairman PARC                               |
| 11:20-11:30              | Vote of thanks  | NARC Auditorium               | ASLP2 Social project Coordinator and DG NARC<br>Dr. M. Azeem Khan |
| 11:30-12:00              | Tea with Chief Guest  | NARC Cafeteria                | Mr. Nadeem Akmal  |
|                          | Break for wind up   |                               |   |
| 2:00-2:30                | Lunch for participants  | NARC Cafeteria                | Mr. Nadeem Akmal  |
| 2:30pm                   | Departure for home  | Travel                        |   |