Case Studies Series

WHEAT SEED AND AGRICULTURE PROGRAMMING IN AFGHANISTAN: Its Potential to Impact on Livelihoods

Afghanistan Research and Evaluation Unit

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About the Author

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About the Afghanistan Research and Evaluation Unit (AREU)

The Afghanistan Research and Evaluation Unit (AREU) is an independent research organisation that conducts and facilitates action-oriented research and learning that informs and influences policy and practice. AREU also actively promotes a culture of research and learning by strengthening analytical capacity in Afghanistan and by creating opportunities for analysis, thought and debate. Fundamental to AREU's vision is that its work should improve Afghan lives. AREU was established by the assistance community working in Afghanistan and has a board of directors with representation from donors, UN and multilateral organisation agencies and non-governmental organisations (NGOs).

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Glossary of Dari Terms

Jerib	Unit of land measurement; five *jeribs* comprise one hectare (2000 sq. metres)
Krut	Dried yogurt balls
Mazdur dekan	Sharecropping arrangement in which the sharecropper receives one-fifth to one-sixth of the crop, as well as housing, food and clothing
Seer	Seven kilos of grain
Shura	Local council

I. Introduction and Background to the Study

This report outlines the results of one of three combined "special studies," conducted under the auspices of the European Commission-funded Afghanistan Research and Evaluation Unit (AREU) livelihoods monitoring research project.[1] Data for this particular study were collected at the same time as two separate studies on water management and gender and livelihoods.[2]

Within the Afghanistan context, it is often assumed that rural livelihoods depend on agriculture and therefore that agricultural programming is one of the best ways of strengthening livelihoods. Because wheat seed programming is a common agricultural intervention which non-governmental organisations (NGOs) deliver in many different areas of Afghanistan, it was felt that investigation of the impact of wheat seed programming would be a useful to test this assumption.

The term "livelihoods" is used in this paper to denote the capabilities and assets of individuals and households, and the strategies they use to secure a living, that may then build, maintain or deplete these assets and capabilities. In this report, as in other AREU livelihoods documents, the term "household" is used to denote the smallest family unit, although the communities in these areas used the local language word for "household" to mean the extended family or larger compound family grouping.

A. Methodology

This study was conducted in three villages in Daulatabad District of Faryab Province and three villages in Sayyad District of Saripul Province. These villages were chosen because they are where partner NGOs — Ecumenical Office of Christian Aid and Coordination of Humanitarian Assistance (EOCA/CHA) in Daulatabad and German Agro Action (GAA) in Sayyad — are conducting livelihoods monitoring with 15 to 20 households. Therefore, there already existed a village profile and some household and wealth group information on which the studies could draw.[3]

The time period available for preparing and implementing the special studies was three weeks in October 2003. This meant devoting only a week to each of the two districts.

The AREU rural livelihoods research team formulated some key questions for each of the three special studies and circulated these to the seven NGO partners involved in the rural livelihoods monitoring programme to see which might be interested in partnering with AREU. Staff from the three NGOs who chose to be involved were then

[1] The AREU livelihoods monitoring research project works with partner NGOs to carry out cohort tracking in different parts of Afghanistan. The aim is twofold, to improve the monitoring and evaluation capacity of partner NGOs and to improve understanding of the ways in which the Afghan people are building their livelihoods.
[2] For more information on the other two studies conducted as part of this project, see Grace, J. *Gender Relations in Agriculture: Case Studies of Five Villages in Northern Afghanistan*. Afghanistan Research and Evaluation Unit: Kabul. 2004 and Pain, A. *Understanding Village Institutions: Case Studies on Water Management from Faryab and Saripul*. Afghanistan Research and Evaluation Unit: Kabul. 2004.
[3] For more details about the location of each of these villages, see Pain, op cit.

invited to a workshop in Kabul before the start of the studies to fine-tune the key questions and decide on methodology.

At the workshop, it was decided to divide the NGO/AREU team into three groups, each concentrating on gathering information for one of the three studies. All three teams visited one village at one time, spending approximately two days in each conducting semi-structured interviews with key informants. The three teams also debriefed one another after each day's field work and ensured time to solicit feedback on their initial findings from each of the village *shuras* (councils).

While this approach guided the process of the studies in both districts, the study in Sayyad was much more AREU-led, and was only conducted in more depth in two, rather than three, of the chosen villages. This was due to the demands of other GAA work commitments, and the start of Ramazan half way through the research in Sayyad.

The study was also subjected to several limitations. First, the lack of experienced female translators (not only English-Dari, but English-Uzbek, English-Pashto and English-Turkmen; many of the women in these villages spoke only a smattering of Dari) provided a particular challenge in understanding women's perspectives. Second, the relatively short period of time spent in each village also means that these studies cannot claim to represent a comprehensive understanding of each village; instead, they provide only a snapshot of certain aspects of different villagers' experiences as they chose to state it to the researchers. Though in Daulatabad, the teams included CHA and EOCA staff who knew the communities well, the presence of unfamiliar international researchers may have raised expectations and therefore skewed answers. Moreover, in Sayyad, where only one GAA member of staff was able to be involved, there was not time to build up the trust necessary to be able to say in confidence that what was being told was what the speaker believed. However, the researchers attempted to triangulate findings by speaking to a variety of people, and in doing so found enough common material to begin building up a coherent picture that could have implications for programming. It is this picture that is presented in each of the thematic reports.

The study on the impact of wheat seed programming involved exploring a number of key questions (see Appendix 1) with:

- The *shura* of each village;
- A small group of landowners;
- A small group of sharecroppers;
- A small group of women; and
- A small group of non-farm labourers in each village, where feasible.

A meeting with the District Agriculture Extension Officer in Daulatabad, and with NGO agriculture staff members, plus a visit to the district's twice-weekly bazaar, were also undertaken.

Before describing the agricultural picture gathered from village interviews, it is important to understand the nature of the agricultural programmes undertaken by the NGOs operating within these villages. This is discussed in the next section.

B. NGO Seed Programmes in the Districts Studied

EOCA/CHA Wheat Seed Programme in Daulatabad District, Faryab Province

CHA is implementing an EC-funded rural livelihoods programme in this area with support from Christian Aid (EOCA). By the time of this study, the programme had been running for about a year. There are a number of components to this programme, of which one is improved wheat seed programming. Other components include the establishment of demonstration plots, training of tractor drivers, the promotion of vegetable gardens to women, and the distribution of ewes to widows.

Though the overall programme aims to strengthen livelihoods and food security, it was clear that agricultural staff saw the main objective of the seed programme as the multiplication of improved wheat seeds. The implication was that the use of improved wheat seeds would lead to greater wheat production, which because of wheat's status as the major food staple in much of Afghanistan, would benefit food security and livelihoods in these communities.

The wheat seed programme involved the distribution of 50kg of improved wheat seed to a number of farmers in each village on a recoverable loan basis (1,700 farmers in Daulatabad received improved wheat seed from CHA in 2002, approximately a third of which was for irrigated land and two thirds for rain-fed land). For irrigated land, CHA estimates that 50kg of seed will cover two *jeribs*; for rain-fed land, 50kg of appropriate varieties of improved wheat seed are estimated to cover 2.7 *jeribs*. If the improved wheat seed variety supplied was for irrigated land, 50kg of di-amonium phosphate (DAP) and 50kg of urea were also distributed.

The expectation was that the following year at harvest time, 200kg of improved wheat seed would be returned to CHA for the package of improved wheat seed and fertiliser for irrigated land (50kg of improved wheat seed, 50kg of urea and 50kg of DAP) that the farmer had received the previous year, and 50kg would be returned by each of those who had received improved wheat seed for rain-fed land. This seed would then be cleaned and distributed again.

This programme had given the bags of wheat seed and fertiliser to farmers identified with the male *shuras* that CHA had set up in each village, having explained the above expectations. In 2002, the improved wheat seed distributed to the villages consisted of three varieties, two for rain-fed and one for irrigated wheat, chosen as a result of FAO recommendations for the kinds of growing conditions faced in Daulatabad.

Though the programme also involved some wheat trials, these were of two other varieties and were only planted in 2002.

GAA Wheat Seed Programme in Sayyad District, Saripul Province

The GAA programme was relatively similar to the CHA programme, except that:

- The objective was explicitly not the multiplication of improved seed, just the dispersal of an improved variety, though with the purpose of improving food security.

- 2003 was the first year GAA conducted improved wheat seed distribution in this district (though another NGO had distributed seed to these villages the year before).
- Only one variety of improved wheat seed was distributed this year, and this is a variety designed for the rain-fed conditions that characterises most wheat production in this area.
- DAP and urea were being given out for rain-fed and irrigated land.
- Benefiting households were chosen by the NGO in consultation with the *shura* based on criteria focused on whether they were recent returnees to Sayyad District, and whether the size of their landholding was less than 10 *jeribs*.
- The 165kg of improved wheat seed expected as repayment at the next harvest from each benefiting farmer (for the 50kg of seed and 100kg of fertiliser) was due to be paid back to the village *shura*, not to the NGO, for uses decided by the *shura*.

II. Overview of the Villages

A. Daulatabad District, Faryab Province

Village One

This village is made up of about 10,000 Pashtuns, comprising about 2,050 households (who make up about 400 families). These residents sought refuge as displaced people in Herat in the mid-1990s, returning to the village once the Taliban took over the area. They believe that their ancestors moved from the south to this area in the 1840s.

Approximately 70 percent of households are classified by the *shura* as landless, though of the small non-random sample in the livelihoods monitoring study, only 30 percent were landless. This disparity in figures may be accounted for by variations between mosque areas, and how landlessness is defined: in one mosque area, only four out of 50 households apparently owned any more than the land on which their houses stand. Evidence gathered for a case study on land in Faryab[4] suggests that such variation is common, but that overall landlessness is high.

The *shura* estimates that 2,000 *jeribs* of irrigated land is registered by those in the village who do own land, with at least an equivalent amount of rain-fed land also under cultivation. However, many individual households — even some who are regarded as "landless" — claim thousands of *jeribs* of pastureland as their own.

Livestock ownership, particularly sheep and goats, seems to have been the dominant aspect of their agricultural heritage. The *shura* says that the villagers lost 80 percent of their animals in a drought in 1971, and it is only then that they really began to organise the cultivation of crops. Though herds of sheep and goats were built up again, these were decimated, partly due to theft in the Rasoul period (a frequent story told is that of the stealing of 6,000 animals by the then commander) and to death as a result of the drought years.

However, there are still an estimated 6,000 sheep and goats in the village that make up six or seven flocks, three times the number that apparently are owned in either Village Two or Three. And it is clear that members of many households, both men and women, still spend the traditional three months in the Dasht-e-Laili in the spring grazing their flocks (mainly men and children) and processing animal products into *krut*, wool, etc. (mostly women).

Some Uzbeks are said to be encroaching on pasture land that Village One households see as belonging to them. Cultivation of what were former grazing areas threaten not only their attempts to restock, but the current levels of animal ownership in the village. The *shura* says that no one in the village cultivates such land, and that they try to prevent others from doing so. However, the *shura* feels that their ethnicity means that those in authority within the province ignore their claims.

[4] See Alden Wily, L. *Land Relations in Faryab Province*. Forthcoming from the Afghanistan Research and Evaluation Unit. 2004.

Though livestock still remains at the core of the village's agricultural identity, household data suggest that crop production is a significant livelihood strategy. However, on a per head basis, the amount of irrigated and rain-fed land owned by villagers (according to the *shura*) is a quarter of that of Village Two and half of that of Village Three. Moreover, the *shura* also said that much of the land is sharecropped out to Turkmen from nearby villages.

Like the other villages, Village One grows wheat, with sesame, melons and watermelons as major secondary crops. There are very few vegetables and fruit trees grown because of water shortages: it seems that the village receives water only once every 16 days as opposed to once every eight days, as in Village Three. Though located in the middle of the broad valley, beside (but up above) the Ab-I-Qaysar River, the village is further down the irrigation channels than the other two villages. Some villagers siphon water directly from the river using diesel pumps, and this arrangement appears to fall outside the water management arrangements. However, there are still very few trees in comparison to the other two villages, and it does seem a particularly dry landscape in October.

Village Two

Village Two is largely a Turkmen village, though the Turkmen are divided into two groups, those descended from a group who came to the area in a first wave (women are identified through the wearing of taller hats), and those descended from a group who came later. There is also a small minority in this village of 6,000 people who are of "Arab" ancestry (women of this group wear a cap as an identifier).

Marrying a Turkmen woman is more expensive than marrying women of other ethnicities because their carpet-weaving skills are lucrative assets for a household. As a result, there appears to be an increasing tendency for Turkmen men in this village to be marrying women from other ethnic groups.

Carpet-weaving is a major activity for Turkmen women in this village, particularly since the drought.[5] Unlike the other two villages, this features as a very important — and increasingly vital — part of the household economy. For households with wells in their backyards, some cultivation of vegetables, such as aubergines and tomatoes and plants for household use (sunflowers and brushes), is evident and often cared for by women.

Water appears to be less problematic in this village than for Village One; it receives water on a 12-day cycle. While this is less frequent than for Village Three, there are many more trees and vineyards here than in the other villages, although the three villages are separated by only a matter of a few kilometres. The village therefore is much greener than either of the others.

Whereas Village Two has just over half of the population of Village One, it has over double the amount of irrigated and rain-fed land. According to the village profile, the percentage of households owning land in the village is 20 percent as opposed to 30

[5] See Grace, op cit.

percent in Village One and 60 percent in Village Three, respectively. However, 50 percent of the household monitoring sample (which, though non-random, was proportionally divided by *shura*-identified wealth groups) owned land. Of the non-landholding households, only about 10 percent are reported to be sharecropping, with adult males of the other households being largely reliant on daily farm and casual labour within and outside the village for their contribution to the household economy.

In comparison with Village One and Village Three, men seem more likely now to seek casual labour work locally than to become migrants to Iran (approximately 200 young men are in Iran out of a population of 6,000 [3%], in comparison with an estimated 700 for Village One's 10,000 population [7%]). They say this is because work is readily available in the village and district centre. Less than 10 percent of households went to Iran as refugees, and of these about half have now returned.

As with both other villages, there are a number of flocks in the village that are looked after by shepherds, and these are fewer than pre-drought numbers. Unlike Village One, the reduction in animals appears to have been due more to distress sales than theft or death. The *shura* identified 40,000 to 45,000 jeribs of government-owned land as pasture land to which they have rights. As with Village Three, but unlike Village One, there has been some cultivation of common pasture this year, but it was said that less than five percent of households are involved.

Village Three

This village is largely Uzbek, though with a few Turkmen and Arabs, and has a population of about 3,000. It is the furthest village up the valley, and receives more frequent irrigation water than the other two villages: once every eight days. However, the *shura* also claims less irrigated land than the other two villages — 1,500 *jeribs* — though slightly more rain-fed land than Village One (3,850 *jeribs*).

It is the only village where there were complaints made about spring flooding, and this may be explained by the fact that it is nearer to the river than both of the other villages either in terms of height above the bed, or in terms of distance from the banks. However, the *shura* members also felt that the fertility of their land was assisted by these floods.

As with Village Two, there appear to be some households cultivating land that is seen to be owned in common by the village. There does appear to be some inheritance elements to this "common" land, in that the amount permitted by the *shura* to be cultivated by any one household appeared to be determined by the amount associated with their grandfathers. Unlike Village Two, the *shura's* permission is needed before a household is allowed to do so.

Table 1. Summary of major reported differences between the Daulatabad villages, Faryab

	Village One	Village Two	Village Three
Ethnicity	Pashtun	Turkmen A few Arabs	Uzbek Some Turkmen & Arabs (<10%)
Village size	10,000 people 2,050 households* 410 families**	6,000 people 1,000 households* 380 families**	3,300 people 600 households* (10% returnees)
Amount of crop land: • Irrigated • Rain-fed **Total**	2,000 *jeribs* (300 h) 2/3,000 *jeribs* (350 h) -------- **4,500** *jeribs*	2,900 *jeribs* (145 h) 9,300 *jeribs* (140 h) -------- **12,200** *jeribs*	1,500 *jeribs* (350 h) 3,800 *jeribs* (160 h) ------- **5,300** *jeribs*
Landlessness ***	70% of households		40% of households
Sheeps and Goats	5,000-6,000	2,000	Less than 2,000
Pasture "ownership" and use	1,000s of *jeribs* per household, including those classified as landless; no cultivation of this pasture land	40,000-45,000 *jeribs* of common pasture Some cultivation	Some agreed cultivation of "common" pasture land owned by village
Trees, orchards & vineyards		30 orchards and vineyards in the village	A few orchards & vineyards
Features of wealth as identified by shura	*Quantity & quality of:* 1. Livestock 2. Rain-fed & irrigated land 3. Motor vehicles	*Quantity & quality of:* 1. Irrigated land 2. Rain-fed land 3. Livestock 4. Orchards	*Quantity & quality of:* 1. Orchards 2. Irrigated land 3. Rain-fed land 4. Livestock
Major non-farm sources of income	Male migrant work in Iran	Local daily labour Female carpet-weaving	Young men working in Iran/Pakistan Female carpet-weaving
River-irrigation position and frequency	Below Village Two and Village Three Every 16 days	Between Village Three and Village One Every 12 days	Above Village Two and Village One Every 8 days

* Households – the smallest family unit: usually parents and children.
** Family – one or more families (connected by kinship) sharing a compound, though not necessarily expenses.
*** These figures are taken from the village profiles which were conducted with the *shura*, though the livelihoods monitoring sample (small and non-random) for the area did not always reflect this percentage.

Three-fifths of the households are said to own land in this village, more than either of the other two villages. As with the other two villages, wheat is the main crop, with melons as the major secondary crop. Unlike the other two villages, it does not appear to be the norm to leave land fallow. This could be because of necessity, in that there is not enough land in the village to allow for this, or because the availability of water and fertility of the soil allows for this in a way the other two villages do not. This was

the only village of the three where population pressure on land was mentioned as a problem.

Vines are also grown, and there are supposed to be about the same number of sheep and goats in this village as in Village Two. Again, there were more pre-drought, but as with Village Two, many were sold during that period, mainly to outsiders who took them to Herat and on to Iran.

B. Sayyad District, Saripul Province[6]

Village One

This is a small village, and comprises approximately 170 households. Its altitude is 350m higher than that of the other village, and there can be snow cover for two to four months. The ethnicity of the population is Uzbek.

The reported amount of irrigated land here is only 20-100 *jeribs*, and this is where poplar stands are grown. Even so, there were complaints by the village residents that they had not received their rightful water dues because of villages further up the valley. The limited amount of irrigated land can be explained by the fact that the village is located up a relatively steep-sided narrow valley, with no terracing, and so there is little flat land available to irrigate. However, this village cultivates about 5,000 *jeribs* of rain-fed land, which is proportionally more than any of the villages in Daulatabad.

Similar to Sayyad's Village Three, landlessness seems to be much less common than in the surveyed Daulatabad villages, and most of the sharecroppers and daily labourers interviewed owned between two and ten *jeribs*.

As with all the other villages, livestock had been a much more prevalent feature in the past, with the current flocks of 1,000 animals having been reduced from between two and a half and six times that number depending on who was asked.

Village Three

Village Three is the district "capital" and is a relatively large village, of a similar number of households to Village Two in Daulatabad. However, unlike Daulatabad's Village Two, it has an evident bazaar, with about 10 shops. Yet, unlike Daulatabad District Centre, it is close enough to the provincial capital of Saripul not to have any particular market days, and it has neither the number of district staff nor the number of shops of Daulatabad District Centre.

Like Sayyad Village One, most households sought refuge elsewhere in recent years, particularly in Pakistan. There has been a large return in the last couple of years (80 percent of the village) and this is evident in the house reconstruction that is happening all over the village.

[6] As noted previously, in-depth research was conducted only in two, rather than three, villages in Sayyad due to the onset of Ramazan during the period of study of Village Two. Thus, this section only details the situation in those villages where in-depth research was conducted, Villages One and Three.

Being on the edge of the hills, Village Three has access to a relatively large area of flood irrigated land. However, unlike the villages in Daulatabad, there appears to be no year-round access to irrigated water, partly because of recent breaking of water usage and management agreements by villages at the headwaters.[7] There were also complaints that more land is being brought into irrigation. However, this seems to be because many returning households are perceived as being larger and therefore irrigating more of the irrigable land than in the recent past, rather than there having been a real increase in land that can be irrigated.

There are greater amounts of land under rain-fed cultivation than in Daulatabad villages. Though wheat, melon and sesame are also grown, flax is a common secondary crop, unlike in Daulatabad. But while vineyards and orchards are not a feature here, poplars grow in stands around the village for use/sale for house construction and furniture-making.

Pasture is said to be shared between villages; the pasture is a two or three hours walk away from the village. As in Daulatabad, it was not uncommon for households to move with their livestock to grazing areas for two or three months in spring, leaving a member or two in the village to take care of the fields and home. However, livestock numbers are severely reduced now. There are 6,000 sheep and goats owned by villagers, in comparison with a reported 40,000 pre-drought.

Though there are sharecroppers, the impression was given that many landlords have returned and are working their own land, if they have the tools and oxen to do so. Therefore, most of those men with little or no land seem to rely on doing daily labour in Saripul, which is about 10km away, or in Shebergan, three and a half hours drive away.

Village Three has nine water mills, each of which are privately owned by a group of four to six people. In Daulatabad, which is flatter, the mills in the village are run with petrol/kerosene.

Table 2. Summary of major reported differences between the Sayyad villages, Saripul

	Village 3	**Village 1**
Ethnicity	Uzbek, mixed	Uzbek
Village size	1,000 households	170 households
Landlessness	30%	Very few
Sheeps and Goats	6,000	1,000
Pasture "ownership" and use	"General" – belongs to government; Not cultivated	General pasture that is open to everyone
Trees, orchards & vineyards	Poplars	Poplars – two varieties
Major non-farm sources of income	Casual daily labour in provincial capital weekly	Casual daily labour in provincial capital (two weeks at a time)
Irrigation position and frequency	Lower down valley (500m)	Further up valley (850m)

[7] See Pain, op cit.

Table 3. Summary of major reported differences between the two districts, based on the five villages

	Daulatabad	**Sayyad**
Amount of irrigated land	Over 1,500 *jeribs* per village	Minimal, and what's there is largely flood-irrigated
Amount of rain-fed land	Less than 1,400 *jeribs* per 1,000 people in the village	About 5,000 *jeribs* per 1,000 people in the village
Topography & climate	Valley floor	On slopes of hills/mountains (snow in winter)
Types of crops	Vineyards (except Village One)	Flax, sesame, poplars
Where daily labour is sought	Migrant labour in Iran/Pakistan (particularly Villages One & Three)	Casual labour sought locally or in Saripul, Shebergan, sometimes Mazar
Percentage who have been/are refugees	Only relatively small percentage were/are refugees, though most of Village One was displaced	At least 25% of both villages (at least 80% in Village Three)

III. Agriculture and Livelihoods: A Village Comparison

There are numerous reported differences between the five villages in terms of landlessness, access to water, how access to pasture is perceived, quantity of livestock and recent history of migration due to economic/political/ethnic pressures. Though some of these may be explained by misreporting, either deliberate or uncalculated, accuracy of livestock figures is often questionable, and understanding the complex picture of landholding is frequently difficult where land rights, typology and inter-village relationships are confused or hard to disentangle.[8] Two days in a village do not allow for much triangulation of information.

However, the village-level focus of AREU's rural livelihoods monitoring programme is partly to challenge programming assumptions about the similarity of rural livelihoods across villages and across regions, which the data from these special studies allow for. Moreover, at a district level, patterns do emerge from the data collected that can be explained by the location and topology of the villages in the two areas in question: where they are in relation to the Iranian border, and the height, steepness and climate of the area.

But there are also many similarities in the main livelihoods strategies and systems adopted by households from similar economic status in all five villages. Therefore, though there is enough flexibility within these systems and strategies to allow for their adoption by households with different circumstances — making sweeping generalisations difficult — these differences are really variations on a theme.

A. Sharecropping

All three Daulatabad villages reported that those who do not own land sharecropped and/or do daily labour work, both on-farm and off-farm (particularly construction work). The majority of those classified as landless appear to do daily labour. For instance, only 10 percent of households in Daulatabad's Village Two were said to be sharecropping. However, it was also clear that many sharecroppers often do daily labour when they have time and can find such work.

It seems that sharecropping is usually understood in relation to four inputs: labour, oxen (and related tools), seed and "the land." In the most frequently stated version of the current "norms" of sharecropping for wheat, a quarter of the harvest goes to the person/household who contributes the input. Therefore, technically where the landlord provides only the land, s/he receives 25 percent of the harvest; where s/he provides land and oxen/seed, s/he receives 50 percent, and where s/he provides land, oxen and seed, s/he receives 75 percent of the harvest ("*sepayi*").

It seemed to be most common in these villages for a sharecropper to provide labour alone, although it was not unusual for a sharecropper also to provide seed and oxen/mechanisation. However, the researchers encountered no one who was sharecropping on a 50 percent basis. Moreover, there were other reported terms for

[8] See Alden Wily, op cit. for a forthcoming discussion of the importance of *manteqas* as a useful level of analysis.

sharecropping, varying from *mazdur dekan*(receiving between a fifth and a sixth of the harvested crop, plus meals, accommodation and clothing), to those who received up to half the harvest for assisting just with the harvest. There were also sharecroppers who received an advance of wheat to tide them over to the harvest, plus a fifth (or less) of the crop.

A number of landowners said that sharecropping terms had shifted recently, so that whereas they only gave 20 percent of the wheat crop to a sharecropper who provided just their labour the year before, they were now giving one quarter. One person also added that the share of the crop from irrigated land was less for sharecroppers, two-thirds rather than three-quarters, where the sharecropper provided everything but the land (perhaps because water is seen as an additional input by the landlord).

The terms and conditions given for sharecropping appear therefore to be determined by a number of factors:

- The inputs provided by the sharecropper and the landlord;
- The amount and price of farm labour;
- The crop(s) being cultivated (in these villages seemingly always the landlord's decision);
- The nature of the land, particularly whether it is irrigated/rain-fed; and
- Negotiations between the sharecropper and the landlord.

While there appear to be well-understood traditional norms related to sharecropping terms based on who provides each input, these are flexibly applied and ultimately the actual agreement is decided at an individual level between the sharecropper and landlord. This flexibility is particularly clear in terms of seed, the provision of which appears to traditionally command at least a fifth of the crop.

However, no one interviewed for this study appeared to believe that the provision of seed without tools and oxen/traction (or vice versa) would lead to an increase in the share of the harvest. This may be because the cost of seed as an input is now lower than the other usual inputs. Indeed, landowners in Daulatabad were complaining that the cost of hiring tractors for ploughing and reaping, because of reduced numbers of oxen as a result of the drought, was making them question the quarter share terms they were giving sharecroppers.

The role of fertiliser and/or pesticides as inputs seems to go largely unrecognised within sharecropping terms in these villages. This is probably because it seems that their use is still relatively uncommon here, except where given "on loan" as part of an NGO seed package.

While one sharecropper the team encountered had been sharecropping for the same landlord for 30 years, it seems that the majority of relationships between sharecropper and landlord are much shorter than this: a few years at most. This seems to suggest that both landlords and sharecroppers continually seek better terms for themselves.

This may explain why there does not appear to be any set pattern in these villages as to who sharecrops: some sharecroppers come from within the village, others from

other villages. It appears to be difficult to become a sharecropper, however, without already having experience of sharecropping. All those spoken to had fathers who were/had been sharecroppers too.

It also appears that sharecropping requires, at certain times of year, the involvement of more than one individual. One ex-sharecropper said he was no longer sharecropping because his sons were too young to help him and it is impossible to sharecrop on one's own. Another sharecropper, living in the landlord's house and getting a quarter share, had chosen to work with another sharecropper who would be getting half his quarter share in exchange. Some sharecroppers also hired daily farm labourers themselves to assist in peak work periods, though in other cases it was the landlord who did the hiring.

Not only may some sharecroppers tend the land of two or more landlords, the landlord may actually be someone who does daily labour because he has no tools and/or household members to cultivate his own land. One such man was a relatively recent returnee from Pakistan. In Sayyad, most of the sharecroppers interviewed owned land, but not enough by which to make a viable living. The almost full-time sharecroppers the research team met sharecropped between 20 and 50 *jeribs* of land.

The line between sharecroppers and small landowners — particularly those sharecroppers who own their own oxen — can therefore be a little blurred in some locations. This can be even more the case between sharecroppers and farm labourers, particularly where sharecroppers only have their labour and expertise to offer, and where farm labourers are hired on a longer-term basis, rather than by the day. One landlord who had two sharecroppers and three farm labourers saw the distinction as being one of experience, with sharecroppers having more expertise.

Being a sharecropper appears traditionally to be seen as preferable to being a day labourer. Sharecropping is seen as requiring more experience and skill, and according to one interviewee, seemed to indicate more independence, where day labouring implied being someone else's servant. However, a couple of sharecroppers in Village Two in Daulatabad questioned whether they would sharecrop the following year because they felt that the returns from daily labour are currently better than from sharecropping.

Moreover, one interviewee in Sayyad Village Three noted that daily labourers are paid in cash on a daily basis. Sharecroppers, however, have to wait until the harvest before they are "paid" in the crop — and then only when its selling price tends to be lower — which makes sharecropping a less desirable option.

For a number of sharecroppers, it seemed that they could only produce enough wheat for up to half their annual household consumption needs. This may explain why many sharecroppers also do daily labour.

B. Labour

The majority of those men without land in these villages — or those without assistance or strength — tend to rely on unskilled daily labour for generating a living. The main type is agricultural, e.g., harvesting, protecting melons, etc. or construction,

including brick-making. Labour available in the village provides a third to a half less Afghanis per day than what can be obtained in nearby cities. However, staying in the village usually means less expenditures on accommodation and food because of being able to sleep and eat at home.

Reported daily labour fees — depending on location and work and strength (one older man with a foot disability said he could only get half the wage of a man with no disability) — varied between 80 Afs to 200 Afs (US$1.50 to $4) per day. Though the nature of daily labour makes it uncertain, one landlord believed that at current rates for daily labour in the area, an able-bodied man need only find work for a quarter to half the year to make in cash what an average sharecropper earning a quarter of the crop would earn from wheat, if they chose to sell it.

In Daulatabad Village Two, it was said that fewer young men were going to Iran in comparison with the last few years because wage labour was locally abundant now. However, in Village One, just a few kilometres away, 10 men left together for Iran while the researchers were in the area. It could only be speculated that perhaps as minority Pashtuns, they found it more difficult to find daily labour in the surrounding area than the Turkmen and Uzbeks of the other villages.

While women do not appear to be classified as daily labourers, those who can afford materials do often make items for sale: carpets were particularly important in Daulatabad Village Two, and hat-making was common in Sayyad Villages One and Three. Some women from poorer households, particularly female-headed, also sometimes find employment in doing domestic-related work.

Exchange of labour — helping out a household with their harvest in exchange for their help — and giving labour to the community, e.g., for mosque-building, was also mentioned. However, it is not clear how important this is, and under what circumstances it happens. In Sayyad Village Three, there were confusing stories about whether all households were responsible for providing labour to maintain irrigation water channels or only those who owned the land that was watered by those channels.

This also begs the question of who provides labour for NGO projects, where a "community contribution" is required. Is it all the households in the village, those who are seen as directly benefiting, those whose "turn" it is, or those who do daily labour (and who therefore tend to be poorer)? If it is the latter, are these people required to "give" their labour for free? Understanding the nature of reciprocity, giving and any client-patron relations within a village and between villages is very important if there is to be understanding of how assistance to a community is distributed, and whether there are any opportunity costs as a result.

C. Land Ownership and Pasture

The reliability of figures on landownership in the villages is questionable, not necessarily because of a desire to hide reality (though at an individual household level, partner NGOs have found this a sensitive issue), but because *shuras* did not know the general village-wide figures, particularly for rain-fed land. One *shura* member in Daulatabad explained that this was because rain-fed land in the village was unregistered. The research team did not hear — as another AREU researcher heard in

the neighbouring district of Shirintigab[9] — that the amount of rain-fed land is directly proportional to the amount of irrigated land. Moreover, the issue of what "irrigated" means may also create confusion. In the two Sayyad villages, most land was only irrigated in spring due to "floods."

Another major reason for the complex picture on land is what appears to be an increasingly blurred line between rain-fed land and pasture land. In one Daulatabad village, pasture land was classified into three types based on ownership: private (individual/household), common (owned by the village) and general (owned by all villages). In Sayyad, pasture was described as all government-owned. The only village where individuals mentioned owning pasture of their own was Village One. But this was in such vast amounts (hundreds to thousands of *jeribs* per household) that it is likely that others regarded this as government-owned.

It appears therefore that most land in private hands is cultivated, and that the pasture that remains is what is seen as held in common. However, as has already been well-documented, there has been encroachment onto these pastures for arable purposes. In the case of Daulatabad Village Three, this encroachment has taken place with the permission of the village *shura* where the land is seen as village-owned pasture. Elsewhere encroachment onto government land in fragile ecosystems such as the Dasht-e-Laili is seemingly encouraged by commanders carving out spheres of influence.[10] The major impetus, however, appears to have been the sharp decline in livestock numbers as a result of the drought, which for some villagers justified a shift in the use of this land.

It is clear that there are many people who have little or no cultivatable land. In Daulatabad, the arable landless figure varied between the three villages (between 30 and 70 percent) but all represent a sizeable proportion of the households. Moreover, it seems that the majority of these landless households are probably not involved in sharecropping, but depend on wages earned from daily labour, both on- and off-farm, women's handicrafts, and possibly a few livestock, where these were not sold off or decimated during the drought.

D. Cropping Systems

Both Daulatabad and Sayyad have only one cropping season, with the major crop being wheat, and melons and sesame being important secondary crops. Flax is also grown in Sayyad. Wheat is planted in the winter, with the other crops being planted in the spring.

Again, there was no clear picture about patterns of rotation. In some cases, farmers planted wheat one year, melons the next and left the field fallow for a third, growing both crops where they had enough land. However, in other cases, farmers identified some parts of their land as better for wheat, and other parts better for melons, appearing therefore to grow the same crop on the same plot of land. Some farmers also did not appear to plant in fallow periods at all.

[9] See forthcoming report by Alden Wily, op cit.
[10] See Pain, op cit.

These seeming differences probably reflect a more complex reality, where farmer cropping pattern decisions are based on the amount and quality of land they have available, whether it is irrigated or not, the likely amount of water, what they did last year and what actually happened to their crop.

In a couple of villages, mention was made of population growth leading to pressures on land and water use, and also to conflict. This may force farmers to cultivate land they would otherwise leave fallow.

While the price of wheat, melons, sesame and flax was not mentioned directly as affecting cropping decisions, indications were given that growing poppy was being given more serious consideration in two of the villages, which up until now had not seen poppies. The reason given was the low price of wheat.

In all of the villages, it was clear that availability and timing of water was seen as a critical issue in terms of good production. In Daulatabad, a number of people felt that in a year where rain was "good," yields from rain-fed land were quite as good as that from irrigated land. Fear of a poor rain year led to farmers irrigating wheat fields earlier than advised in a couple of villages in Daulatabad, which was seen as the cause of the poor result of one of the improved seed varieties distributed by CHA. However, discussions of crop water needs in that village (four times through the growing season for wheat) and frequency of the irrigation cycle (every 8 to 12 days) did not add up.

There appears to be an increasing use of hired tractors in Daulatabad for ploughing and harvesting since the drought, because the number of oxen are significantly less than pre-drought (in one village, down from 100 pair to 20 pair). In Village One, where most of the available land is on the hillside, tractors are not used.

E. Orchards, Vineyards and Trees

Only Village Two in Daulatabad had a significant portion of orchards and vineyards. The other Daulatabad villages maintained that there was too little water for trees, though Village Three received water more frequently from irrigation channels than Village Two. Growing of poplars was common in both Sayyad villages, though lack of water meant some of the trees had died.

Fruit and wood trees and vines tend to be relatively high value crops, but apart from potentially requiring more water than the arable crops above, they also require an investment of time before they yield a good return. Ideally, this takes 10 years for the poplars, as stated in Sayyad Village One, and then — at current values — a *jerib* of good straight poplars could fetch 50,000 Afs (US$1,000).

F. Shepherding

For those with relatively large flocks, 50 sheep or more, it appears common in all five villages for persons to join with others and employ a shepherd. A shepherd usually takes care of between 700 and 1,000 sheep, and the usual annual payment appears to be one lamb for every 20 sheep in the herd, as long as they survive the majority of the year.

III. Summary of the Role of Agriculture on Livelihoods in These Villages

While agriculture is an important aspect of livelihoods in these villages, it is evident that a large proportion of men from poorer households depend on daily labour to make a living, and that a significant amount of daily labour work is construction work, not just agricultural-related work. Moreover, there are signs that some men may now be opting out of what is traditionally seen as higher status sharecropping in preference for doing daily labour, because the returns appear to be better.

The question that this study cannot answer is whether this is a trend or just a reaction to current circumstances. Labour rates are high due to labour shortages (both because of high levels of private and public reconstruction, and because of a "bumper" harvest in 2003, both in terms of wheat and opium), and low wheat prices (again because of the large harvest). In Sayyad and in Daulatabad's Village Two, it seemed that daily labourers are now tending to seek work locally or in towns relatively nearby, but Village One and to a lesser extent Village Three in Daulatabad are still more dependent on migrant labour to other countries, particularly Iran. One man had recently bought 20 sheep as a result of having three sons sending him remittances from there.

It seemed in all the villages that the perception is that there is more labour migration within and outside Afghanistan from these areas than there was pre-1979. If this is the case, this could be attributable to a combination of the displacement and refugee experience of the past 20 years (younger men less exposed to agriculture and more used to urban lifestyles, more cross-country and cross-border networks, etc.), and population pressure on agricultural resources, coupled with a still depleted livestock population.

The collection of wild plants, for medicinal purposes, for human consumption, for fuel, or for fodder, whilst not economically important in any of these villages, can be a time-hungry activity at certain times of the year for some individuals.

In summary, therefore, agriculture is the basis of much rural activity in these two districts, particularly in the spring to autumn period, including for women, though their role is often invisible even to male villagers.[11] Yet household strategies do not rely solely on agriculture, and sometimes — particularly for those who are poorer — families are economically dependent (and in terms of food security) on other means of living, especially migrant labour to urban areas.

[11] For more details see Grace, op cit.

IV. Results of Wheat Seed Programmes in the Five Villages

A. Perceptions of Improved Wheat Seed

It was clear from talking with male and female villagers in all five villages that whatever their wealth group status, they felt that improved wheat seed was of benefit to them. There was also consistency in what they thought of as "improved" wheat seed, and this was seed that produced a better wheat harvest. If pressed, they said this meant they wanted wheat seeds that provided wheat that was more disease resistant than the varieties that they normally used, including wheat that did not "lodge." Mention was also frequently made of good quality flour for bread, which was usually defined as whiter flour that seemed to be synonymous in many interviewers' minds with tastier bread. There were explicit links made between disease-free wheat and whiter flour.

It was also apparent that in the three villages in Daulatabad, men who farmed actively sought out what they thought would be better wheat varieties, not only from within the village (as was largely the case in the Sayyad villages), but from going to other provinces, particularly Kunduz and Mazar, and buying wheat seed to bring back.

B. Who Received the Improved Wheat Seed and Who Benefits

In 2002, CHA distributed wheat seed to Daulatabad farmers identified with the two village *shuras*, based on the rules established by CHA. These were focused on ensuring that each benefiting farmer guaranteed they would not eat the seeds, but plant them and return an equivalent quantity to CHA at the next harvest. In one village, the NGO identified the recipients itself because a *shura* for the cluster of villages in which the organisation was working was not yet formed.

It seems that the two village *shuras* interpreted the instructions differently. In Village One, a Pashtun village, the improved wheat seed seems to have been gathered up again and shared out equally among every household, so they each received about 20kg, whether they owned and/or cultivated land or not. Individual households then seem to have traded or given their wheat seed away if they did not want to use it. Apparently a few of those who did not own land were allowed to cultivate their improved seed on someone else's land for free.

In the other two villages, the improved wheat seed was only given to those who owned at least some land. This seems to be the more common practice in wheat seed programming, and reflects what was usual in Sayyad too. However, even here we found individuals who said that they had received more than the 50kg normally given, apparently because of some trading that happened between households after distribution.

It appears therefore that those without land, even if sharecropping, usually do not receive wheat seed from NGOs directly (though they may get it through their

landlord). This appears surprising, where sharecropping terms would apparently be improved for the sharecroppers as a result of having seed themselves. However, in these villages, it did not seem likely that terms would change even if sharecroppers had seed to offer, because seed itself is actually not a significant input cost for farmers given the low price of wheat and the high price of labour.

C. The Need for Improved Wheat Seed

None of the *shuras* in these villages saw shortage of seed as an issue, though one person said it had been more difficult to find seed during the drought. Farmers tended to either keep seed from the year before and/or exchange or buy it locally. One landowner even went as far as Kunduz to buy seed that he felt was better than what was available locally.

There was wheat seed available in both the district bazaar in Daulatabad and in the provincial town of Saripul. However, in the latter, traders said the seed was only bought to make flour, not to plant. It was available at prices of between 29 Afs per *seer* and 38 Afs per *seer*, depending on the quality, but did not include the improved varieties being distributed by the NGOs. The "Kunduzi" variety — mentioned by farmers in both areas as being a good variety — was available.

Many NGOs justify the existence of seed programmes in terms of encouraging the adoption of improved wheat seed, rather than in terms of providing wheat in places where that crop is lacking. However, the fact that introducing farmers to improved wheat seed is itself, ipso facto, a "good" may need to be questioned further.

The underlying assumption of many programmes in relation to "improved" wheat seed appears to be that use of improved wheat seed leads to larger wheat harvests for the farmers who use it, and that larger wheat harvests benefit the farmer and related household either/or both in terms of greater food security and/or improved livelihoods. However, such a logic assumes three things:

1. Wheat seed is the primary factor determining a good wheat harvest. Yet it is evident that this is just one of many factors that influence a harvest (including the quality of land, the weather, the skills of the farmers, etc.). In these five villages, the major factor is perceived to be the amount, frequency and availability of water.
2. Locally available wheat seed is worse than the introduced improved varieties. However, this study raises questions about how well-adapted some of the so-called "improved" wheat seed is to the actual conditions encountered locally, not only in climatic terms (e.g., the harvest from one variety introduced in Daulatabad was recognised by all to have been poor, probably because of having been watered too early — but farmers were afraid to leave irrigation later because of the unreliability of water supply), but in social and economic terms (e.g., some of these improved seeds require greater inputs — fertiliser, pesticides, etc. — than more traditional or localized varieties to be able to produce larger harvests; improved wheat seed is likely therefore to be more beneficial to those who can afford the cost of inputs than to those who cannot).

3. Increasing the wheat harvest automatically leads to better food security and/or improved livelihoods for the farmers concerned. Wheat is a staple, and many farmers — particularly sharecroppers — are largely growing wheat for subsistence use, at least in the first instance. Therefore an assumption about improved food security does seem logical. However, where wheat is used for barter or sale in order to buy other items, including those that also contribute to food security from a nutritional perspective, an improved harvest which lowers the price of wheat may actually diminish the food security of a household, because it decreases their purchasing ability. Cheaper food may, however, have a positive indirect benefit on poor households that do not have access to land.

D. Programme Effectiveness

Some people question the quality of the improved wheat seed itself, where NGOs depend on farmers to return the high quality seed and then redistribute it. However, CHA believed their systems for cleaning and treating such wheat seed was adequate to allow them to redistribute it the next year as improved seed.

This study was not able to investigate this question except in relation to farmer perceptions. Overall, farmers appeared to believe that most of the varieties of improved wheat seed had contributed to better harvests, except the one already mentioned, the failure of which appeared to be more a matter of irrigation timing than the quality of the seed.

Both NGOs had built into their programme extension activities related to the improved seed, which included advice on when to irrigate, how to use any fertiliser, or what pesticide to use. This appeared to be largely given through meetings held at mosques, rather than through field visits to farmers using improved seed. Those farmers who were asked said they had found the advice useful, but it seems they had not always followed it, as in the case of the irrigation of the one of the varieties.

In two villages, there were complaints that wheat seed had been delivered late the year before (not by either of the NGOs involved in this study) which had led to late planting and also to lower harvests, according to the *shuras*.

It is not clear what sanctions there are against those who do not return the agreed amount of seed at harvest time (either to the NGO or to the *shura*), apart from the threat of no further distribution to them the following year. However, it is also not clear what procedures are in place to deal with issues related to either a poor harvest or to the household which in reality does make it difficult for them to repay. These are contingencies that any "credit" programme faces, but again the confused objectives of some of these seed programmes mean that such issues appear to get little attention.

This credit element is presumably both to try and inculcate a more "developmental" influence into the programme, moving it away from a relief modality where free distributions are the norm, and to try and build in greater sustainability. However, the very nature of improved seed means that many varieties lose their genetic vibrancy after a few generations of use (a matter of years), and as CHA field staff said,

this means that fresh seed needs to be introduced every four or five years as a result. Farmers in Daulatabad understood this well, and said they would try to replace any seed they had at relatively regular intervals, perhaps because many varieties seen as local have been derived from FAO-bred improved varieties from many years ago.

V. Conclusions

In all five villages, farmers said it had been a better harvest than the last year or the year before. The main contributer to this better harvest was seen to be rain, though there were still complaints about water shortage. Only two women from a household in Sayyad attributed the better harvest to the impact of improved wheat seed.

However, lower wheat prices — which may be related to a larger wheat harvest than in many years (attributed to both better yields this year, as well as greater areas planted) — appeared to be affecting some landowners and sharecropper decisions, with a few of the former considering growing (more) opium, and a few of the latter wondering if they may move away from sharecropping and more into daily labour, where they feel the current returns are better.

The drought, and before that conflict, seem to have brought about changes in livelihood strategies in these two areas too. Though in the past, parts of many households in both districts had moved with their livestock to spring pastures (and therefore mobility was already a feature of the annual cycle), the patterns of mobility now are due largely not to livestock (the numbers of which are very depleted), but to seeking work, either in neighbouring countries or in nearby towns. Women in one carpet-making village also said they were now making more carpets than they have ever done before.

For those households without cultivatable land, which are a high proportion, particularly in Daulatabad, daily labour has always been an important livelihood strategy, but in this area it seems that much labour has been agriculture-related. Daily labour seems as much associated with construction now, as it is with agriculture, though whether this is a temporary phenomenon or a trend is unclear.

The bumper harvest of 2003 and the current reconstruction activities happening in many parts of Afghanistan may be the major causes of the agricultural labour shortage of which some landowners in these villages complained. If so, daily labour prices may fall this year, and therefore — within Afghanistan anyway — become a less attractive option than sharecropping, particularly if wheat prices rise because of a modest harvest.

Though many of those interviewed desired to build up their livestock herds again (which for many seems to have provided some aspect of a safety net during the drought), the encroachment of arable farming onto pasture may become a major hurdle in such an ambition. Not only is this becoming a source of conflict, but some of the pasture areas are marginal and contain fragile soils which are easily eroded by cultivation, and may be destroyed for both arable and livestock grazing purposes. Yet this is often the only agricultural-related activity that many landless households have direct control over, because pasture is supposed to be held in common.

There appears to be an increasing use of tractors (rented in from cities a few hours away) in all the villages where the terrain is relatively flat. This seems to have originally been due to the fewer numbers of oxen in the village for ploughing and threshing, as a result of the drought. However, tractors also may have been rented

because of the shortage of labour. If this becomes the norm, then it is likely that increasing mechanisation at the farm level could end up displacing labour.

From a household food security point of view, the nature of the wheat seed — together with weather (and thus disease) conditions, available water, available labour, and the decisions the farmer makes in terms of cultivation — is important in determining the level of the harvest. Where the harvest is used for home consumption, increasing production is likely to improve food security as long as it is not at the cost of the long-term fertility of the soil (a danger if marginal land is brought into cultivation, or if fertiliser is misapplied). However, wheat prices still matter from the point of view of the opportunity cost of working on the land: it may pay for a household to do daily labour and then buy wheat rather than cultivate their own or sharecrop when wheat prices are low.

The supposed links between improved wheat seed and food security and improved livelihoods are therefore not always as straightforward or plausible as they might first appear. There are many other factors involved at the household level, including the degree to which the particular household is involved in wheat cultivation. Likewise, many poorer households are less directly involved than often assumed. At a regional and national level, it may be possible to claim with more confidence that food security is enhanced through use of improved wheat seed, but this does not address the issue of entitlements, and who at a community level is really benefiting.

Problems with programme effectiveness that have arisen in some projects — the quality and appropriateness of some varieties of so-called “improved” seed, delays in delivery of seed, poor farmer understanding of the changes in practices needed for the “improved” seed to produce a better harvest, etc. —also blur the picture. In such situations, so-called improved wheat seed programmes may even decrease food security.

VI. Recommendations for Agricultural Programming and Policy

If improving rural livelihoods is one of the purposes of an improved wheat seed programme, which in some cases it is, the above analysis suggests that interventions need to become more sophisticated in order to support not only landowners, but the strategies of those without land. This would therefore need to include support not only for agricultural-related activities (i.e., identifying and supporting farmer "innovators" in the village, exploring ways of improving the terms for sharecroppers, for example, through renting oxen to them, building the skills of farm labourers so they can command a better wage, support for improving livestock husbandry practices, post-harvest storage, village-level processing of any agricultural surplus etc), but to non-agricultural activities (i.e., building non-farm skills in areas where daily labour can command greater wages, exploring ways to ensure carpet-making households secure better returns for their efforts, e.g., through credit, giving support to remittance mechanisms if needed, etc.).

In terms of seed-related projects themselves, the recommendations that arise from this study include the necessity of:

- Ensuring that seed varieties to be introduced are tested locally by farmers themselves in small trials before being distributed widely: this is essential to ensure that they are appropriate for local conditions, and that farmers are able to follow any new practices that will be required;
- Ensuring that extension advice is informed by these trials, and that a sample of individual farmers who receive new varieties after such trials are followed regularly in order that the general extension programme is informed through a continual learning process;
- Finding out about local seed systems in order to ensure that the project methodology does not undermine any effective local practice;
- Exploring ways of using the private sector as a delivery mechanism for good quality seed;
- Using policy and programming only to subsidise improved seed for poorer, landed farmers, and where possible to change the terms for sharecropping;
- Ensuring that farmers are not solely reliant on seed deliveries in case seed is delivered late, and to set up some form of accountability mechanism where this is not the case.

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Appendix 1: Key Questions

Areas for exploration	*Who ask*	*How ask*
1. Project rationale • How objectives & activities are seen to be linked • What relation this is perceived to have to rural livelihoods (& food security)	**Project staff:** -- Extension staff -- Agronomists -- Agriculturalists	Focus group discussion, using logframe
2. Background agricultural information • Current, past & predicted future agricultural situation, including opportunities and constraints (e.g. labour, mechanization, water, other inputs, credit, marketing, drought etc), and why • Role of agriculture in livelihoods, particularly wheat cultivation, and why • Role of NGOs (& other extension agents) in agriculture • Past, current & future seed practices & management across seasons (institutions) – who decides • Gender roles in relation to the above	**Farmers:** -- Agricultural labourers without land -- Sharecroppers -- Landowners **Male and female shuras**	Small focus groups of 3 people of similar landholding size, Village descriptions
3. Household agricultural objectives and perceptions of seed quality • What do people want from agriculture, particularly wheat? • What other household activities do they have? • What qualities do they want from wheat and wheat seed? Why? How do they judge this? • What do/would do with increased surplus?	**Project staff** **Identified farmers above** **Male & female shuras** **(Those not in agriculture)**	As above, use actual seed & wheat samples to prompt discussion
4. Project information • Who receives seed? Why? • Where is it sourced? etc • How is this seed used? • What do people think about the quality of the seed distributed? Why? • Have yields increased? Why? Why not? • When is seed returned and what happens to this? • What happens if a loan is not repaid?	**Project staff** **Identified farmers above** **Male and female shuras** **Those who have not received seed**	Focus group discussions
5. Changes as a result of project • Exploration of what is changing as a result of project • What is likely to happen after the project is completed? • What will happen with wheat pricing next year because of increased production, and how will this affect people?	**Project staff** **Identified farmers above** **Male and female shura** **Those who have not received seed** **Seed merchants**	Focus group discussions

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