

SHAMALAN FLOUR MILLS

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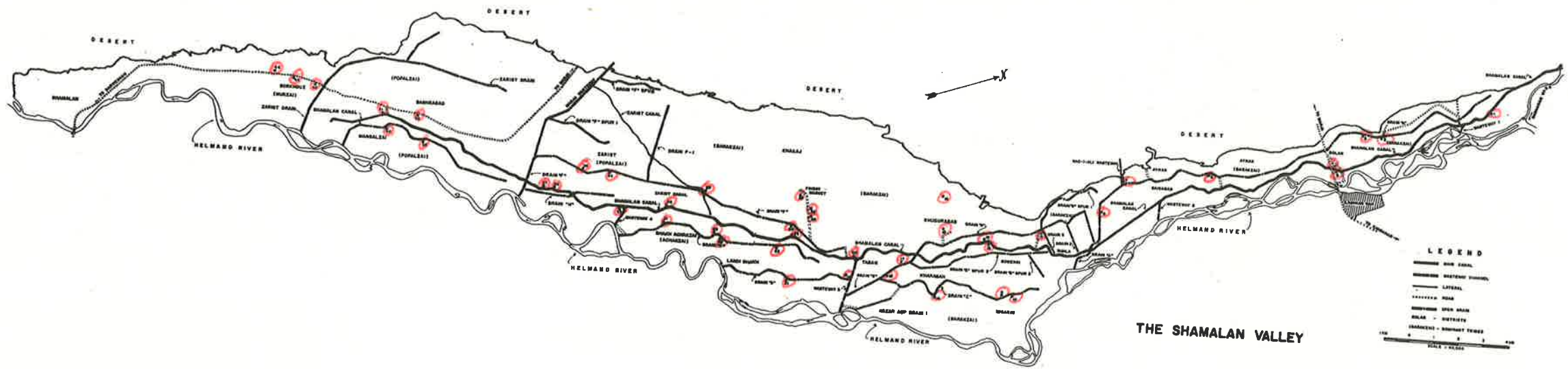
SHAMALAN FLOUR MILLS

Introduction:

The purpose of this study was to gather some basic data on the nature of rural flour mills, and their owners, with an eye on the potential of using these indigenous socio-economic institutions as a point for fertilizer distribution through the private sector of the economy. The rough working hypothesis of the study was that these mills are probably owned by some of the larger landowners in a given area, or by some other politically and economically important individuals. The mills are already points of social and economic contact between the farmers and the economy and most, if not all, farmers in a given area can be expected to make periodic visits. The mills offer not only the service of grinding grain but they are also information points for news, gossip and rumors. The charge for grinding grain is normally a percent of the total to be ground for an individual. If the mill owners are also farmers producing their own grain for household consumption, it can be expected that the mills may accumulate a surplus of grain which is sold to locals or transported to the markets. Three variables which would expand or contract the amount of this sellable-profit would be the size of the population using a particular mill, the size of the mill owner's household relative to his landholdings, and the number of non-household employees used to operate the mill. This combination of elements, if correct, could make the local mill potentially one of the most logical points for private sector fertilizer distribution on the rural scene.

The choice of the Shamalan as the area to be surveyed was not related to its typicality as an agricultural area in Afghanistan, or for the Helmand Valley, but because it is the scene of a major land development project and where other survey work is being conducted. There is a continuous need to learn more about the area's socio-economic institutions and the changes they are undergoing if these development attempts are to relate more directly to the people living there.

The Shamalan is an area where the improved varieties of wheat and corn are already being widely used with fertilizer. Mechanization is no doubt already well ahead of national averages. What are the further ramifications of these changes in Shamalan? How are local indigenous institutions affected? The results of this study, then are of broader interest than the original purpose of locating potential fertilizer distribution points. The study says something of the system of organization of local resources and something of investment motivations of local "capitalists" in the face of economic changes brought about by the introduction of improved varieties of wheat, fertilizer, corn as a second crop, increased grain prices (the result of the drought which struck most of the country over the past 2-3 years), and some level of farm mechanization. In any case, care should be taken when any attempt is made to expand this data or relate the findings to other areas of the country – they may not apply. In this case, we may be seeing a "high water mark" of change with the focus being on the mechanisms of the change rather



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than on the levels. That is, few areas in Afghanistan have the combined social, economic and natural resources of the Shamalan Valley. Although other areas may be changing in the same directions as the Shamalan (e.g. fertilizer, mechanization) few are likely to have reached the same levels of income, at least via grain production.

The Shamalan:

The area of the Shamalan Valley studied in this survey is bound by the Marja-Nad-i-Ali desert on the west, by the Helmand River on the east, by the point where the new Shamalan lateral separates from the original Shamalan canal on the north, and by the bridge across the Helmand River at Darwishan on the south. It is an area about 60 kilometers long and, at its widest, about 8-10 kilometers wide. The land area estimates range from about 32,000 (12,950 hectares) to 44,500+ acres (18,000 hectares), depending on the amounts of marginal land included.

Economically the Shamalan is well off, ranking second (behind Arghandab with its high rates of fruit production) in net farm income of the districts surveyed in the HAVA by the 1970 Farm Economic Survey. (Report by G.P. Owens of the University of Wyoming team, December 1971 p. 82). The main crops are wheat with corn or mung bean as the second crop. There are also cotton, melon, fruit, vegetables and some poppy grown, as well as forage crops for animal feed.

The dominant tribal group in the northern half of the Shamalan is the Barakzai. There is a concentration of Popalzai beginning in the Zarist area and south. The Nurzai concentration begins south of the Zarist drain. There is a pocket of Achakzai in the east-central part of the valley. (See the map for more detail.) These are all sub-tribes of the Pashtun Abdalis or Durranis. The history of settlement of these groups in the Shamalan is not known to the author. The area boundaries for these sub-tribe concentrations, however, tend to be the laterals and drains of the modern Shamalan irrigation complex which tends to suggest either fairly recent settlement, of at least some of the groups, or adjustment to the complex boundaries. Further, this is not to suggest that these are the only tribal or ethnic groups present in the valley but they are the dominant groups in terms of numbers and probably power. There are numerous other groups including Saids, Ozbeks and Baluch, to list a few. These may represent pockets or isolated settlements, or the odd household in a Pashtun settlement. Part of the complex ethnic mix in the area has resulted from the resettlement of landless groups from other areas of Afghanistan.

It is always difficult to estimate the meaning or significance of these tribal settlement patterns. If the usual Middle Eastern-Islamic patterns of tribal cohesion hold here, as they seem to, under normal conditions tribal affiliation serves simply a function of identification and superficial feelings of cohesion among groups, the chief loyalties being to the household. Faced with pressures from outside, however, the tribal groups should be expected to unite to some degree, depending

on the level and type of pressure faced. One of the interests in tribal affiliation in this region is in the relationship between the owners of the mills in any given area and the people who live there. We might assume that the traditional pattern would be for the mills to belong to local residents of the dominant groups.

Distribution:

In this 60-kilometer long valley (about 40 miles) there were 44 mills located and identified during January and February 1972. As may be noted on the map, the distribution is not homogeneous throughout the area but seems related to population concentration and natural resources (as should be expected). The areas of south Shamalan, around the Zarist drain, and west to the Zarist canal are noticeably short of mills; these areas have high rates of marginal land, class 6 land, and few villages. The same is true of the western Khalaj area. There is quite a high concentration of mills in the more fertile areas. At the greatest concentration, Block S55, W35 (east-central Khalaj) there are 10 mills in 25 square kilometers, Nos. 21-30 on the map.

Three of the mills are water-powered, being located on the Shamalan canal, and belong to the government (Nos. 1, 33 and 44). They are generally leased on a 3-year contract, and will be discussed in more detail below. The other 41 mills are motor powered either diesel or gasoline. All but 10 of the mills are located on main canals or drains which at first glance suggests the need for quantities of

water for cooling the engines. While water from the canals and drains is used for cooling none of the mill cooling systems are directly connected to this water supply. Each has a system of 50 gallon drums or more crudely made pools, which are filled by hand. It is likely that the salty drain water damages the engines' cooling systems. The mills located away from the main water sources simply use shallow, hand-dug wells or water from irrigation ditches, which generally appear more convenient to use.

The more likely explanation for the locations of the mills is the availability of transport. The canals and drains define the major road system in the area, the original purpose of the roads being irrigation system maintenance. The heavy mill engines require motor transport to their locations and the movement of people, vehicle traffic and grain (in any bulk) move mostly along these main routes of transport. With the exception of mills Nos. 15 and 16, heavy trucks can come within 50 meters of all mills in about any season. This is a point to be considered for the potential of using the mills as distribution points for fertilizer.

Power:

Besides the three mills that are powered by water, there are 23 Czechoslovakian, one-cylinder, 16 HP diesel engines, 16 General Motors 6 cyl. gasoline truck engines (referred to as 4-1/2 ton Chevrolet engines), and two other diesels that were locked up at the time of interview. One of these was said to be of Indian manufacture.

Most of the Czech engines were new, and according to the shipping instructions on the crates, they came via the USSR to Afghanistan. These diesels are bought in Kandahar for approximately 95,000 Afs. at present. The prices given by the owners and by the Kandahar shop owners are roughly the same. The grinding mill itself varied in price from about 6,000 Afs. for the Pakistani product to 7-8,000 Afs. for those produced locally in the Kandahar shops. These prices, if correct, are probably minus the stones. The local product was said to be made from heavier metal, thus the higher price. There was also a relatively large number of the much more expensive Danish mills, about a quarter of the total. The price was said to be about 25,000 Afs. Most commonly the stones were said to come from India at about 2,500 Afs. for two. In any case, these sums would seem sizable for Shamalan farmers who are apparently paying cash for the items. There is a local yearly tax for mill operation which is paid to the government in Lashkar Gah. The stated rate for these engines was 200 Afs. per HP per year. The stated amounts paid for the diesels ranged from 3,200 to 3,400 Afs. The variation apparently resulted from additional contributions (compulsory?) to the Red Crescent and "tips".

The Chevrolet engines were not new but were converted from vehicle use, including a gear-box with manual shift and clutch peddle. Local estimates indicate fuel consumption (gasoline) was usually double that stated for the diesels (4-4-1/2 gal. compared to 1-2 gal. per hour of operation.) But no one gave certain answers on these estimates. They said that they normally did not pay attention to amounts

consumed and that the engine ran only when there was grain to grind which was sporadic. The tax on these mills was more difficult to determine. There seemed to be no set rate and the statements ranged from 2,800 to 3,500 Afs. per year for basically the same engine. The stated prices for these used engines were from 30-50,000 Afs.

Age:

The ages of these mills are indicative of the economic change occurring in the area generally, and also indicate the limited views of those investing. These points will be discussed in more detail below. Of the 41 motor driven mills, 15 had been established with their present owners within less than 6 months of the survey. Twelve others were established at least 6 months previously but less than one year, while 14 are one year old or older. This means that about 2/3 of the mills were established during the calendar year of 1971. just less than half were located on the sites of previous mills that were either sold to or replaced by a new owner. The other half were newly established mills (within the year) on new sites. In short, there has been a large and recent investment in flour mills in the Shamalan. A relatively quick run through the area in May 1972, (2 months after the original survey) this time by-passing most of the side drains, found four new mills either in operation or being built, all diesel powered.

Operations:

The land on which the mills are sitting reflects a variety of use and ownership patterns. Thirteen mill owners either own the land themselves or a near relative owns it. Two mills were sitting on government land, at apparently no extra charge. One mill owner has the land on graw; that is, he lent 4,000 Afs. to the landowner, who, in return, has lost the right of use until he repays the loan. Nine mills pay rent for the land use ranging from 100-300 Afs. per month. Two of the renters pay nothing in cash but grind the grain of the landowner free of charge. Fifteen of the mill owners do not own the land on which their mills sit nor do they pay any rent. This arrangement is apparently one of convenience for landowners and their followers. There was one unknown.

The general practice is for payment for grinding to be made in kind. Only one miller indicated an amount in cash as an alternative to the traditional share. For wheat, the range of charges was from 1 in 20 to 1 in 30 parts with all but 10 charging 1 in 25 and up. The individual who gave the cash alternative charged 1 in 30 parts or 1 Af. per man (10 pounds, approx.) ground. The price of wheat at this time in the Friday Market, Khalaj, was between 38-40 Afs. per man.

As a side interest, one favorite measure (7 mills) appeared to be the charge of 1 in 27 parts. This was further explained as equal to paying 1-1/2 khord for 1 man ground. One khord is ¼ pow. (1 pow = 15 oz., approx.)

There are also apparently large quantities of corn ground in the Shamalan mills but the charges are more, ranging from 1 to 10 to 1 to 15 parts, or for the man stating the cash alternative, 2 Afs. per man. The price for corn was between 27-30 Afs. in the Friday Market.

Only 18 of the mills indicated they ground barley and these were mostly found in the central and south Shamalan. The rates were the same as those for corn but at the time there was none being sold on the Friday Market.

One mill ground mung bean at the rate of 1 to 10. This mill was located in south Shamalan and ground mung bean was said to be used as animal feed.

There was little variation among the mills in seasonal use, for those that have had the opportunity to function for most of a year. Of the 20 mills from which there were answers, 10 gave winter as their busiest season and indicated a high use by nomads who winter in the area, with fall being listed as the second most busy season. These were mostly located in the Sorkhduz and Zarist areas. Seven other mills reported highest use in the fall. The remaining three indicated summer.

There may have been some confusion in the season statements. Several indicated late fall and early winter being peak periods. Wheat was said to be the main grain ground in the fall while corn was said to be the winter emphasis. This pattern may also be reflected in consumption habits and (when full seasonal variation in the market is recorded), perhaps simple availability of grain types. One owner in the Bolan indicated that more than half his work occurred in the summer after first

harvest. There were, then, obvious seasonal variations in peak work season. All mills noted that spring was the slack season which likely reflects availability, and could possibly fit with the potential demand-season for fertilizer distribution, i.e. late winter-early spring.

More than half the owners of the mills are not directly involved in the operation of their mills, for a variety of reasons. Most commonly (25 of 41) the mills had two employees – a mechanic and a worker-water carrier. Ten mills had one employee, and 5 had 3 employees. There was only one mill that employed no outside help. The stated salaries were most commonly around 1000-1200 Afs per month (but as low as 600 Afs.) for the mechanic, and 300-500 Afs. (lowest 200 Afs.) for the helpers. The variation in salary in part apparently depends on mill location and production. Along with salary, the work-force normally was furnished food. As the owners became more involved in the mill operations, the number of outside employees was reduced. In one case of joint ownership, one of the owners works as mechanic and received, he said, 1000 Afs. above his share of the profits.

Thirteen of the mechanics, on which we have data, come from outside the Shamalan area with the largest number coming from or being trained in Kandahar (4) and Farah (3). As will become more apparent, while yet on a small scale, these mills, commonly with their big, new diesel engines, have taken on the characteristics of commercial enterprises when compared to the traditional, family

enterprise, water-powered mills found in other areas of the Islamic Middle East.

Thirty-one millers gave answers on how they dispose of their profits, the grain. Ten millers indicated the Friday Market, Khalaj, as their chief outlet, while 2 others listed it as a minor point of sale. The 12 were equally divided in terms of the form of the product sold – grain or flour. This is not surprising since our Friday Market Survey (still in process) produced a relatively large number of both grain and flour sellers. Thirty-two of the 52 grain sellers attending the Friday Market on 17 March 1972 were from the Shamalan Valley. Unfortunately, we did not identify these sellers by source of the grain being sold, (e.g. mills) but only by occupation (e.g. landowners). In future studies, hopefully, such a relationship will be established at the market site. There is little doubt as to the large amounts of grain being sold at this market. We recorded 3 buyers in the market 17 March from Lashkar Gah, Kandahar and Nauzad buying corn and corn flour. A close watch of this market can tell us much of local and, at least, regional economic conditions.

Seven millers indicated their surplus was sold on the Lashkar Gah Market; four others sold thereon a periodic basis. Again the form of the product sold was almost equally divided between grain and flour. At least one miller sells flour directly to the Lashkar Gah shops rather than be involved in the more time consuming retail sales.

Eleven millers indicated their surplus mainly was sold locally to villagers and nomads. Seven others listed local sales as secondary. The local sales are most often in the form of flour (11 of the 18 selling locally). Three of these indicated their buyers were frequently nomads. These mills were in Zarist and Achakzai areas (South-Central Shamalan). One Sorkhduz miller stated he sold locally to truckers. This mill is located on the main route north out of the Darwishan district into Shamalan.

The mills may be viewed as major economic institutions in the Shamalan in the sense that they do not only carry out a service for which they are paid but they also are directly related to the grain market through bulk sales as well as small retail sales directly to the locals. We might suspect that some of these sales are on the basis on credit. In the March survey of the Friday Market there were very high rates of nomads selling animals, about 75% of the total sheep sellers. The statements, which require more checking, were that they go into debt in the winter to the locals for their needs and pay off in the spring before they move north.

Associated with the mills are sometimes local grocery stores that are generally not owned by the mill owners. These are very small scale enterprises involving small amounts of capital. Some of these grocery men, too, appear at the Friday Market. In total there were 12 mills with an associated grocery. One was owned by the mill mechanic; the others were owned by men of the shop trade. But again, even this small scale associated institution points to the mill as a center of local focus.

At several other locations there were cobblers and the odd tradesman selling single items (e.g. dates). Other mills had near by mosques and tea houses.

The Government Owned Water-Mills:

These mills are locations 1, 33, and 41 on the map. They are powered by the water of the Shamalan canal, two using a by-pass of water under the mills themselves to turn the stones, one using a waterwheel at a drop-structure (No. 33). According to local statements, at sometime in the past the Shamalan had many privately owned water powered mills, but under government pressure they were closed. The statements on this are unclear. With the present structures there is probably very little, if any, water loss to the irrigation system. These mills are closed during the month in winter when the irrigation system is closed down for maintenance. At the time of interview none of the three mills were functioning but the renters of two were interviewed. The third, a man from Korez (village near Kala Bist) was having a dispute with the government over his lease, and was not contacted. Apparently he did not want to continue the lease and had abandoned the mill. According to other local mill owners, this renter had operated at a loss the previous year and did not re-open the mill. They cited the competition of recently established motor driven mills in the area as the cause.

Everyone asked stated that the flour from the water mills was preferred over the machined flour; it was supposedly finer, softer and made better bread. The renters of these mills, however, along with other longer-term mill owners indicated that

the larger numbers of mills in the Shamalan were cutting profits. The mills were built by the government and are leased on three-year contracts with stated yearly amounts payable. Apparently the leases are put up for public bid. The two mills in operation are leased by men from the areas where the mills are located, near Basharan and Zarist. The Basharan mill, located in an area of low mill concentration (and people) was said to be leased for 72,000 Afs. per year. This mill has two grinding mechanisms. The Zarist mill was said to be leased for 31,000 Afs. per year with one grinding mechanism. The charges for grinding are roughly the same; the Basharan mill charges 1 in 20 for wheat and 1 in 10 for corn, while the Zarist mill charges 1 in 25 and 1 in 12 respectively.

While both of these renters are residents of the areas of their mills, unlike the third who lives some distance away, they are not of the dominant tribes in their areas. The Zarist mill is leased by a Said (descendant of the Prophet Mohammad) who is the member of a large extended household of 24 persons. The dominant tribe in this area is the Popalzai. This household owns landing the area, estimated at about 75 jeribs but it is probably more. Three of the household members are government officials of some sort, and three are farmers. There are three non-family employees that run the mill, which suggests the limited level of direct household involvement in the operation. The lease is an investment. While some flour is sold locally, some is also sold in Lashkar Gah.

The Basharan mill is leased by a local of the Kakar tribe. The dominant tribe in

the area is the Barakzai. The household of the renter is extended of 9 persons; all 4 working men of the household are involved in grain and flour selling, mostly centered in Lashkar Gah where they own a grain-flour shop. The family has limited contact at the mill itself, having hired 4 employees for the operation. Two are on salary and two others, it was said, get 1/10 of the renter's profits. Again, this is a very commercial type of arrangement.

Varieties of Wheat Milled:

In mid-May a group of 20 mills was re-surveyed with a supplementary questionnaire. The millers were asked, among other things, questions of percentage of different varieties of wheat usually milled. The local distinction was between "Mexipak" and local varieties of wheat.

While the findings are not conclusive, about half the millers stated that considerably more than half the wheat ground was Mexipak. There appeared to be regional variation with Bolan, Khalaj and south being higher in Mexipak ground than Aynak, Saidabad and Gowerg. The confusing factoring this line of questioning was that 13 of the 20 millers said that farmers commonly mixed varieties for grinding, if they had the two sorts available. The mix ranged from 50-50 Mexipak and local to 2 parts Mexipak to one part local varieties.

The stated reason for the mix was taste, color and texture, the local varieties being preferred. The combined statements produce a picture of Maexipak flour alone resulting in a darker, moist, heavy bread. The combining of varieties combines

economy (more Mexipak produced per jerib) with the taste and texture advantages of the local varieties. Where possible, local wheat is produced for consumption and Mexipak is planted for high yields and the market. This mix and preference may result in slight lag of the Shamalan in Mexipak adoption behind some of the other areas in the Helmand noted by planners. Several millers noted, however, that this year would see even higher rates of Mexipak being ground for local consumption.

Information of a qualitative sort is conflicting when an attempt was made to relate wheat variety consumed with relative social class. While one miller suggested that only the wealthy could afford to plant local wheat for private consumption in the face of Mexipak high yields, a second miller (who was also a landowner) stated that only the wealthy could afford to plant, and so consume, Mexipak which requires fertilizer. Since such sour grapes rationalizing frequently takes on a traditional orientation flavor, it is not simple to sort out the dominant motivations in fact with such a brief and superficial survey. There are apparent preferences for the bread made from local varieties of wheat, however, which manifest themselves in variations in wheat production and a mixing of grains for grinding and local consumption. It seems likely that poor small farmers may plant and consume local wheat varieties because they cannot afford to go into the expenses of Mexipak. Wealthy farmers have probably gone into Mexipak at higher rates than their poorer neighbors but at the same time maintain a plot of local wheat for

home consumption. An additional variable would be the level of traditional food desires on the part of the wealthy as opposed to the profit motive.

In terms of milling problems, all millers agreed that milling Mexipak was slower, more strain on their engines and harder on the grinding stones than the softer local varieties. Since at least part of the fee setting process for grinding is influenced if not controlled by local village notables, the millers frequently pointed out that they were not allowed to charge more for milling Mexipak.

On Mexipak Adoption in the Shamalan:

On the point of lower rates of adoption of Mexipak wheat in the Shamalan when compared to other areas in the Helmand Valley, there are a number of possible factors involved, none of which have been studied on a systematic basis. This, then, should be considered more of a hypothesis based on limited data. First, as discussed above, there is the preference for local varieties of wheat for personal consumption by the farmers. Second may be the lack of the ready availability of seed and fertilizer in the Shamalan when compared to other areas (e.g. Marja, Nad-i-Ali) where there has been greater government activity. One farmer pointed out that he bought his fertilizer from a man (non-government) in Marja. Third is the practice of early cutting of local wheat varieties of wheat for fodder when the plants are only 10-12 inches high. Farmers' statements in March were that with regular continued irrigation the wheat yields and harvest time of such fields would be normal. This practice cannot be followed with Mexipak according to the

farmers. It is likely that with the lack of rain in natural desert pastures in Helmand for the past 2 years the demand for fodder for nomads herds in the area (apparently the chief buyers) has increased at the same time the major change to Mexipak was occurring. As an example, one farmer stated that with 10 man of wheat seed planted (2-1/2 to 3 jeribs of land) he received 7,000 Afs. from such fodder sales, mostly to nomads. Other such sales were noted during the March research period. We might suspect that with the shift of many nomad groups from the area back to their traditional camp sites on desert wells and dependence on desert pastures, if the drought has passed, the demand for such fodder will be reduced. Also, as the introduction of tractors into Shamalan reduces the oxen population, the demand for fodder should be reduced. The new variety of milk cow being produced by the artificial insemination activity of the Bolan Farm (the local and Brown Swiss cross) will require better feed than the dry pastures now being used by the local herds. Clover and alfalfa, already widely cropped, may be the alternative to the local wheat fodder.

While the above discussion outlines factors working against the adoption of Mexipak in the area studied, we do not know if the same factors are absent in the other areas of the Helmand where Mexipak is being adopted at faster rates.

Varieties of Corn Milled:

The same sort of question was asked of corn as for wheat varieties described above. Again, the distinction was generally made between local and "improved"

varieties of corn. Because of the small size of the numbers, again, the results cannot be considered conclusive but they do suggest some hypotheses. Only about $\frac{1}{4}$ of the 20 millers interviewed stated that more than half the corn ground was of the improved varieties. These were, possibly significantly, grouped between Aynak and Khusurabad. The center of this section of the Shamalan is Gowergi where the improved corn seed is being produced on the government farm. The other mills reported from between 50 percent improved (3 mills) down to $\frac{1}{1}$ improved. More than one miller pointed out, however, that proportions of varieties ground were difficult to estimate because there was seasonal variation. In the fall immediately after harvest, there were said to be high rates of improved varieties ground, while in the spring at the end of the corn eating season (discussion below) local varieties were mostly being milled.

The preference statements on corn were not as clear cut as those for wheat. But there were clear area differences in terms of preference. The central areas of the Shamalan, the areas high on rates of improved corn ground, generally preferred the local varieties of corn for taste. In areas where improved varieties ground were at lower levels than local, the improved corn seemed to be preferred, being sweeter, finer textured and produced greater quantities of bread per man of grain. All these millers indicated, however, that like the local varieties of wheat, improved varieties of corn were softer and easier to mill, assuming they were well dried. The problems of milling local corn were those of Mexipak wheat -- a strain on the engine and quickly worn grinding stones. There were no cases

recorded of intentional mixing varieties of corn to improve taste or the economics of consumption, as was the case with wheat.

The Seasonal Consumption of Corn:

Of side interest, we found consistently through the area that there was seasonal variation in the consumption of different grains. The usual statement was that in all cases wheat was preferred over corn for consumption. Corn, however, was consumed more frequently in winter than wheat. Aside from custom, several other reasons were given for this variation. First was availability – wheat in summer after harvest, corn in winter after harvest. Second was price – in a sense a reflection of availability, but corn for consumption is always cheaper than wheat. But the cost of milling corn is almost double that of milling wheat. Some identified corn as the poor man's food. Third, the limiting factor making corn a cold weather food is based on traditional orientations found throughout Islam (though pre-dating it) the Mediterranean Basin and most of Latin America.

Corn, as a food, is classed as a "hot" food which has nothing to do with actual temperature but is based on the "humors" classifications of the Hippocratic doctrine originating in classical Greek and Roman medical practice and modified further through its transmission via the Islamic world. (Foster: Journal of American Folklore, 1953). Very briefly, parts of the body, illness, items of food and drink, etc. all have their classifications of "hot", "cold", "wet" and "dry". In maintaining good health these "humors" must be kept in balance or illness will

occur. Curing is the process of righting some occurrences of imbalance. Corn is a “hot” food and should not be eaten in hot weather or it will burn the throat and cause fever, according to the farmers. Even when eaten in winter, corn should be consumed with “cold” milk products which are generally more plentiful in the warmer months. Thus, we were served on one field trip a mixture of crushed corn bread and yogurt. This, then, is a traditional rationalization for food habits which also fit the seasonal availability of the different grains and price. But this explanation is not to question the basic belief system or underestimate the durability of such beliefs. It is useful, however, for planners and administrators to understand the basis for such seasonal variations.

The Owners:

The patterns of ownership for the 41 mills are complex and do not reflect the traditional family enterprise system. For these 41 mills there were 61 owners recorded in the February survey. Twenty-one mills have more than one owner – 16 have two owners, 5 have 3 owners. These owners generally hold equal shares in these mills but there are exceptions. A few men have invested in more than one mill in the Shamalan. One man owns two mills completely (Nos. 19 and 24). He is a landowner, of the Achakzai tribe (in whose area one of the mills is located), and has owned the mills for 4 and 8 years.

Each of two brothers (who live in the same household) own a mill. (Nos. 42 and 43). They, together, are large landowners (local estimates of 300-500 jeribs) and

have their own village. Their mills are 2 and 3 years old. They are of the dominant Nurzai tribe in their area. The mills are located in and not far outside their home village.

One man owns part interest in two mills (25 and 26). Economically these mills are strategically located on the road to and near the Friday Market in Khalaj. Two of the joint owners, including this man, are large landowners in the area (about 300 jeribs each, and are of the dominant Barakzai tribe. The third owner is a retired Tajik whose son works as miller in one of the mills. These mills are 3 and 6 months at their present locations, one having been bought from the area of Khusurabad (Shamalan), and the other from Kandahar. Both were used at the time of purchase. No. 26 is located on the site that the mill now located in the Friday Market (No. 27) was located.

One further individual owns two mills completely and half of a third (Nos. 32, 36 and 40). He is a large landowner, has his own village for which he is Malik or village headman, owns a tractor and between 200-500 Jeribs of land by local estimates. He is of the Popalzai tribe (dominant in his area) and heads a large (perhaps 50 persons) extended household whose working men include a teacher and at least 3 farmers. He is a man with power. At the time of interview, February 1972, all three mills were relatively new installations – 1 year, 3 months and 12 days.

The owner of mill No. 3 (a new Czechoslovakian diesel) apparently is a relatively small landowner (3-5 jeribs) but he works other land on a sharecrop basis. He is a local of the dominant Barakzai tribe. Between February and May 1972 he made a further investment in a new mill just north of mill No. 2 with two other local men. Besides these investments, he apparently owns a tractor; again not a professional miller in the traditional sense but a man involved in commercial ventures.

Tribal affiliation of mill owners generally follows the pattern of the dominant tribal group in settlement. There are 22 Barakzai, 9 Popalzai, 7 Achakzai, 6 Nurzai and 3 Said. They tend to own mills in the areas dominated by their tribal group. They are generally local residents.

In terms of social-economic characteristics, these owners represent the upper economic strata and are probably some major power figures in their sections of the valley. At least 16 of these mill owners carry the title of Khan when being referred to. While this is a term of respect that may be used with some latitude, in this case it indicated they owned relatively large plots of land (perhaps 100 acres or more), they were the political head of their own village complex, which usually carries the Khan's name, and, in several cases they have taken on the added administrative responsibility of being Malik, the officially recognized village representative vis-à-vis the government. Among the mill owners there were also 11 tractors, two trucks and 3 jeeps owned. There were 11 men who had been on

the Hajj (the pilgrimage to Mecca). Among their households, including the owners themselves, there were 5 government workers, 3 mullahs and 2 teachers. Three owners were residents of Lashkar Gah, 3 of Marja and 4 of Kandahar, which again points up the investment nature of at least the mills of the Shamalan. Three of the Lash-Kandahar residents were in the auto repair or parts business.

On Fertilizer:

Only about 1/3 of the owners were approached on the question of the potential of selling fertilizer in the local mills. The others were not available for comment. Their answers ranged from complete rejection to much enthusiasm over the idea. Well over half of those answering thought such an arrangement was possible and a good idea (some with reservations). The local Khans seemed to agree more frequently than the less affluent owners. The main objections raised against such a plan were: the inability of the miller to advance credit to the farmers and the problem of guarding the fertilizer once delivered. Few of the mills have much secure storage space and many are in temporary shelters in locations outside village settlements. Other objections included the lack of time for such a business and the inability to instruct the farmers in the proper use of the fertilizer.

On the other hand, there were clues and statements that some Khans may already be involved in the sale of fertilizers and are already the focus of some level of economic control in their area. In these cases, credit did not appear such a great barrier. Small farmers and share-croppers are apparently already in debt to some

of these landowners.

One mill owner had between 100-150 bags of fertilizer stored in his mill, said to be the central distribution point for some 20 farmers who owned the fertilizer.

Another mill owner is at least part owner of a shop in Lashkar Gah which retails fertilizer; his source of supply, according to his relative-shopkeeper, was the government warehouse.

Among the mill owners and the mills there are potential points for fertilizer retail sales. If such points were utilized, however, care must be taken that at least USAID's involvement does not lead directly to deepening the indebtedness, and so dependence and political allegiance of the smaller farmers to the local Khans. Perhaps the mechanism for credit would allow the buyer to be directly in debt to a credit agency rather than to the seller. This might further allow the smaller mill owners (those who could not give credit) to participate in the selling.

Discussion and Conclusions:

It was pointed out to us by several millers that the continued high price of grain, along with the introduction of Mexipak wheat and the expanded double-cropping with corn has brought new profits and much more available cash to the Shamalan Valley. The local men are looking for investment and while milling is on an original idea, it is a proven traditional investment with the modern improvement of diesel engines. While the grain prices have remained high, the cost of milling (most generally paid in kind) has remained relatively constant. This means that

the profits from milling have increased, a point not missed by these local investors.

There is little doubt that the investment in mills in the Shamalan is exceeding the demand. Numerous millers noted the results of the increased competition from the large number of mills. Certainly the increase in mills is more convenient for the local populations and their generally animal means of transportation. We might suspect that a number of the less efficient mill operations will be forced out of business. The length of time for this to happen will depend on, among other things, the continued expansion of grain production and the continued high prices.

The question remains as to how to tap this local source of wealth and channel it into more productive development uses. Tractors are becoming more in demand, generally by the same classes of individuals as those investing in mills. There appears to be some investment in trucks, also, based on our surveys in the Friday Market. While the trend does not appear on a large scale yet, there is some investment in town housing with some Khans maintaining houses in the home village as well as in Lashkar Gah. Besides trucks, the personal vehicle, commonly a 4-wheel drive "jeep"-type, is being invested in by the wealthier Khans. Other investments in businesses, like possibly fertilizer, might be fostered.

A final point, more surveys made of local social and economic institutions, such as these mills, are important and necessary in the sense that they are indicators of

development in particular areas. They tell what changes are occurring, who is being affected, and something of the orientations of the involved individuals.

Effective projects and programs must be based on such information.