Community Healthy Worker Training for Women's Empowerment in Afghanistan.

Summary Report

June 2006

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This report was written and produced by the Future Generations Health Team for review by Management Sciences for Health and the United States Agency for International Development.

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Chapter 1. Background and Introduction

I. Goals and Objectives

Access to improved mother and child care in Afghan villages depends on a foundation of Community Health Workers (CHWs). They are the essential link to the health system for: preventive services, referral to facilities, primary level health education and improved home care. In this report Future Generations has demonstrated that CHWs training can be dramatically improved for cost/effective and culturally appropriate community based primary care and women's empowerment.

GOAL

The research goal was to document the impact of improved CHW training in very needy villages and the potential for rapid scaling up as part of a Network of Learning Centers.

Objectives

1. To measure the impact of a new model of Community Based Primary Health Care designed for remote and un-reached villages in Afghanistan.
2. To demonstrate how the quality of care and effectiveness of community mobilization for health could be improved in all those areas whose access to care has been increased so dramatically from 7% to 77% under the USAID-funded REACH program.
3. To develop a strong and sustainable partnership between: Top-Down development of services by the MOPH; Bottom-Up action and energy of Communities; and the Outside-In methodology of Future Generations.
4. To provide quantitative and qualitative data and analysis for future rapid scaling up of integrated, comprehensive primary health care through Learning Centers.

This twelve months Future Generation's Operations Research Grant was awarded in May 2005 and conducted field trials in two pilot field sites in extremely poor and isolated areas in Bamyan and Ghazni Provinces. Its purpose was to do operations research on the question: **How can CHW training contribute to more cost/effective and culturally appropriate Community Based Home Care, Women's Empowerment and Health Service Linkages?**

II. Health Challenges

Maternal and child mortality and morbidity rates in Afghanistan are among the highest reported with an estimate that one in six Afghan mothers die each year in child birth, or 20,000 women annually. (Save the Children Fund) Disparities are particularly severe, illustrated by the Maternal Mortality Ratio in Kabul reported as 400/100,000 l.b. and in Badakshan 1600/100,000 l.b. (Linda Bartlett) But there is progress and in the past three years the number of trained midwives has tripled from 500 to 1500 with a continuing expansion of approved training programs.

The national IMR and <5 MR are reported as 165/ 1000 births and 267 /1000 births. But behind these numbers are all the supporting statistics such as an estimates that chronic stunting affects half of all children. UNICEF's *State of the World's Children Report* for 20005 summarizes the following information: Average Life Expectancy is 46 years, which is 19 years less than that of all the South Asian Countries combined. Only 16% of pregnant women receive antenatal care and many fewer get skilled care at delivery. Less than half of children with diarrhea get ORT and only one third of ARI see a trained health worker. About a third of pregnant women receive TT2, and about a third of children get their third DPT. Of children one year of age only about 2 in 5 have received measles vaccination, but 86 % have received Vitamin A. The greatest deficiency is the lack of good and continuing data but an information system is being developed that will record improvements as they occur.

The implementation of the BPHS in its first three to four years has been very successful. Coverage of the population by means of health facilities and active CHWs has increased from 7% to 77%. By mid-2006, CHWs were providing over half of all

III.Formative Research

Shoe Leather Epidemiology**:** Listening to the women in remote villages.

A particular challenge in operations research in Afghanistan is defining the baselines. Maternal Mortality Ratios show disparities that are among the most extreme in the world. REACH particularly emphasized the need for baseline surveys using a standard format to measure impact of standard interventions. In this project we started somewhat differently. In two sites we did Shoe Leather Epidemiology to find out what happens when a baby is born (or dies) in villages in remote areas where much of the mortality and morbidity occurs. Shuras were eager to talk about children's health and after it became evident that they didn't know answers to important direct questions they agreed to our talking with focus groups of older women. Trying various participatory approaches led to the five interventions as a package of What might be done with adaptation in How according to local conditions and culture.

The first breakthrough came in Bamyan when we learned the power of Pregnancy Histories in building confidence and self-reliance through group cohesion. In a nomad camp at 11,000 feet altitude we tried getting women to tell what happens when a baby is born in Afghanistan, or when one dies. This gave opportunity to talk about their amazing successes in having children survive, even though many died. Women love to talk about pregnancies since babies are such an important part of their lives. Each woman had a chance to tell her own sense of fulfillment as she became a mother. Each mother was encouraged to tell about every baby in sequence. When there was a gap of more than 15 months there was gentle questioning about why, and intimate details came flowing out about miscarriages, early child death, husband away during the fighting, family planning, etc. A facilitator simply had to keep notes and then talk personally with the woman afterward to get full details of the kind of pregnancy history that is otherwise very difficult to get. In groups of about 20 they shared personalized details that revealed

traditional birthing practices, underlying beliefs, and cultural traditions that would be very difficult to elicit in formal professionally done surveys. That gets everyone talking as they confirm or compare details. This led naturally to what they could do themselves in their homes.

Most interesting for its cultural significance was the diagnosis that emerged during discussions of *saya* (shadow), which occurs in the first month of life with convulsive paralysis that is clearly neonatal tetanus. Once this was included in questioning, 25 percent of child deaths were in this category. (In the Punjab, there is common use of the term *parchawan* (also meaning shadow) for neonatal tetanus.)

A quick summary of pregnancy history results from discussion groups in upper Shaidan, Bamyan follows: The highest child mortality was in Nawaliboy, the nomad summer camp. From 30 families there were 10 women with 83 live born children, of whom 33 died. The mortality ratios were 33 percent for boys, 47 percent for girls, or 40 percent total which means four out of ten children and almost half of girls born died. It had taken an average of 8.3 live-born children to end up with 5 children per family. In the following villages in more settled farming situations---Jumqala, Nalishira, Khordak, Zaie, and Momurak---similar data were collected. In all five villages, with 49 women the overall figures were 318 live births, with 188 boys and 127 girls, a male ratio of 59 percent. The deaths were: males, 48 with a mortality ratio of 25 percent; females, 53 with a mortality ratio of 41 percent; and overall, 101 deaths with a mortality ratio of 31 percent. Even though these statistics mean little in terms of being representative of the larger population, they reflect the beginning potential of a process leading to discussion of the meaning of death to village women.

The most dramatic feature was their eagerness to talk. They said no one ever listens to them since outside people come in with lists of questions about things that don't interest them. They suggested the Women Only Workshops which leave them empowered. On their own they immediately start discussion in mosques, weddings or while washing clothes at the canal to share what they have learned with other women. When asked whether all the women in their village believe the new ideas they are now talking about, they say, "of course, because we explain why the new ideas are true in ways they understand."

IV. Conceptual Model of the CHW as a change agent.

A. Functional analysis and health program planning

Functional analysis is a process of examining a program in order to define the functions and tasks required for successful implementation of the program and then decide who should perform the various functions and tasks. The BPHS is a good example of a functional analysis that has led to a rational allocation of responsibilities and resources between the different levels of the Afghan health system.

The present functional analysis takes the BPHS analysis two further steps. First, it uses the examples of three important maternal and child health problems to illustrate the activities and tasks of CHWs in their three main roles: life-saving referral, home care, and health promotion and disease prevention. People who are familiar with the national CHW policy will recognize that the analysis fits with that policy. The second analysis describes the Future Generations five interventions that have been designed to train CHWs and mobilize communities for health in ways that are really appropriate to the individual and social characteristics of people in rural communities.

Health planners in Afghanistan have attempted to ensure that the BPHS and the task analysis of the CHWs' job description are based on evidence from the best international research. The design of the Future Generations interventions is also based on international research and experience. The purpose of the Future Generations operations research grant has been to add to the evidence available on community-based health care.

B. Functional analysis of CHW care in community.

1. Life Saving Referral

a) Diarrhea: - most common cause of death

- Recognize danger signs of lethargy, not drinking, sunken eyes and very slow recovery of skin pinch.
- Constant ORT in small doses as tolerated.
- Referral.

b) Pneumonia:

- Recognize danger signs of fast breathing, chest-indrawing and stridor.
- Start Cotrimoxazole, fluids to drink and keep warm.
- Referral

c) Prolonged labor:

- Recognize danger signs of labor lasting more than 12 hours or pushing more than two hours.
- Liquids to drink, food, supportive care.
- Referral.

2. Home Care

a) Diarrhea:

- Teach mothers to give half cup of ORT after every stool when diarrhea first starts.
- Recognize signs of moderate dehydration: restless and thirsty, slow recovery of skin pinch and give ORT according to size of the child.
- Continue breast-feeding.

b) ARI and Pneumonia:

- Distinguish pneumonia from URTI by raised respiratory rate.
- Treat pneumonia with Cotrimoxazole
- Fluids to drink, keep warm and comfortable.

c) Prolonged labor:

- Encourage mother to move about and eat drink as much as she wants, and only to push when she feels the strong urge to do so.
- Discourage bad practices like putting fingers or other objects in the vagina, use of oxytocic injections or herbals to hasten the labor, or applying external pressure to the abdomen to push the baby out.
- Ensure that family has made preparations in case of emergency referral.

3. Prevention and Health Promotion

a) Diarrhea

- Recognize poor hygiene practices and sources of contamination of food and water.

- Promote appropriate ways of sterilizing water, safe use of toilets by whole family, hygiene in home, hand washing with soap.

b) ARI and Pneumonia

- Recognize poor hygiene habits that spread infection.

- Promote good nutrition, personal hygiene, protection from cold

c) Prolonged labor

- Identify those with previous operative or assisted delivery or stillbirth for assessment of need for hospital delivery.

- Promote spacing of births, good diet including protein and calcium during pregnancy (addressing local food beliefs), and adequate rest.

- Recognize and refer severe anemia, and provide micro-nutrients and antihelminthics according to policy.

C. Functional analysis of CHW training and community mobilization activities

The training of community health workers and the mobilization of communities for the promotion of better health practices are very different processes than, for example, the preservice training of health professionals. The processes of training a CHW and mobilizing communities for healthier lifestyles involve more than just the transfer of knowledge and skills; they need to give the people involved the motivation and self-confidence (empowerment) to be able to take initiatives and accomplish changes for themselves. The successful design and implementation of all such processes requires an adequate analysis of the personal and social characteristics of the people involved. In deciding upon appropriate approaches to CHW training and community mobilization did such analysis.

Personal and social characteristics of women and men relevant to training CHWs and mobilizing rural communities for health:

1. Participating women in communities fall into three broad categories:

    - Mature and physically active women who are recognized as natural leaders by the whole village. They are usually more than 40 years of age and, since many are Mothers-in-Law, they automatically have a special role and status.

    - Women with young children, usually 20 to 40 years of age. These are among the busiest people in the village. Daily responsibilities include all aspects of bearing and caring for children; providing, storing and preparing food and water for the whole family; care of animals and household plants; and coping with frequent emergencies and uncertainties. They are also the main potential "consumers" of the BPHS maternal and child health and family planning services.

    - Younger women, 15-25 years of age, possibly still unmarried, who may be the only ones with literacy and numeracy in the village.

2. Women CHWs have had no formal schooling, therefore need competency-based learning methods that are appropriate. Those competencies should include the effective teaching of others.

3. As adults, CHWs and others need the opportunity to work out the relevance of what needs to be taught and the reasons for changing the beliefs and practices they already have.

4. Women are members of communities where beliefs and practices are determined more by social norms than individual decisions.

5. Women have their own spheres of responsibilities, but authority mostly derives from men, especially for any issues outside the home.

D. Future Generations Interventions

Based on the above analysis, Future Generations has adopted five key interventions:

1. Selection of CHWs

- CHWs are selected by community and shura from among the group of mature active women.
- Selected, supervised and supported by village shura
- Since they serve the whole village, they can be supported by traditional patterns of village incentives. Much experience shows that paying a salary during a project is often not sustainable and inevitably creates a sense of dependency to the outside agency rather than solidarity with the community.

2. Women Only Workshops for CHWs

- Workshops are residential workshops for several days that provide:
- Bonding among groups of women and the formation of a supportive peer group.
- Opportunities to learn and apply new standards of personal and home hygiene at the workshop.
- Technical skills which give a sense of empowerment in home treatment, referral, and especially prevention
- Discussion-based learning that leads to changed behavior and shared social norms.

3. Pregnancy histories

- In the early workshops, CHWs share and discuss the stories of their own pregnancies and children. This provides opportunity to:
- Identify the importance and causes of :
    - Complications of pregnancy and childbirth
    - Diseases of newborns and children
- Discuss good and bad traditional beliefs and practices of managing pregnancy, childbirth and child-care.
- Respond to requests for information and explanations about causes of disease.

- Discuss the advantages of scientifically-based explanations and solutions to the problems identified. Reinforce peer-bonding through sharing common experiences.

- Relevant stories can be recalled in later workshops when addressing different parts of the curriculum.

4. Women's Action Groups

- Groups of 7-10 of the 'Women with children' group, selected by the CHWs, who become collaborators of the CHW in their parts of the community.

- Neighborhood cluster of friends and relatives for frequent and easy contact.

- Cascade training, - CHW shares what she has learned through participatory methods so that the group members can in turn teach their neighbors.

- Mutual support, learn problem solving, discuss new ideas and agree on interpretation of earlier beliefs, identify best solutions to common problems.

- In implementing programs, provide mutual help with some specialization in specific skills.

- Develop common plans for involvement of the community men or shura in solving community problems.

5. Community statisticians.

- Selected from among the 18-25 years of age who have some literacy and numeracy skills.

- They are selected by the shura.

- Each one works with 4 to 5 CHWs, especially those who are illiterate, to assist in the recording of data for the monthly Pictorial Tally Sheets, and the preparation and updating of the community map.

- They help to provide these data to the WAGs and Shura to help them develop their annual work plans.

E. Basic Hypotheses

The Five Interventions Model described in Appendix II--Methods applied systematically in this participatory field trial will demonstrate a new Future Generations model of CHW training that covers the content of the entire BPHS training model with the following measurable sets of indicators:

i. It recruits Mature Women Leaders selected by their shuras to be trained as CHWs who will start with high level community respect and support
ii. It will produce equivalent or better capacity and performance in implementing the technical interventions required to reduce maternal and child mortality and morbidity
iii. It builds new Women's Action Groups which extend the mobilization of village women using standard models of Functional Analysis and role reallocation to organize them in close liaison with village shuras
iv. It will produce much greater and more rapid change in behavior and social norms in all the women in villages, not just in CHWs
v. It provides opportunity for women with literacy and numeracy, who are usually young, to find new roles, especially as Community Statisticians

F. Future Generations SEED-SCALE Process: The broader framework.

Future Generations Afghanistan is a member of Future Generations International along with other national programs. This international NGO is progressively moving to become an international nonprofit educational institution, now offering an accredited U.S. Master's program in Community Development.

In Afghanistan programs started in 2002 for literacy, health and environmental protection. In 1995 Future Generations published new models which were formally presented at the Copenhagen World Conference on Social Development. Rapidly expanding programs are now in Arunachal Pradesh/India—9 sites, Tibet/China—42% coverage of the rural areas, Peru—community committees in a formal partnership with government to control 37% of health centers. At the 2004 Global Development Award Conference, Future Generation received Second Place as the Most Innovative Development Program in 2004, with the work in Afghanistan being the central focus of a presentation by Dr. Shukria Hassan.

SEED-SCALE is the Future Generations Framework for action. SEED is an acronym for **Systems of Self Evaluation for Effective Decision-making**. The focus of activities from the beginning is to facilitate sustainable community based, community owned, community initiated socio-economic and systemic change in resource-poor settings.

Rapid expansion occurs with systematic promotion of training and support with ideas but with minimum outside funding to build self-reliance, community capacity, changes in behavior and social norms and community empowerment.

Then SCALE is an acronym for **Systems for Communities to Adapt, Learn and Expand** in rapid extension from successful local sites, then transforming the best successes into Learning Centers which extend to new regions to form a network of Learning Centers for national coverage.

The first principle of the Future Generations methodology is: **Three Way Partnership**: Top down--the government, Bottom up--the community and Outside in--NGOs such as Future Generations which have learned how to bring the top and bottom together.
The second principle is to **Build on Success**. We find that people in the villages have many successes otherwise they would not be so firmly part of their environment. But development programs always talk about problem solving which emphasizes their problems not success and does not build the needed self-confidence and empowerment.
The third principle is E**vidence Based Decision-making**, which is why we agree strongly with BPHS emphasis on data and are having very encouraging experiences with village people as they learn how to manage data and linkages for information management.
The final principle is the partnership organization of **Annual Work Plans For Changes in Behavior and Social Norms**. The evidence presented here shows that Afghan villagers are eager to participate in such a program. The extent of the spontaneous demand is probably the most dramatic finding in this report with solid evidence that community empowerment and women's empowerment can quickly become part of everyday village life.

Chapter 2: Methodology

I. Site selection

The original selections of Bamyan Province and Jaghori District in Ghazni Province arose from the desire to work in needy areas of Afghanistan combined with the opportunities created by the particular provincial directors that had been recruited.

For the health program, again the desire was to work in areas that were most needy and which would not be benefiting from the activities by BPHS grants from one of the major donors. In Bamyan, much of the formative research had been done in Shaidan District. However, the shura there was unwilling to commit itself to the proposed health activities. For this reason, negotiations were begun with Rostam and SyaDara. In Jaghori District, the local leadership thought that the Petka cluster would be good, but, as explained elsewhere, that site had to be abandoned and a new, more remote site at Patoo was selected.

II. Program interventions

A. CHW selection and training

1. CHW selection

Based on the principles outlined in the conceptual model (Chapter 1), CHWs should be selected by the community with the approval of the shura. However, it was also clear that discussions with the community should emphasize the advantages of selecting respected older women, whose children had grown up, but who were still physically active. These would be more suitable than younger women who might have some education or who would still have young families and heavy domestic responsibilities. These criteria are compatible with the MoPH criteria for CHWs, but are deliberately chosen to be narrower in scope.

The other change from the MoPH norms that we wanted to introduce was a ratio of one CHW to fifty households instead of one to 100-150 households. The MoPH CHW policy allows for this small ratio, especially in more remote areas, but we believed that the success of the approach required a number of households that could be truly reached on a regular basis by the CHW.

2. Women only Workshops

The training of the CHWs was designed to meet the requirements of the national CHW job description, but would use different training approaches, better designed to meet the needs of adult learning. The actual training timetable would be flexible and would respond to the priority interests of the women and what was most appropriate to the season of the year.

The intention was that the training workshops for the CHWs should provide time for adequate discussion of all the topics without distractions, create an opportunity to demonstrate safe food, water and hygiene practices, and create an atmosphere where the women could be empowered through bonding as a peer group. Residential workshops lasting five days seemed to be the most effective way of achieving these objectives. A series of five five-day workshops, it was assessed, should be sufficient to cover the full scope of the national CHW curriculum.[1] It would also be roughly equivalent to the number of hours of formal instruction in the standard CHW training program. We decided that a group of twenty women would be the optimal size for a workshop.

3. Pregnancy histories

We wanted to start the training by building some bonds of comradeship among the CHWs, exploring important health issues that they had experienced in their lives, and then encourage them to make decisions about the order in which various topics would be covered in the workshops. This would be achieved by inviting a different four women each morning to tell the story of their pregnancies and deliveries. The afternoons would then be spent discussing some of the issues that had arisen from the pregnancy histories, and which the women were most eager to discuss. It was expected that such histories would point to the most common and important problems of pregnancy and childbirth, and that they would also identify common child health problems of both the neonatal period and later when there were gaps in the pregnancy histories.

4. Women's Action Groups

We wanted to be sure that all families in the village would be reached, and that behavioral change would be achieved on the basis of changed social norms. To accomplish that we would propose to the CHWs that they consider finding a group of seven to ten relatives and friends who would be willing to help them in their work. These would form a Women's Action Group (WAG). Depending on the domestic and farming workload, these women would meet regularly for the CHW to share what she had learnt at the workshops. They would all then discuss those things and decide what they might do about them in their homes. The expectation was that they in turn would be responsible for sharing those things with another five neighbors. In that way, one CHW with ten women in a WAG, and each of them responsible for an average of five neighbors could cover the fifty households that a CHW should be serving.

5. Community statisticians

It was clear from preliminary discussions with community members that most if not all the women we hoped to become CHWs were illiterate. In order to help the CHWs with monthly reporting, the development and maintenance of community maps, and other reporting activities that might arise, we planned to ask the shura at each site to select four

[1] The CHW Policy of 2003 actually allows for variations in the organization of the training program.

young women who were educated to be trained as Community Statisticians. They would each assist five CHWs. They would participate in the training of the CHWs and be given some additional training on reporting skills in the evenings.

III.Monitoring and Evaluation

A. Baseline and follow-up surveys

As part of the agreement with REACH for the USAID grant for this operations research, Future Generations was to complete baseline and follow-up surveys using the same questionnaires and LQAS methodology as all the BPHS grantees. The ten indicators in maternal and child health and family planning would monitor progress towards the shared goal of improving the lives of women and children.

B. Supplementary surveys

A supplementary survey was designed by Future Generations staff. (See appendix 1.) The questionnaire would have three parts and would be offered to all the women who responded to one or more sections of the REACH survey questionnaire. The first part is a socioeconomic survey, asking about the assets and income of the family. The second is a questionnaire designed to assess the level of empowerment of the woman. The third questionnaire surveys some beliefs and practices relevant to nutrition, pregnancy and childbirth. These are based upon issues that arose from the formative research done with women's groups at the beginning of the project.

C. Monthly Pictorial tally sheets (MoPH)

When the CHWs are ready to start completing the monthly pictorial tally sheets for the MOPH HMIS system, they would be taught to do so. The findings would be used for internal monitoring as well as being passed on to the closest reporting health facility.

D. Monthly reports

Monthly reports were required by REACH. They would describe the activities of the previous month and include some selected results from the tally sheets.

Chapter 3: Results

I. INTRODUCTION

This chapter on the results of the program has two main sections. The first describes the implementation of the program and its outputs in each of the three sites, illustrated where possible with stories and anecdotes to give a better understanding of the sorts of things that were happening. The second provides an analysis and appraisal of the findings of the household surveys. There is then a concluding summary of the findings.

The project, from the time of the first pilot phase workshop to the follow-up surveys, lasted 12 months. Table 3.1 shows the timing of the different workshops and the household surveys. The first workshops in Rostam in Bamyan Province were the pilot phase activities when the ideas and principles of the interventions were actually worked out in collaboration with the community. The next site selected was the Petka cluster in Jaghori District of Ghazni Province. That site had to be abandoned after the first successful workshop because of the opposition of a new mullah who arrived just after the workshop. An alternative site in the neighboring Patoo cluster of villages was selected, and workshops were commenced there and in the SyaDara cluster in Bamyan at the same time in November, 2005. Timing of the later workshops and the follow-up surveys was dependent upon the constraints of winter on access and the timing of domestic and agricultural activities.

Table 3.1: Timing of training workshops (X) and household surveys (O) in three field sites.

Site		5/05	6/05	7/05	8/05	9/05	10/05	11/05	12/05	1/06	2/06	3/06	4/06	5/06	6/06
Bamyan															
Rostam	Workshops	X1	X2		X3	X4								X5	
	Surveys					**O1**								**O2**	
SyaDara	Workshops							X1				X2	X3	X4	X5
	Surveys					**O1**								**O2**	
Ghazni															
Petka	Workshops				X1	Program stopped									
Patoo	Workshops							X1	X2				X3	X4	X5
	Surveys						**O1**						**O2**		

As already emphasized, the goal of the project was to develop innovative approaches to the community-based aspects of the BPHS. Remote communities that were not already being served by other providers were, therefore, chosen. In Ghazni, this had the disadvantage of distance from the nearest health facility and therefore the absence of supportive activities like drugs for the CHWs and immunization outreach activities. In

Bamyan, the health center at Rostam was taken over by Marie Stopes International, an international family planning NGO, who were certainly interested in family planning, but have proved to be otherwise unsupportive of the Future Generations program or the MoPH BPHS priorities.

II. PROGRAM OUTPUTS

A. Community Health workers

1. Numbers and selection of CHWs

A total of 60 CHWs were trained, twenty in each site. In SyaDara and Patoo, this was one CHW for each village. In Rostam, a smaller cluster of villages, there were two to three for each village, especially the larger ones. The CHWs were all chosen by the respective shuras after careful discussions about the role and work of a CHW. Most, therefore, came from among the older, respected and active women of the community who were relatively free of immediate household and child-rearing responsibilities.

Rostam was the Pilot Study site, and it took several months of discussions with the shura and community to get agreement for residential workshops to train CHWs. The breakthrough came when Dr. Shukria simply said "The mothers-in-law will be in charge." And the previous concerns seemed to disappear. By the time that the shura had agreed, the women were so enthusiastic about the possibility of learning new things about health that 30 turned up on the first day of the first workshop. During the rest of the workshop another 20 to 30 women were coming in and out all the time, anxious to be part of this special experience that everyone had been talking about for so long. After further discussions with the shura, the number was restricted to 21 for the subsequent workshops. One CHW has since left the area.

The next site was Petka in Jaghori district. Having the precedent of the workshops in Rostam, the agreement to hold the workshops here and in the other sites came fairly quickly, usually after about a month of explanations and discussion. The first workshop in Petka was very successful. However, very soon after completion of the workshop, a new mullah arrived from Iran. He immediately began to oppose the workshops and training of the women, and could not be persuaded to change his mind. For this reason the Jaghori site was changed to Patoo, a cluster of more remote villages.

In Patoo, first discussions were with the school teachers. They were soon persuaded of the importance of women CHWs, living in the village and able to reach the women and children much more effectively than the health center staff. They were very persuasive in the discussions with the shura. The people of SyaDara, a cluster of villages close to Rostam, had heard about the CHWs and workshops from their friends and relatives in Rostam, and a number of them had even been visited by CHWs from Rostam who were keen to share their experiences in Rostam. Agreement for the workshops and selection of the CHWs, therefore, came quickly in SyaDara.

2. Women only Workshops

a) Design and curriculum

The CHW training is designed to be equivalent to the MoPH CHW curriculum. However, a different educational approach emphasizes the empowerment of the women to be more effective, especially in bringing about healthy lifestyle changes in their communities. It is organized into five residential workshops, each lasting five days, full time. This adds up to about 200 hours of formal instruction and is equivalent to the 200 to 220 hours instruction of the more standard three times three weeks curriculum. The CHW manual is used as reference, and the same topics are covered. However, the order in which the topics are covered is different. The order is based on two main criteria: the priority interests of the women, and what is relevant to the season at which a particular workshop is held.

The critical aspect of the curriculum for Future Generations has been the educational approach rather than the content. The "What" of the education is the same, but the "How" is very different. The goal was to enable the women to take ownership of what they had learned, and in order to achieve that, to follow a learning process that they themselves helped to develop. The basic design was worked out in discussion with the women in Rostam, and each stage of its implementation was discussed and planned with them.

b) Hygiene practice

One advantage of having the women living together for five days was the opportunity to demonstrate and practice good home and personal hygiene practices. The house to be used for the workshop was carefully prepared beforehand to ensure that water and food storage, cooking arrangements, toilets, and personal bathing and hand washing facilities were all the safest and most appropriate for a village home. Rather than theoretical classroom discussions, the women all took turns at different housekeeping and cooking responsibilities for the whole group. Teaching about hygiene took place while doing the different activities. This active learning process reinforced what turned out to be a keen interest in home health and safety, and gave the women the ability and confidence to return and make changes in their own homes, which then became demonstrations for their neighbors.

c) Pregnancy histories

One of the most important keys to successful adult learning is to establish at the beginning the relevance of what has to be learned to the lives and work of the participants. In this program, this is achieved by inviting the women during the first workshop to take turns in telling the history of their pregnancies and births. Each morning a different four women tell their stories. The afternoons are then taken up with discussions about issues and problems that have come up in the mornings. The histories bring up all the different complications of pregnancy, childbirth and the neonatal period as well as the various beliefs and practices common in those communities. When there

are gaps between births, there is usually the opportunity to identify child deaths and illnesses and talk about their causes using local terminology.

The first result of the sharing of the histories is a real bonding between the women as they discover the many experiences and crises they share together. In addition to the bonding is the understanding of which problems are common and locally important. They then decide which ones are to be discussed in the afternoon sessions and which are the priorities to be covered in subsequent workshops.

d) Beliefs and practices

A second key point about adult learning is that adults, unlike children, already have established ways in which they do things, with beliefs and stories that explain and justify what and why they do those things. Most of the time those beliefs and practices are shared by others in the community and have become the social norms that guide the transmission of culture from one generation to another. To change beliefs and practices requires two main things: a group process that enables a *social* changing of the social norms and an opportunity in that social process for individuals to discuss and argue through new information and old in order to convince themselves and each other of the correctness and legitimacy of the alternative practice.

These workshops were characterized by repeated late nights of energetic small group discussions and arguments carrying on the more formal discussions of the topics that had come up during the day. Obviously, a process like this is not promoted by a traditional teacher standing at the front of a class. This requires the teacher to be an encourager and facilitator of this self-learning process, able to provide the necessary information and then allow the participants time and space to process it for themselves. This modeling of the facilitator role also helps the women understand the best ways in which they in turn can share what they have learned with the members of their Women's Action Groups and others in their communities.

A variety of beliefs and practices emerged during the pregnancy histories and discussions. Some are detailed later in this chapter and became the subjects of a section of the supplementary questionnaire. Dietary practices during pregnancy related to the understanding of "hot" and "cold" states of the body and of the appropriate "hot" and "cold" foods to be given at those times were regularly discussed. The practice of applying pressure to the abdomen in order to push the baby out when a woman has been in labor a long time and is so tired that labor stops was frequently described. This practice was associated with broken ribs, severe hemorrhage, or descriptions of the baby coming out through the rectum. This practice was rightly re-evaluated by the women when they came to understand that rather than floating free in the abdomen, the baby lies in a muscular sack whose job it is to push the baby out when the time is right and the mouth of the sack is open.

The fourth most common cause of infant death was something called "*saya*" ("Shadow of the spirit") When it became clear that the symptoms and signs of *saya* were the same as

those of neonatal tetanus, the women immediately engaged in eager discussion of the importance of tetanus vaccination for the mother and clean cord care at delivery. A similarly described problem of the newborn called "*soorkhbad*" emerged in Ghazni at a time when belief in *saya* as the cause of tetanus deaths declined. Local epidemiological investigation revealed that it was being promoted heavily as an excuse for a very profitable use of penicillin by local pharmacists. Some pharmacists were even promoting preventive penicillin injections for pregnant mothers. The condition turned out to be erysipelas of the abdominal wall and its prevention and necessary treatment were discussed with the women.

Since beliefs and practices tend to be very local, there is a lot of variation between different parts of the country and even among neighboring communities. The recounting of pregnancy and child health histories provides an opportunity to clarify the actual local beliefs and practices as well as the best opportunity to discuss and help change them.

e) Advantages of the residential workshops

The design of the residential workshop is linked to the selection criteria for the CHWs to maximize the effectiveness of the preparation and work of the CHWs. The preferred CHW is an older woman whose children have grown up and who has fewer pressing household responsibilities. The first advantage of the residential workshop is that it allows the women to leave their home responsibilities behind for five days in order to concentrate on learning. They certainly have a lot of fun together, and there is a lot of story-telling and laughter. For some, it avoids long journeys each day. A few women did go home for an occasional night in order to attend to the care of family or animals.

The residential workshops help the processes of effective adult learning by providing both the practical learning experiences of home and personal hygiene as well as plenty of time for discussions.

The residential experience, the sharing of pregnancy histories and the time for discussion are also very important for the changing of social norms. The bonding that comes from these experiences is also itself an empowering experience, so that when they return to their homes to try and introduce changes there they know they have the support of their peers, and can exchange concerns and ideas.

The excitement of learning new things is something that these CHWs share with all CHWs. However, these workshops also create time and opportunities for practice at sharing and teaching others what they have learned. The women enjoyed explaining things to the other women, and the others enjoyed being able to sympathetically correct mistakes or fill in things that the 'teacher' had forgotten.

B. Women's Action Groups

1. Numbers and composition of WAGs

There are seventy Women's Action Groups (WAGs) that have been formed by the CHWs. There are more than the sixty CHWs because in a few of the villages that were larger and more spread out it seemed sensible to have two WAGs. Each has between ten and fifteen members, and they are a mix of older women and younger women with young children.

The idea of the WAG is introduced to the CHWs towards the end of the second workshop. By this time, the CHWs are becoming more comfortable with new ideas and more confident in their ability to talk about them and explain them to others. The CHWs are encouraged to find a group of women, about five or ten, who would be able to help them share the new ideas and practices with the rest of their communities. The only criterion that is stressed is that the women be willing to help. In fact, very often there was competition to join a WAG, with the husbands promoting their wives. The men generally have been extremely proud of their wives' new learning and new skills.

2. Education of WAG members by CHWs

CHWs are encouraged to "share" their new knowledge with the WAG members rather than be a "teacher" with any negative status associations that the teacher role tends to have. This is one of the reasons that the workshop trainers model a facilitator role rather than a teacher role. The frequency with which the WAGs meet varies according to the season of the year and the amount of farm and domestic work that the women have. In SyaDara, during the summer, about half of the women move with their animals onto the higher pastures, away from the village.

3. Activities and outputs

The most immediate enthusiasm of the WAG members and others was to find out how to make their homes safer places. Safe storage of water and food, ensuring that there is soap or a soap substitute for hand washing and bathing, and promoting use of toilets by everyone in the family were among the priorities. Homemade wheat-salt solution for ORT has been another early favourite. As a result of all this attention to home hygiene, they insist that diarrhoea is less common in their families and among the children in particular.

In Patoo, after discussions about the importance of immunization, the CHWs gathered women and children, hired vehicles and took everyone into the health centre to get their vaccinations.

4. Community reaction

Once the women had begun to do things together and see the results of their efforts, they began to talk to their husbands about other things that they wanted to happen in their

communities. In Rostam, four additional toilets were built. In SyaDara, a contaminated spring was cleaned and protected (See box). In Patoo, the whole community helped to clear a site for an electrical generator (See box).

A spring in Sya Dara:

In the workshop, the new CHWs heard about safe drinking water. Coming home, Fatima realized that their water source, the spring, was not clean, in fact, it was very dirty. She gathered some women, they talked about the problem, and they decided to talk to the men about this, and to ask them to clear the spring and to cover it. They did so, but nothing happened. Day after day passed by, and the men did not do anything. Finally, Fatima gathered three of her neighbour women, and they went themselves to clear up the spring. Some men observed that something was going on. They came over:

Men: 'What are you doing?'
Women: 'We are cleaning the spring.'
Men: 'You are not able to do it.'
Women: 'We are able. We asked you to do it, but you do nothing. Therefore, we have better do it ourselves.'
Men (in between themselves): 'This is not good. This is not women's work. It is a shame for us. It is better we do it.'
Fatima: 'Great! Remember also that it needs to be covered. If it remains open, it will quickly become dirty again.'

So they did. The day after, the spring was absolute clean and covered with a lid in a frame of mud.

In the next workshop Zarghona, the trainer, heard this story. She asked:
'What happened then? Have you had much diarrhoea in the village lately?'
Fatima: 'Do you know, just within some few days the diarrhoeas stopped. It has not been a problem after we cleared the spring. Then to the trainers: - You are sharp people; we need to learn more from you!'

Layla and electricity in Patoo

After coming to our workshops, Layla had understood that she could do something herself to change things, not only accepting the conditions as they were, or trusting the men to fix everything. The trainers had said:
- You are strong women. You can fix things yourselves. Talk with each other, find out what you want to do, and do it.
Layla badly wanted electricity in her village. She had seen the benefit from it in the more central villages in the area. One day she gathered the other women in the village.
Layla: 'We do not have electricity. We need to do something. What can we do?'
Women: 'What can we do? This is the job of men.'
The very next day, Layla gathered the men in her village.
Layla: 'We have no electricity in our village. What can we do about that?'
Men: 'What can we do? We have never had electricity. Is it up to us?'
Layla: 'First, you need to find a place and prepare it.'
The men so did. They found a very nice place suited for the purpose, quite centrally and flat, for a generator. The problem was that there was a huge stone on this place. It had to be removed.
Men: 'There is no way we can move this stone. It is far too big.'
Layla: 'Well, we will gather the women, and all of us will pull together, you and us. Together we can do it.'
So they did. They managed to move that very big rock. Ahmed Jaghori came to the village. He saw that big rock, and asked: 'How on the earth have you managed to move that stone so far?'
Layla: 'We did it!'

The men asked the shura to find an NGO that could help them to get a generator, wires and the knowledge needed to put it together.

C. Other CHW activities

1. Services provided

Table 3.2: CHW services provided in Rostam and SyaDara.

	2005	2006		3rd Quarter
	December	**January**	**February**	**Total**
Women				
Total deliveries	24	15	20	59
Deliveries helped by CHW	17	13	20	50
Normal deliveries referred	7	7	6	19
Complicated deliveries referred	6	7	6	19
Children				
Acute respiratory infection	72	55	34	161
Diarrhea	56	20	15	91

CHWs are now providing a lot of home care. Table 3.2 illustrates the care of women and children in Rostam and SyaDara during the third quarter of the project.

The numbers support the observation that CHWs are attending most deliveries in these communities and that they are getting good at detecting danger signs and referring women. (See box on "A birth complication in SyaDara.") The story from SyaDara illustrates the simple and safe procedures that can be done in the home to manage a postpartum hemorrhage and retained placenta: putting the baby to the breast and then massaging the uterus to encourage it to contract.

The CHWs are becoming equally competent at managing sick children. The box on "Rehydration in Rostam" shows how one CHW managed very well a child with severe diarrhea and vomiting, making the referral to the clinic when it was appropriate. Management of ARI has concentrated on supportive home care and referral when pneumonia was present because the CHWs did not have Cotrimoxazole given to them. Very few of the CHWs had watches, and fewer of them were able to use them to count respiratory rates. However, what emerged in the discussions in the workshops was that these women were already very familiar with the fast and labored breathing of children with pneumonia, and had no difficulty in recognizing it. They also said that it was much more reliable than trying to watch both the baby and the watch at the same time. This is another illustration of the value of the discussion-based learning process which brings out what they already know and believe and provides an opportunity for the facilitator to affirm their strengths and find ways to correct bad practices or incorrect information.

2. Community maps

All the CHWs have completed community maps with assistance from the Community Statisticians. In Bamyan, where the clinic is relatively close to the villages, the map has been used to monitor families' use of maternal and child health services. In Patoo, where the clinic is much farther away, the attempt to use the map in the same way has been more frustrating. As already noted, the CHWs therefore organized transport for a special visit to the clinic for vaccinations.

Rehydration in Rostam

In a wedding in Rostam one child had severe diarrhoea and vomiting. The child was very sick, and the mother was worried. Zahra, a freshly trained CHW, was there. She asked for wheat flour, salt and water, and prepared a soup for cereal-based rehydration, as she had learned in the workshop.

Mother: 'Do not give it. He will vomit more!'
Zahra: 'We will give a little bit at a time.'
Mother: 'No, no, the vomiting will get worse.'
Zahra: 'Even if he vomits, a little will remain in his stomach. He needs it so he does not get too weak. This will make him stronger.'
Mother: 'Is it true? Ok, you can give a little bit.'

Zahra gave a little bit at a time, but the child threw up again and again. Then they realized that the child had a high fever, and that he should be brought to the clinic. Zahra was worried.

Zahra: 'Quickly, boil some water; put it in a big pan to cool it down. Then bring it on the travel, and give the child a little many times on the way, so he does not get too dry.'

The mother did so. When she arrived to the clinic and the doctor saw that she had brought water and flour soup, he was impressed, and asked from where she got the idea. Then, he talked well about the CHW that she had a good understanding, and it was wise to listen to her.

A birth complication in Sya Dara

Arefa, a half-trained CHW, had a neighbour who was pregnant. There was a quarrel going on between these two families, so when the child was delivered, she was not called upon. However, the mother was bleeding a lot, and the placenta did not come out.

Her sister-in law said:
'This neighbour has gone to some training; she has learned from the doctors, she may know what to do.'

The father of the newborn baby refused:
'No, we should not. They are not good people. We do not want them to help us.'

However, the bleeding continued, and finally they went over to fetch Arefa. Arefa's husband got upset and said:
'Do not go. We have a fight going with them.'
Arefa: 'I do not care. This is a mother of many children. If I do not go and she dies, I will carry the guilt.'

So, off she went. She washed her hands, and she asked the sister-in-law to bring boiled water so the mother could wash her breast. Then she put the baby to the breast. Normally they start breastfeeding the third day, so this was very uncommon. However, the family accepted it. Still the placenta did not come, and there was an ongoing haemorrhage. Arefa did the next step she had learned in the course, uterus massage. After a short time the placenta came, and finally the bleeding stopped. Everybody became very happy.

The quarrel came to an end as well.

III.SURVEY RESULTS

A. Implementation of surveys

1. Timing and location of surveys

The experimental design for measurement of the impact of the five interventions was through measurements of selected health and women's empowerment indicators using household surveys before and after the sets of interventions. The first field activity, however, was a Pilot Study where the basic concept of the workshop idea was tested. Initial epidemiology had defined **What** the interventions would be, based on what village women had advised. We still had to define **How** their ideas could be implemented most efficiently and effectively.

The Rostam cluster of villages had the shuras and women who were most eager to try out what they had advised. Shuras insisted on 2 to 3 women from each of 8 Villages with a goal of 20. However, over thirty showed up demanding they participate. The next day over 50 crowded into the limited space and more were said to be on their way. The enthusiasm had became epidemic. The shuras then intervened strongly for a final count of 28. Every day was a learning experience but faculty exhaustion at the end of five days determined the eventual pattern of intensive, participatory learning which has been followed since that time.

Enthusiasm continued to build up daily and the original pioneers insisted on being the lead group in a wave of extension that the shuras started negotiating with SyaDara valley. The Rostam women were already walking to reach villages six hours away in spontaneous scaling up.

Frankly the health team was trying to catch up with the unexpected momentum and was itself in a personnel transition. The baseline surveys in Bamyan were therefore carried out in September 2005 in both Rostam and SyaDara. Rostam had already had four workshops. What at first seemed to be poor planning turned out to be a very valuable Natural Experiment because the Rostam Effect we then defined made it possible to calculate a dose response effect that showed up throughout the subsequent data gathering. This made it possible to do precise documentation of the relationships between workshops and survey measurement in ways that none of us could have planned. The follow-up surveys were done in April, 2006, eight months later after passes were cleared of complete blockage for the four months of winter isolation.

In Ghazni, the baseline was done in October, 2005, and a follow-up survey was done six months later in April 2006. First winter, then security concerns delayed implementation of the workshops in Ghazni. Therefore only the results of the supplementary surveys that measure impact of the content of the first two workshops will be presented here. It is

intended that the main follow-up implementation of the REACH survey will be done in Ghazni in September 2006.

Table 3.3: Timing of training workshops (X) and household surveys (O) in three field sites.

Site		5/05	6/05	7/05	8/05	9/05	10/05	11/05	12/05	1/06	2/06	3/06	4/06	5/06	6/06
Bamyan															
Rostam	Workshops	X1	X2		X3	X4								X5	
	Surveys					**O1**								**O2**	
SyaDara	Workshops							X1				X2	X3	X4	X5
	Surveys					**O1**								**O2**	
Ghazni															
Patoo	Workshops							X1	X2				X3	X4	X5
	Surveys						**O1**						**O2**		

The baseline surveys in SyaDara and Ghazni represent true baselines. The baseline survey in Rostam was done four months after the initial experimental workshops had commenced.[2] An effect of the interventions might, therefore, be expected in the Rostam baseline results. For much the same reason, the follow-up results for SyaDara might be expected to be less than Rostam's because of the later program implementation.

2. Numbers of respondents

Field surveyors were trained to sample villages using the REACH "LQAS" methodology. In this methodology, points were made on a map and the nearest household was selected. One each of four different surveys was done at or near each location.

Table 3.4: Total Number of Females interviewed

Individuals Interviewed – REACH Main File		
	Baseline	**Follow-up**
Bamyan	249	215
Ghazni	209	(212)

Table 3.5: Number of forms

[2] Rostam was the pilot site, and because of the development work being done in partnership with the community, it would not have been appropriate to do a household survey any earlier.

	Baseline	Follow-up
Main	*155 (620)	*150 (600)
Bamyan	332	308
Ghazni	288	292
Supplemental Yakawlang (Bamyan)	204	173
Supplemental Jaghori (Ghazni)	128	178

*Each packet has 4 questionnaires

According to tables 3.4 and 3.5, in Bamyan province (baseline), respondents answered on average 1.33 (332/249) questionnaires, while at follow-up respondents answered on average 1.43 (308/215) questionnaires. In Ghazni, at both baseline and follow-up respondents answered on average 1.37 questionnaires.

With regards to the supplemental questionnaire, the survey methodology specified that for every woman interviewed with the REACH file, one supplemental file should be filled. At baseline in Bamyan province there were 249 women interviewed, however only 204 women received supplemental questionnaires. Therefore 45 women either declined to continue the survey or refused due to unknown reasons. In Ghazni there were 81 women that did not respond to the supplemental questionnaire. During the follow-up surveys, 42 women in Bamyan did not answer the supplemental questionnaire while 34 women in Ghazni did not answer.

B. Demographics

The different study areas varied by socio-economic status, as measured by literacy, and land and radio ownership. The villages in Ghazni province were very rural, yet showed a literacy rate of 10.9%. Literacy was slightly higher (25.5%) in Bamyan.

The source of the literacy education also differed, with more women in Bamyan having taken the "Learning for Life" literacy program (78.8% versus 13.5% receiving literacy training at the Madrassa and 7.6% elsewhere). Of the 14 literate women in Ghazni, 4 (28.6%) had taken the Learning for Life curriculum and 9 (64.3%) learned from the Madrassa.

Land ownership was 62% in Bamyan and 86% in Ghazni. Radio ownership was 52.4% and 66.4 % respectively. There were low rates of television ownership (6.4% and 23% respectively).

Table 3.6: Demographic characteristics at baseline.

Demographic Characteristics at Baseline	Percentages			
	Ghazni	Bamyan		
	Patoo	SyaDara	Rostam	Sig
Literacy	10.9	25.8	24.4	***
- Learned at Learning for Life	28.6	82.9	63.6	
- Learned at Madrassa	64.3	12.2	18.2	
- Learned elsewhere	7.1	4.9	18.2	
Income from Agriculture	11.0	55.6	52.2	
Income from Abroad	48.8	0.0	0.0	
Land Ownership	85.9	56.6	80.0	****
Sewing Machine Ownership	74.2	44.7	67.4	****
Television Ownership	22.8	4.4	13.3	****
Car Ownership	21.1	4.4	17.8	***
Radio Ownership	66.4	50.9	57.8	**
Sheep or Goat Ownership	95.3	73.0	82.2	****
Camel or Cow Ownership	0.8	72.3	84.4	****
Donkey or Horse Ownership	38.7	48.0	13.3	****
Use generator for lighting	93.0			
Use wood for cooking	82.0			
Roof made of wood	80.5			
Floor made of mud	98.4			
* 0.1; ** 0.05; *** 0.01; **** 0.001				

C. Program Indicators

1. Outreach of CHWs

CHWs rapidly became active in visiting the homes of families in their villages. Visits reached 80% of households after four to five months and almost 100% in the Bamyan follow-up surveys. This was a highly significant finding. An interesting finding was the 11.4% of families in SyaDara who claimed to have been visited by a CHW at the time of the baseline survey, at a time when there were no CHWs in SyaDara. Investigations revealed that these women had been visited by CHWs from Rostam, who were keen to share what they were learning with friends and relatives in SyaDara.

Table 3.7: Percentages of women who have been visited by a CHW in the last 3 months					
Ghazni			**Bamyan**		
Baseline	***Follow-up***	***Significance***	***Baseline***	***Follow-up***	***Significance***
N = NA	**N = 178**		**N = 204**	**N = 173**	
NA	80.9	NA	27.0 Rostam 82.2 SyaDara 11.4	98.8 Rostam 100 SyaDara 98.6	**** *** ****

2. Antenatal and postnatal care

Antenatal care increased from 35% to 48% in the Bamyan communities. That increase included both increased attendance at the clinic as well as care by CHWs. In the clinic antenatal care by the doctor decreased as the midwife's workload almost doubled. This is an important rationalization of resources. The CHW, because she knows the pregnant women and their families is usually the most accessible source of routine micronutrients,

Table 3.8: Percent of women receiving antenatal and postnatal care				
	Ghazni	**Bamyan**		
Indicators	***Baseline***	***Baseline***	***Follow-up***	***Significance***
	N = 72	**N = 82**	**N = 77**	
% of mothers attending at least one antenatal visit	41.67	34.9	48.1	*
Person providing antenatal care:	N = 30	N = 34	N = 49	
CHW	0	5.9	22.4	
Doctor	96.7	32.4	6.1	***
Nurse/Midwife	3.3	52.9	69.4	
Trained Dai	0	8.8	2.0	
% of mothers that receive tetanus toxoid while pregnant	45.8	46.9 Rostam 41.2 SyaDara 48.4	59.7 Rostam 88.2 SyaDara 51.7	***
% of mothers who received postnatal care	15.3	7.3 Rostam 16.7 SyaDara 4.7	22.1 Rostam 58.8 SyaDara 11.7	** *
*** .1; ** .05; *** .01; **** .001**				

and the most effective health educator and guide to birth preparedness. Likewise, the midwife is a much more cost-effective source of routine antenatal care than a doctor.

The proportion of women receiving tetanus toxoid in pregnancy increased by about a third, while the percent of women seeking postnatal care tripled. The presence of the clinic in Rostam did not seem to make a great difference in baseline figures; however, the greater impact in Rostam is probably associated with the longer duration of the program there.

3. Delivery care

The small numbers of births assisted by skilled birth attendants are not surprising, given the remoteness of these communities. However, it is good to see the small increase in use of skilled birth attendants in Bamyan shown in table 3.9, and the increased interest in delivering in either the clinic or a hospital as shown in table 3.10.

Table 3.9: Percent of births attended by a skilled attendant.

	Ghazni	**Bamyan**		
Indicators	***Baseline***	***Baseline***	***Follow-up***	***Significance***
	N = 72	**N = 82**	**N = 77**	
% births attended by a skilled birth attendant	4.17	2.41	9.09	*

*** .1; ** .05; *** .01; **** .001**

Table 3.10: Intended place for next delivery

	Ghazni N = NA	**Bamyan N = 204**	**Bamyan N = 173**
	Baseline	*Baseline*	*Follow-up*
Place of delivery	0		
Clinic	0	9 (4.41)	24 (13.87)
Hospital	0	1 (.49)	6 (3.47)
House	0	191 (93.63)	142 (82.08)
In Another House	0	1 (.49)	0

4. Nutrition taboos and delivery practices

Discussions arising from the pregnancy histories during the first workshop in Rostam suggested that certain food taboos during pregnancy and delivery practices might be associated with maternal morbidities and mortality. Questions were included in the

supplementary questionnaire to explore the prevalence of these beliefs and practices. Table 3.11 shows the findings.

The questions were not included in the baseline in Ghazni because, during preliminary discussions, some women had claimed that people used to follow the bad practices earlier, but that they no longer did so.

Table 3.11: Nutrition and delivery beliefs and practices in pregnant women.

	Bamyan		
Indicators	***Baseline N = 204***	***Follow-up N = 173***	***Significance***
% of women that believe placing pressure on the stomach of a mother is appropriate	(48.0) Rostam 62.2 SyaDara 44.3	(19.8) Rostam 14.3 SyaDara 21.2	
% of women that received liquids and ate during the last delivery	(20.6)	(60.7)	****
% of women that received cold foods during the last months of pregnancy	(89.2)	(89.0)	
% of women that were drinking milk during the last months of pregnancy	(86.8)	(90.2)	

In the first workshop, there were many reports that women who had extreme fatigue during labor and could not maintain hard pushing with labor pains needed help to get the baby out. They had the belief that the baby floats in the abdomen. They did not know that it is in a muscular sack (the uterus), designed to push the baby out at the right time. Birth attendants and neighbors therefore applied great pressure to the abdomen to push the baby out fast. There were reports of husbands looping a turban around the woman's abdomen and pulling hard on the two ends, or lifting the wife on his back to shake the baby out. These practices were frequently associated with trauma and hemorrhage. Belief in the appropriateness of this practice was common at both Rostam and SyaDara at baseline, but declined rapidly and significantly after only one or two workshops.

Another question about delivery asks whether once labor had started mothers received any liquids or food. This was asked because there were many village reports, considered to be rumors by most doctors, about a practice of giving neither liquids nor food once labor pains started. In Bamyan the number who reported that women were receiving liquids and food went up sharply and significantly from 20.6% to 60.7%. In the workshops the topic caused active discussion about whether practices should change. After intensive late night discussions, the women convinced each other that these practices had to change, especially after they saw anatomical diagrams and heard the

basic physiology described. They then developed their own plans for how they would convince the whole village.

Similarly there were what we at first thought were simply rumors about taboos against "cold foods" during late pregnancy. A general belief in categories of food was based on ancient understanding of the need to balance "humors" in maintaining health. Cold foods are considered very bad for the baby and therefore they are not taken during the last months of pregnancy. Again this received intensive discussion in the first Workshops. The women took the nutritional instruction very seriously and themselves worked out arguments to justify change. They agreed among themselves that they felt better when they had a good diet and that it made sense that this would be good for the baby too.

Of particular note in the very first workshop in Rostam was great discussion about the practice that with the start of pregnancy a woman should not have milk since it is considered a "Cold" food. Then in the Pregnancy Histories many of the women demonstrated how in deliveries they had severe episodes of convulsive attacks, especially clenching of their hands and muscle spasms. Additional questioning convinced two experienced obstetricians who were present at the first workshop that this was not Eclampsia but was typical of Hypocalcemic Tetany. They linked it to the food taboo on milk and other sources of calcium, and made strong recommendations for change. This produced a remarkably rapid social change as shown in the fact that in the first workshop most of the women took these descriptions of muscle spasm for granted but at the Baseline and subsequent survey almost 90% were already taking milk.

5. Child feeding

Given the short time between baseline and follow up surveys, the child feeding questions were asked of the mothers of children under a year, and those answers are presented in preference to those from mothers of 12 – 23 month old children.

The best time to commence breastfeeding is within the first hour after delivery. Discussions at the workshops revealed the expected concerns about the effects of colostrum on the baby. Table 3.12 shows the changes among mothers of children less than one year as a result of promotion of early breastfeeding by the CHWs and the Women's Action Group members. In the true baseline in Ghazni, 78.6% of babies were not breastfed until after 8 hours. In the baseline in Bamyan, when practices had probably already started to change, breast-feeding under an hour rose from 15% to 72%, and at follow-up only 12% delayed until after 8 hours.

Table 3.12: How long after the delivery did you first breastfeed your child?				
	No. of Responses (%)			
Mothers of children under 1 year	**Ghazni N = 72**	**Bamyan N = 80**	**Bamyan N = 75**	
	Baseline	*Baseline*	*Follow up*	*Significance*
***Characteristics**				
Within first hour	2 (2.9)	12 (15.0)	54 (72.0)	****
Within first 8 hours	13 (18.6)	50 (62.5)	12 (16.0)	
After first 8 hours	55 (78.6)	18 (22.5)	9 (12.0)	
*** .1; ** .05; *** .01; **** .001**				

Similarly, there was equivalent interest in whether mothers had maintained exclusive breast feeding for 6 months. In Bamyan, the proportion starting other foods after 6 months increased from 45.8% to 72.7%.

Table 3.13: Percentage of children exclusively breast fed.				
	Ghazni N = 72	**Bamyan N = 82**	**Bamyan N = 77**	
	Baseline	*Baseline*	*Follow up*	*Significance*
***Characteristics**				
% children 12-23 months exclusively breastfed during their first 6 months	43.1	45.8	72.7	****

6. Family planning

Family planning knowledge and practice in the Bamyan communities was particularly affected by the management of the clinic in Rostam being taken over by Marie Stopes International (MSI)(a family planning organization) from Medicin sans Frontier (MSF)(a relief organization) in June 2005. As seen in table 3.14, knowledge of modern contraceptives was already much higher at the baseline in Bamyan than in Ghazni. In Bamyan, knowledge continued to increase considerably and significantly over the course of the project.

Table 3.14: Knowledge of modern contraceptives.				
	Ghazni	**Bamyan**		
	Baseline	***Baseline***	***Follow-up***	***Significance***
Indicators	**N = 69**	**N = 82**	**N = 77**	
% of mothers that have heard of contraceptive methods	21.7	58.5	88.3	****
% mothers who can identify at least two forms of modern contraception	15.3	48.2	84.4	****

In spite of the increase in knowledge of modern contraceptives in Bamyan, use, as shown in table 3.15, did not increase significantly during the project period. This may indicate that the level of demand had been reached or that access had not been increased to meet a larger demand. Since the CHWs did not receive any contraceptives to distribute, the latter may be the correct explanation.

Table 3.15: Use of modern contraceptives				
	Ghazni	**Bamyan**		
	Baseline	***Baseline***	***Follow up***	
	N = 14	**N = 47**	**N = 67**	
% of mothers that have ever used modern birth spacing methods	14.3	61.7	46.3	
	N = 15	**N = 47**	**N = 67**	
% currently using modern birth spacing method				
Pill	0	11 (23.4)	14 (20.9)	
Injection	0	11 (23.4)	10 (14.9)	
Condom	0	1 (2.1)	0	
IUD	0	4 (8.5)	4 (6.0)	
Sterilization	2 (13.3)	2 (4.3)	2 (3.0)	
None	13 (86.7)	18 (38.3)	37 (55.2)	
% mothers who are using (or partner is using) a contraceptive	2.8	34.9	39.0	

7. Hygiene and Sanitation

Improvements in personal and home hygiene are among the most consistently reported changes resulting from the work of the women's action groups. Table 3.16 shows that availability and use of soap was very high in all households. The significant change in Ghazni was the marked increase in use of soap.

Table 3.16: Hand washing practices						
	Ghazni			**Bamyan**		
	Baseline N = 128	***Follow-up N = 178***	***Significance***	***Baseline N = NA***	***Follow-up N = 173***	***Significance***
Indicators						
% of individuals that have soap available in the home	93.0	97.8	*	NA	97.1	NA
% of individuals that have used soap in the last 24 hours	80.5	93.8	****	NA	90.2	NA
*** .1; ** .05; *** .01; **** .001**						

The next table shows the principal sources of drinking water. In Bamyan at baseline, about half of the people used very reliable spring water in their narrow valley and another half used surface water as available. At follow up, half of the households using surface water had changed to using the safer spring water. In Ghazni, sources were more diverse and did not change much in the short time between surveys.

Table 3.17: Distribution of water sources used by households.				
	Ghazni		**Bamyan**	
	N = 128	**N = 178**	**N = 204**	**N = 173**
	Baseline	*Follow up*	*Baseline*	*Follow up*
Characteristics				
Protected tubewell	8 (6.3)	15 (8.4)	2 (1.0)	2 (1.2)
Spring	69 (53.9)	93 (52.3)	93 (45.6)	128 (74)
Surface water	0	4 (2.3)	100 (49.0)	43 (24.9)
Unprotected tubewell	28 (21.9)	31 (17.4)	9 (4.4)	0
Kareze	23 (18.0)	32 (18.0)	0	0
* More than one answer chosen per respondent therefore percentages do not equal 100				

Responses to questions about defecation practices indicated that about half of the people in Bamyan and three quarters of people in Ghazni used toilets. At follow-up, there was no change in either of these rates. There seems to be much that can be done to improve sanitary conditions. As already noted, at the urging of the women in Rostam, new toilets were built. In addition, a separate Future Generations field project funded by MRRD demonstrated that a group of unmarried and literate young women and teenage girls with a short period of training and good supervision could achieve remarkable improvements in both home sanitary and hygiene infrastructure and behaviors in just four months.

8. Childhood vaccination

Vaccination cards were missing, damaged or incomplete for many children, especially in Ghazni. Maternal recall of the vaccinations received seemed to be much more complete in these situations. The vaccination information in table 3.18 has therefore been presented both just from the vaccination cards and from the cards and mother's recall combined. As previously mentioned, the period between the surveys was only eight months, including winter. That together with the incompatibilities between the sampling and the short period means that the small increases are still meaningful.

Table 3.18: Childhood vaccinations

	Ghazni	**Bamyan**		
	Baseline N = 38	***Baseline N = 60***	***Follow-up N = 53***	***Significance***
Indicators				
% children >= 1 year and < 2 years fully immunized (DPT3) - Only Card	38.9	22.9	24.7	
% children >= 1 year and < 2 years fully immunized (DPT3) – Card plus recall	52.8	42.2	48.1	
% children >= 1 year and < 2 years who received Vitamin A therapy	50	63.9	67.5	

9. Management of a sick children

Community health workers were taught to manage diarrhea and dehydration with home-made wheat-based ORT. They taught the members of their action groups, and those women, in turn, taught the other women in their neighborhood. Since the CHWs did not receive Cotrimoxazole or any other medicines, management of pneumonia was therefore with supportive care and referral to a health facility.

Baseline figures in table 3.19 show that appropriate management was found to be much higher in Bamyan than in Ghazni. This may reflect the easier access to a clinic in the Bamyan villages or the fact that the project was already well advanced in Rostam at the time of the baseline survey. The poorer performance in diarrhea management at the Bamyan follow-up is not easily explained given the enthusiasm of the CHWs for this treatment, though the numbers were small.

Table 3.19: Management of sick children			
	Ghazni	**Bamyan**	
	Baseline	*Baseline*	*Follow-up*
% mothers reporting appropriate behavior for treating a sick child: ARI	18.8	35.7	39.1
% mothers reporting appropriate behavior for treating a sick child: Diarrhea	13.6	50	41.7

Table 3.20 shows how quickly families sought advice for a child with ARI. It demonstrates the difficulties both in seeking care and in interpreting data about care-seeking. The numbers are small, however, it is interesting that the proportion of families who sought care on the third day or later remained about the same in both Ghazni and Bamyan. In Ghazni, half of the families sought care on the first day of the sickness. In Bamyan, there was a general shift towards earlier attendance within the first two days. This probably reflects the fact that among more remote communities, there are certainly some villages and hamlets that become more cut off than others in the winter.

Table 3.20: Day on which advice was sought for ARI			
	Ghazni	**Bamyan**	
	N = 8	**N = 10**	**N = 30**
	Baseline	*Baseline*	*Follow-up*
Indicators			
Same Day	4 (50.0)	1 (10.0)	8 (26.7)
Next Day	0	1 (10.0)	3 (10.0)
Two Days	1 (12.5)	4 (40.0)	7 (23.3)
Three or more days	3 (37.5)	4 (40.0)	12 (40.0)

Table 3.21: Treatments given for diarrhea as a percentages of cases			
	Ghazni N = 44	**Bamyan N = 52**	**Bamyan N = 12**
	Baseline	*Baseline*	*Follow-up*
Characteristics			
Pill or syrup	30 (68.2)	36 (69.2)	5 (41.7)
Home Herbal medicines	5 (11.4)	6 (11.5)	0
Home-made fluid or ORS	10 (22.7)	43 (82.7)	9 (75.0)
Injection Or IV	6 (13.6)	8 (15.4)	1(8.3)
Nothing	0	0	0

It is clear from table 3.21, that families were using multiple treatments for the management of diarrhea. This was not a major problem in Ghazni (1.16 treatments on average). However, only 22.7% of children received ORT, the remainder receiving treatments that are not recommended. In Bamyan, at the baseline survey, children were getting an average of 1.79 treatments. At follow-up in Bamyan multiple treatments dropped to about 1.25. ORT was already being used by about 80% of families at the baseline, and remained about the same at follow-up. The non-recommended treatments were less frequently used.

D. Empowerment Indicators

1. Participation

The Future Generations Empowerment questionnaire was developed and pre-tested early in 2005 as part of making empowerment a central focus of this research. It was part of the Supplemental forms added to the REACH Household forms for Baseline and Follow Up surveys. The form has seven categories of attitudes and behaviors to be considered as empowerment indicators with one to four questions focusing on each indicator for a total of 12 questions. They are shown in Table 22 with results of Baseline and Follow Up in percentages of women responding for both Ghazni and Bamyan.

As described in the Methods section of this report, the most reliable data consistently came from Bamyan where the Pilot first full cycle of Workshops was in the Rostam cluster of villages, then a full cycle was completed in the Sya Dara so all five workshops were done and the program had been going for 12 months in Rostam. In SyaDara, four of the workshops had been completed and the program had been under way for 6 months. In Ghazni the Patoo site had the Baseline but before the Follow-up survey only two of the five workshops were done so the input was only partial. Expectation of impact is mainly from Bamyan.

Mobility is an indicator of special importance in Afghanistan since there are normally few opportunities for women to move freely outside of their home environment. For project areas the question that was most urgent was whether the women thought they would be given permission to spend five days staying overnight in the secluded village house that was the training center, also having their small children with them. The tremendous enthusiasm reflected from the first Rostam workshop is reflected in the jump from 40 % to 76% in the assurance women now had that they could get permission to be away from home overnight. In Ghazni, the women were more confident they could get permission at Baseline (73%) but this dropped to 61 % for no obvious reason. However, increased Taliban activity in a neighboring district and the opposition of the new mullah in Petka may have contributed.

Table 3.22: Participation as empowerment						
	Ghazni			Bamyan		
	Baseline N = 128	***Follow-up N = 178***	***Significance***	***Baseline N = 204***	***Follow-up N = 173***	***Significance***
Indicators						
MOBILITY						
% of women that could gain permission to attend an overnight workshop	72.7	60.7	* Negative	39.7	76.3	****
AWARENESS OF EMPOWERMENT						
% of women that try to help others to have healthy behaviors	96.1	94.9		98.5	99.4	
SELF CONFIDENCE						
% of women that believe they have the ability to influence important decision in their family or village	77.2	79.8		67.0	77.5	**
PARTICIPATION IN COMMUNITY LIFE						
% of women that report their husbands express their concerns to the shura	61.7	74.2	***	50.0	61.8	*
*** .1; ** .05; *** .01; **** .001**						

Confidence about getting permission to attend an overnight workshop at baseline in Bamyan was examined to see if there were associations between socio-economic characteristics of the women and their responses. Confidence about permission was not affected by land ownership or radio ownership, however, an interesting association with women's literacy levels is shown in table 3.23. Overall, there was twice the level of confidence (61.5%) among literate women than among women who were not literate (32%). Interestingly, there was also an increased confidence among women who had been attending literacy courses than among those whose literacy came from other sources.

Table 3.23: Effect of literacy on confidence about permission to stay overnight at workshops in Bamyan. (Baseline survey)					
Confident about permission		Yes	No	Percent Yes of literate groups	Percentage Yes of Totals
Literacy Course	41	27	14	66%	61.5%
Literacy Other	11	5	6	45%	
Illiterate	152	49	103		32%

Chi-Square 15.4 with p=0.0005

Awareness of Empowerment

This question about trying "to help others to have healthy behaviors." was framed as part of the basic purpose of the project. Both before and after responses were in the mid-90s in Ghazni and high-90s in Bamyan, suggesting that this was already part of the community values.

Self Confidence

The women were asked if they had "the ability to influence important decisions in your family or village." In Ghazni the increase of three points was not significant, but in Bamyan the increase from 67% to 77.5% was moderately significant. In Bamyan, land ownership had a small effect on the women's ability to influence decisions in the family or village (72.2% of the land owning households vs. 60.0% of those women whose households did not own land). The rates of land ownership were much higher in Ghazni province (85.8% of households vs. 62.7% in Bamyan), so the effect was not as apparent.

Participation in Community Life

Local governance and decisions about community life are the responsibility of the village shura and access for women is through their husbands. The question asked was whether women can have their husbands "express their concerns to the shura." In Ghazni there was an increase from 61.7% to 74.2% with moderate significance and in Bamyan from 50% to 61.8% with slight significance**.**

2. Long-term perspectives: Importance of education

Education of women has been universally associated with improvements in many development indicators. It was therefore interesting to discover the attitudes of men and women in these villages to its importance for them. The women reported that both they and their husbands wanted education for their daughters, and there was no significant change from baseline to follow-up in either province.

Table 3.24: Long-term perspectives: the importance of education.						
	Ghazni			**Bamyan**		
	Baseline N = 128	***Follow-up N = 178***	***Significance***	***Baseline N = 204***	***Follow-up N = 173***	***Significance***
Indicators						
% of women that would like their daughters to become educated	100.0	97.2		96.1	98.3	
% of women that report that their husbands want their daughter to be educated	97.7	95.5		93.1	98.3	*
% of women that believe educated individuals in the village will lead to a better life for their own family and community	96.9	93.3		87.3	99.4	****
% of women that would like to make a greater contribution to improving life in your community	93.8	95.5		98.0	96.5	
*** .1; ** .05; *** .01; **** .001**						

The percent of women expecting that educated people would be able to lead the village to a better life was already in the mid-90s for Ghazni. Perhaps this reflected the number of families that had traveled and who had relatives in other countries. In Bamyan, the baseline result was only 87%, but this had risen significantly to 99.4%. At baseline, there was no difference in the responses to this question based on socio-economic status (literacy, land ownership or radio ownership).

In response to whether the women themselves would like to make "a greater contribution to improving life in your community" all responses were above 95%. This was also independent of socio-economic status.

3. Women's role in family decision-making

The first question relevant to women's role in family decision-making about health asked whether "their husband consults them about important decisions concerning illness in the family". At both sites the numbers were remarkably similar with about 87% and 88% saying "Yes".

A second question on whether "women talk with their husbands about the use of family planning" showed more ambiguity in response. In each area only about half of the women said that they talked with their husbands about family planning. However, in

Ghazni, there was a slightly significant increase from 47.7% to 57.3%. This may be associated with the small increase in the contraceptive utilization rate in Ghazni (See table 3.25)

Table 3.25: Women's role in family decision-making about health and family planning.

	Ghazni			Bamyan		
	Baseline N = 128	***Follow-up N = 178***	***Significance***	***Baseline N = 204***	***Follow-up N = 173***	***Significance***
Indicators						
% of women that say their husband consults them about important decisions concerning illness in the family	(88.2)	(87.1)		(88.2)	(87.3)	
% of women that talk with their husbands about family planning	(47.7)	(57.3)	*	(55.4)	(53.2)	
*** .1; ** .05; *** .01; **** .001**						

Those who own land were more likely to have talked with their husbands about the use of family planning. This was more evident in Bamyan (63.2% of the 125 families owning land) than in Jaghori (49.1% of the 110 land owning families).

Literacy also had an effect on discussions about family planning. In Jaghori, only 14 women could read and write (10.9% of respondents), but 57.1% of these had talked with their husbands about the use of family planning. In Bamyan, 68% of the 50 women who could read and write (24.8% of respondents) were also more likely to have talked with their husbands about the use of family planning.

4. Empowerment through working together

A major goal of the project was to get women to work as groups for community change, especially for health activities. The first question therefore asked whether they "were asked to help other women when having a delivery." In Ghazni the responses dropped from 30.5% to 25.3% which was not statistically significant but in Bamyan they increased from 36.8% to 88.4% which was highly significant.

Table 3.26: Empowerment through working together						
	Ghazni			Bamyan		
	Baseline N = 128	***Follow-up N = 178***	***Significance***	***Baseline N = 204***	***Follow-up N = 173***	***Significance***
Indicators						
% of women that were asked to help other woman when having a difficult delivery	30.5	25.3		36.8	88.4	****
% of women that believe by working together with other females in the village, problems can be solved	84.4	NA		76.0	NA	
*** .1; ** .05; *** .01; **** .001**						

Similarly, the village women were asked if "women that believe by working together with other females in the village, problems can be solved," this question was asked only at Baseline. The responses were 84.4% in Ghazni and 76% in Bamyan.

E. Summary

Overall, the Future Generations approach in Bamyan has achieved in one year the improvement in health indicators that was achieved in about two years for all REACH Phase I and II grantees combined. Results available for Rostam, where the program has run for the full year, suggest that further rapid improvement is possible in many indicators because of the empowerment of the women CHWs and the community women that work with them. Table 3.27 shows the comparative figures for Bamyan and the Phase I and II grantees of REACH.

Maternal and newborn health was a priority concern for the women in these villages and, prompted by the pregnancy histories, these CHWs almost certainly spent more time discussing pregnancy and childbirth issues than other CHWs. Pregnant women attended antenatal care and received tetanus toxoid vaccinations at similar levels to REACH. The proportion of women getting postnatal care increased significantly. The numbers of

Table 3.27: Comparisons of performance on the Ten REACH Health Indicators: Bamyan and REACH Phase I and II grantee averages[3].					
	Bamyan			**REACH**	
	Baseline	***Follow-up***		***Baseline***	***Follow-up***
Maternal care					
% mothers attending at least one ANC visit	34.9	48.1		26.1	38.7
% mother receiving TT injections	45.8	59.7		44.3	61.5
% births attended by a skilled birth attendant	2.4	9.1		12.2	22.9
% mothers receiving PNC after delivery	4.8	19.5		15.7	25.4
Child care					
% children 12-23 months exclusively breastfed during their first 6 months	45.8	72.7		62.6	66.8
% children >= 1 year and < 2 years fully immunized (DPT3) – Card plus recall	42.2	48.1		14.7	37.9
% children >= 1 year and < 2 years who received Vitamin A therapy	63.9	67.5		67.4	76.9
% mothers with appropriate behavior for a sick child: ARI	35.7	39.1		24.9	44.3
Birth spacing					
% women of reproductive age who can identify at least two forms of modern contraception	48.2	84.4		62.6	66.8
% of women of reproductive age who are using (or partner is using) a contraceptive method	34.9	39.0		10.2	25.4

[3] REACH Monitoring and Evaluation Unit.

women being assisted by a skilled birth attendant was 2.4% at baseline and rose to 9%. However, since these communities have little access to skilled birth attendants, the most significant things that happened were all the changes that occurred in pregnancy and childbirth care at home. The discussions in the women's workshops identified and led to changes in pregnancy food taboos and some very bad delivery practices. A majority of deliveries are now attended by CHWs, who both have improved delivery and life-saving skills AND appear to be much better at recognizing danger signs and arranging for referral of the women to a health facility.

The most impressive improvements in child health were in breast-feeding rates. The rate of breast-feeding in the first hour after delivery rose from 15% to 72%, and the rate of exclusive breast-feeding for the first six months rose from 46% to 73%. Immunization rates and rates of Vitamin A are similar to REACH, but did not improve so much, probably because of the lack of support from the Marie Stopes International (MSI) clinic. The increase in rates of mothers reporting appropriate behavior for treating sick children were not great, but reflect that these were topics taught to the CHWs in later workshops.

The one area of services that did receive support from the MSI after they took over the Rostam clinic was family planning, which helps to explain the contraceptive prevalence rate (39%) that is higher than the REACH average (25.4%). The CHWs did not have contraceptives for distribution in their villages (or the rate might have been very much higher), but the impact of their promotive efforts can also be seen in the rate of women able to identify at least two modern methods. That rose from 48% to 84%, much more than the REACH average.

The rates of these indicators changed in such a short period of time because of the empowerment of the CHWs through the educational and socializing processes of the workshops and the ability of the CHWs in turn to mobilize the women's action groups. The empowerment of women in the community is seen in the doubling of the proportion of women expecting to be able to attend an overnight workshop, and the smaller but significant increase in the number of women who believe that they have the ability to influence important decisions in their families and village. So many of the stories recounted in this report are about women working together or helping each other. The survey finding that emphasizes that point is the increase from 37% to 88% in the number of women who said they had been asked to help other women when having a difficult delivery.

Chapter 4: Discussion and Conclusions

I. Discussion

Findings from this Operations Research in Afghanistan villages have produced many surprises, which are only to be expected because of Afghanistan's great diversity in health conditions and care. In the remote villages where we worked research findings are quite different from urban experience. It has been particularly important to take the time to get local information because of the extreme seclusion and isolation of the women in our isolated villages. We have stressed throughout this report that this Alternative Model of CHW training and care focused first on the content of training, and confirmed that it would be the same as in BPHS. Then the research focus turned to **How** the training could be changed to improve the CHWs' capability and performance in all aspects of health care. Because of the great national diversity, experience suggests that the flexibility with which this model was developed will be needed wherever people attempt to apply it elsewhere.

Some generalizations and practical considerations seem justified in focusing on why the community based primary health approach is so appropriate in Afghanistan:

First, the wisdom of the BPHS process is evident in the great emphasis given to providing truly balanced health services. Our findings focused first on technical and professional interventions and then balanced those with changes needed in behavior and social norms. Facility based services are obviously much more expensive than community based care and they can also be standardized with rather straightforward implementation. This has been considered less true of village extension. However, perhaps our most important finding is that our approach showed remarkable potential for very rapid implementation of community action. Just a few months of field work showed changes that match or were sometimes greater than the REACH BPHS community impact in two years. Demand is great, but for a new participatory approach. If that is true, then massive impact may be possible quickly. The most encouraging aspect of this research is that many women want and will respond to opportunities to change. But methods must be adapted to village realities. Convenience for the women has to be considered rather than just giving priority to convenience for professionals.

Second, community based care is extremely cost-effective since care is provided in the home. It is focused on prevention of common illnesses which are, in fact, a large part of the total health burden. Afghan families have always had to look out for themselves and by helping them do the health work this represents great savings in services, money and professional time, especially of the few and precious professional women. This frees doctors to focus on the specific referred patients who need life-saving care.

Third, prevention is always more cost/effective than cure. Early care at home limits progression and the great costs to the people of being sick. The best indicator of effective health services is not when increasing numbers of patients seek care, but when those patients are cared for by health workers appropriate to level of severity of the sickness.

Fourth, behavioral and health promotional interventions are especially cost/effective since changes in home habits and practices are the ultimate low cost interventions. This is true not just of simple public health preventive measures, such as hand washing, but even more of the conditions that have cumulative social costs. Some can be eliminated by preventing hazardous personal activities such as dependence on drugs or benefits such as from better nutrition.

Fifth, simple environmental changes eliminate many of the basic causes of ill health. The urgent need for safe drinking water and sanitation is obvious but improving all aspects of the home environment and neighborhood also have great health benefits.

Sixth, public health expenditures are especially great for mass campaigns such as immunization and deworming. If mothers are convinced of the value of prevention they take the initiative. A good example is the women in our Patoo site in Ghazni who hired taxis to take their children to the health center for immunization.

Seventh, when families have help from a trusted CHW they quickly develop the capacity to discriminate when patients need referral for life-saving care. It is community organization and cooperation that makes such action sustainable.

Eighth, this research clearly demonstrates that prevention and promotion of health is not most effectively applied at individual level. It is when communities, and especially women, are empowered as a group to examine and test new ideas that the change process becomes cost/effective and sustainable. The goal must be to change social norms.

Ninth, the most critical and precious part of the process is the core of master trainers who run the Women Only Workshops and preserve and spread the dynamics of empowerment energy. Empowerment and enthusiasm are extremely fragile and precious qualities. Role model trainers are needed to produce more people who have learned the delicate art of behavior change. Beginning self reliance in a women's group can be unintentionally killed by a thoughtless remark or joke. When people have a success, top down partners may try to take credit and control, with insensitive remarks about the people's efforts. On the other hand too much attention and visitors can be equally damaging. People in our villages say "Why do these visitors keep asking such silly questions?"

Tenth, is an urgent need to learn how to scale up a successful action program such as we now are beginning to see in Bamyan and Ghazni. In the Future Generations Model a successful cluster of villages can be transformed into a Learning Center where leaders from other areas can learn how to start their own Learning Centers and projects. The empowerment experience is best explained by the people who are doing the actual work in the village, not by a professor. The best teachers are village people and truly sensitive

community development specialists but they need to receive special training in participatory learning methods.

II. Conclusions

Self Reliance is central to Afghan character. Particularly in the villages the strength of Afghans is that they have always ultimately depended on themselves. Our village experiences during this research resoundingly demonstrated that the people want to have a major say and the right to decision making responsibility. They demand participatory opportunities and resent just being told what to do. They need to be given ideas on how their health can be improved, but the women in their workshops were amazing in working out how to convince each other to make the needed changes in behavior and social norms. They know they can make the differences needed in their everyday life.

The first part of the goal of this research was to "document the impact of improved CHW training." We have shown that the impact of one year's work has been equivalent to two years for REACH BPHS grantees. This has been possible by process that has supported and taken advantage of the self-reliance of village communities. That includes more appropriate selection of CHWs, with an average of only 50 households to care for. More appropriate adult education methods have led to empowered individuals and changes in social norms for health. Women's action groups have led to significant social action.

The second part of the goal was to see the "potential for rapid scaling up through a system of learning centers." That potential has been seen first in the very rapid adoption of the new approach in SyaDara as a result of CHWs from Rostam visiting SyaDara and joint meetings of the shura. The villagers themselves were unquestionably the best advocates for this approach. The second way in which the potential is demonstrated is by the successful training of new master trainers in the improved education approach. The original pilot project in Rostam was done by an exceptionally gifted doctor, Shukria Hassan. She has taught and mentored others who have been responsible for the programs in SyaDara and Patoo.

The Future Generations concept of a "Learning Center" embraces the possibilities of demonstration and sharing between communities or professionals, training in particular skills, and mentoring of those who are going to implement programs in new communities.

III.Next steps

We believe there are lessons learned from this operations research that are applicable in most if not all parts of Afghanistan. However, this is not a formula or a template to be applied just anywhere because it so much depends upon the interaction of health and other professionals in such a way that communities are still able to have control of their lives. This work was done in remote Hazara communities. The application among other

ethnic groups or in peri-urban or less remote rural communities may require changes that will be guided by members of the communities themselves.

Given the limitations of this initial operations research, especially since it was not implemented in the setting of a complete BPHS program, there are three main opportunities that seem obvious:

1. Implement this new approach within the catchment areas of BPHS facilities to demonstrate how health facility staff can implement the approach and integrate health facility and community activities in the best possible way. Key personnel in such an investigation would be the master trainers for the CHWs and the Community Health Supervisors.

2. Develop in-service training for existing female CHWs, based upon the same adult learning principles, to empower them and enable them to develop and support women's action groups in the promotion of new social norms.

3. Explore how these same principles can be applied to the training of male CHWs and the promotion of an appropriate male equivalent to the women's action groups.

Rostam shura, in Syadara/Yakawlang, Bamyan has unique pioneering spirit. In the spring of 2005 they were in a Future Generations study of what happens when a baby is born in a remote Afghan village. This story is about a new way of training Community Health Workers (CHWs).

At a shura meeting there was enthusiasm for the women's idea that women leaders from about 20 villages could meet for five days in a secluded village home. But an articulate young farmer argued against any change in village life, especially if mothers were away from their homes overnight. Then Dr. Shukria Hassan, our Afghan woman health director, suggested gently that "mothers-in-law" would be in charge. Right away, the shura agreed.

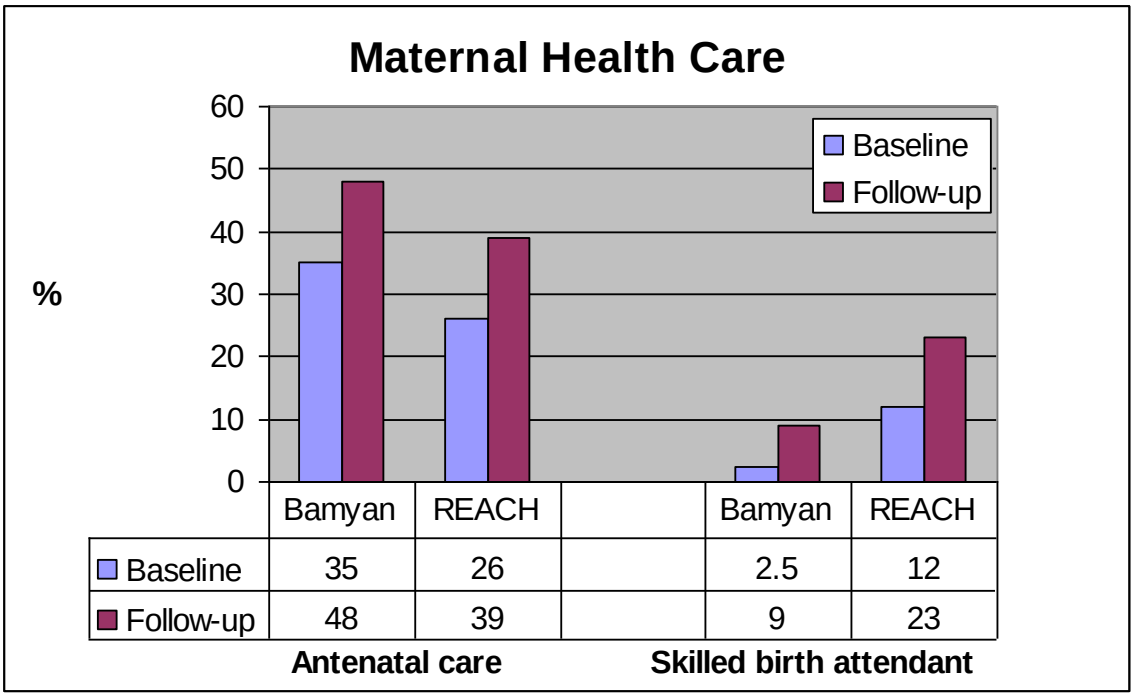
A year later the team was presenting feedback data about the impact of CHWs and Women's Action Groups on statistics and behavior of village families. The young farmer was late but listened. Finally, he interrupted abruptly, as always, to say the team had talked long enough and he wanted five minutes.

He said, "My mother, has for 30 years been the village Daya or TBA. She is now totally transformed as a CHW. She is obsessive about cleanliness, has a birthing kit always ready and walks to villages an hour away without charge. She understands complications, how they can be prevented and refers patients for hospital delivery. She practices the social norms from the workshop and leads in promoting vaccinations, cereal-based ORT and good treatment of childhood illnesses."

Then he said, "Now I want to tell you about my wife. Because of my mother, when your Learning for Life project started, she applied. She reads everything she can get and tells me what she learns. She reads health manuals and tells my mother. But I am most happy when I see my wife reading stories to our children."

The picture below is of CHWs learning sterile cutting of the cord with a new razor blade using a Rag Doll model they made themselves.

FIGURES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%
60
50
40
30
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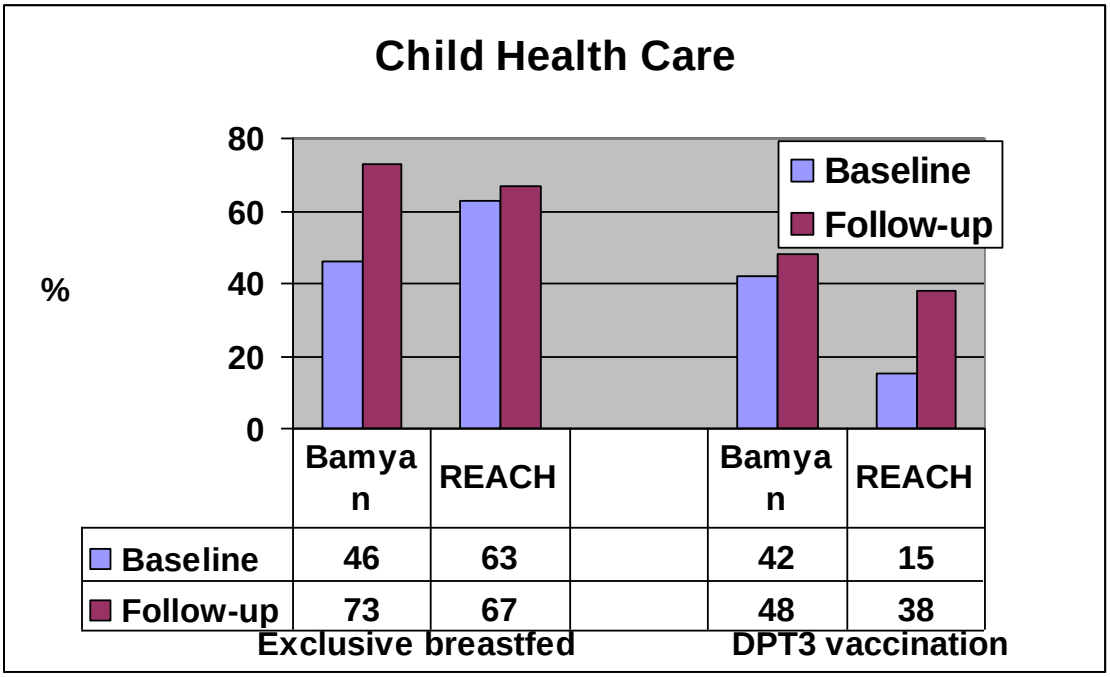
Baseline
Follow-up
Bamyan
REACH
Bamyan
REACH
Baseline 35 26 2.5 12
Follow-up 48 39 9 23
Antenatal care
Skilled birth attendant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%
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Baseline
Follow-up
Bamyan
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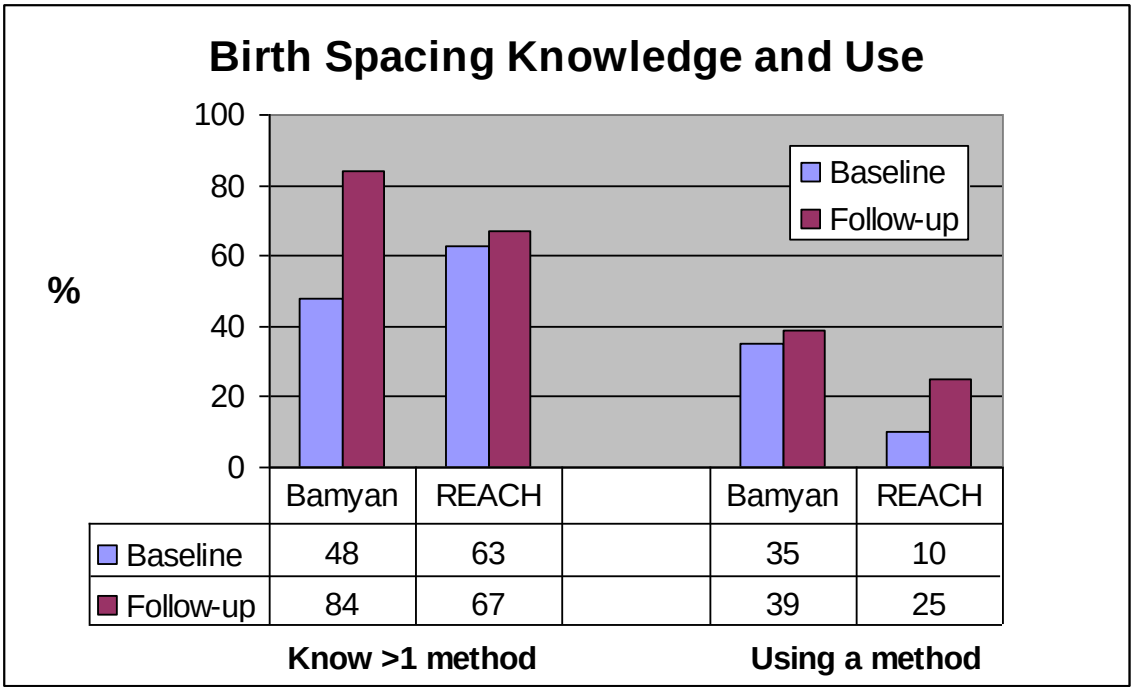
Bamyan
REACH
Baseline 46 63 42 15
Follow-up 73 67 48 38
Exclusive breastfed
DPT3 vaccination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100
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Baseline
Follow-up
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REACH
Bamyan
REACH
Baseline 48 63 35 10
Follow-up 84 67 39 25
Know >1 method
Using a method

Appendix I

SUPPLEMENTAL -YAKAWLANG

Please, ask these questions from each woman who is filling this questionnaire.

1. Supervisory area_____
2. Name of Village_____
3. Number of household_____
4. Surveyor name_____
5. Date of Survey_____

5	**Socioeconomic Status**		
5.1	What is the **main** source of household income? ***Do not read choices**, circle the answer given, or write in if "other"*	Agriculture……..…... 1 Rearing animals……..…. 2 Service/ Salaried……... 3 Business/trading…….... 4 Remittance……..…. 5 Seasonal Worker……6 Labor……..……..7 Other…..……8 *Specify*_____	
5.2	What is the principal source of drinking water for members of your household? (CHECK ONE)	Protected tubewell .....11 Unprotected tubewell .....12 Kareze.....13 Spring.....14 Surface Water……...41 Other _____ 88 (specify) Don't know 99	

	Does any member of the household own any of the following? ***Read each choice** and mark 1 or 2*			
		YES	**NO**	
5.3	A sewing machine	1	2	
5.4	A radio	1	2	
5.5	A television	1	2	
5.6	A car	1	2	

	Does any member of the household own any of the following? ***Read the list** and circle the 1 for "YES" and 2 for "NO". If YES, ask the follow-up question about how many the household owns in total. If the type of animal is not owned, skip the follow-up question about how many are owned and proceed directly to the next animal. If the respondent reports that she does not know how many of a certain type of animal are owned, ask her to maker her best estimate. If she persists in saying that she cannot make an estimate, write DK.*			
		YES	**NO**	**DK**
5.7	Sheep or goats	1	2	
5.8	If YES, how many sheep/goats does the HH own?	|___|___|___|		3
5.9	Camels or cows	1	2	
5.10	If YES, how many cows/camels does the HH own?	|___|___|___|		3
5.11	Donkeys or Horses	1	2	
5.12	If YES, how many donkeys/horses does the HH own?	|___|___|___|		3
5.13	Do household members own any land?	1	2	
5.14	Are you able to read and write?	1	2	
5.15	Where did you learn to read and write? **Skip if answer to 5.14 is 'no'**	Madrassa…… 1 Literacy Course…….2 Primary.....……..3		

		Secondary .....……..4 Higher than Secondary ...……..5 Non-Standard Curriculum…….6 Don't Know the level .....……..7

Women's Empowerment Supplementary Questionnaire

Updated 9/20/2005

1. Would you be able to obtain permission to attend an overnight workshop in another village in which only women were present and child care was provided? yes/no

2. Do you want your daughters that you have to become educated? yes/no

3. **Does your husband want your daughters to become educated?** yes/no/not married

4. Do you think that having educated people in the village will lead to a better life for your family and village? yes/no

5. Would you like to make a greater contribution to improving life in your community? yes/no

6. Do you yourself try to help others to have **healthy behaviors**? yes/no

7. Does your husband consult you about important decisions concerning **illness in your family**? yes/no/not married

8. Have you talked with your husband about the use of family planning? yes/no/not married

9. Do you have the ability to influence **important** decisions in your family or village? yes/no

10. Do**es your husband express your concerns to the shura?** yes/no/not married

11. Do others in your village ask for your help when a woman is having a difficult delivery? yes/no

12. Do you think that women working together in your village can solve some of the problems that you face? yes/no

Supplemental survey – Nutrition pregnancy section

1. During the last delivery and during the labor, did you eat and get liquids?
   Yes/no
2. In the last months of you last delivery did you get cold food?
   Yes/no
3. During the last months of last delivery were you drinking milk?
   Yes/no
4. While a mother gets tired during a long delivery, in your opinion should we put pressure on the stomach of the mother or do something else in order to help her?
   Yes/no
5. During last 3 months is there any CHW visited you in order to deliver health messages?
   Yes/no
6. Where family wants your next delivery be happening?
   - House
   - In another house(relatives house)
   - Clinic
   - Hospital

Don’t read the answers just circle the appropriate answer.

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Updated 9/20/2005

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15. **Does your husband want your daughters to become educated?** yes/no/not married

16. Do you think that having educated people in the village will lead to a better life for your family and village? yes/no

17. Would you like to make a greater contribution to improving life in your community? yes/no

18. Do you yourself try to help others to have **healthy behaviors**? yes/no

19. Does your husband consult you about important decisions concerning **illness in your family**? yes/no/not married

20. Have you talked with your husband about the use of family planning? yes/no/not married

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