Northern Wheat Trader Survey and Afghan Food Security

A special report by the Famine Early Warning Systems Network (FEWS NET)

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ACRONYMS AND ABBREVIATIONS

AIMS	Afghanistan Information Management Service
APR	Agriculture Prospects Report
ASAP	Accelerating Sustainable Agriculture Program
CAR	Central Asian Republics
CIS	Commonwealth of Independent States
CRS	Catholic Relief Services
FAO	Food and Agriculture Organization of the United Nations
FEWS NET	Famine Early Warning Systems Network
GIAI	Grain Industry Alliance International, Kansas State University
GIEWS	Global Information and Early Warning System (of FAO)
IFPRI	International Food Policy Research Institute
MAIL	Ministry of Agriculture, Irrigation, and Livestock
MT	Metric Tons
NGO	Non-governmental Organization
NRVA	National Risk and Vulnerability Assessment
RAMP	Rebuilding Agricultural Markets Program
UNDP	United Nations Development Program
USGS	United States Geological Survey
USAID	United States Agency for International Development
VAM	Vulnerability Assessment and Mapping (of WFP)
WFP	World Food Program

Exchange Rate, June 2007: US$1 = AF 50

EXECUTIVE SUMMARY

This study is part of the "Central Asian Regional Wheat Markets and Afghan Food Security Initiative." It is one of five complementary activities that build on and expand the current knowledge base, and aim to clarify critical issues surrounding Central Asian regional wheat markets and their relationship to Afghan food security.

In Afghanistan, bread is the staple food and on average accounts for over half of the calories in the diet. Approximately one-fourth to one-third of the wheat[1] and flour used for making bread is imported, mainly from Pakistan, but also from Uzbekistan and Kazakhstan. Imports are increasingly important, especially for urban areas. Imports were also found to account for a significant portion of the markets in rural areas, even in the "breadbasket" provinces of the north.

The increasingly high levels of imports are the combination of many factors:

- Overall, national wheat production does not meet total requirements due to primitive agricultural practices, harsh growing conditions, and limited irrigation.
- Most wheat is consumed on-farm. Marketable supplies of wheat are highly limited – on a national scale, less than 10 percent of production reaches the markets.
- Markets are inundated by relatively low priced flour from neighboring countries, notably Pakistan, which subsidizes its wheat industry.
- Consumers have acquired increasing preference for imported flour.

Based on the survey and a review of customs data, total wheat and flour imports are estimated at one million metric tons for 2007/08, down slightly from 1.2 million metric tons last year. Imports by origin are estimated as follows: Pakistan 600,000 MT, Uzbekistan 200,000 MT, Kazakhstan 150,000 MT, Iran 25,000[2] MT and other 25,000 MT. Food aid for 2007 is estimated to be 100,000 MT, a similar quantity as 2006. Nearly all of the commercial imports (over 90 percent) will be imported as flour. Nearly all of the imported commercial wheat is from Kazakhstan.

Interviews were carried out in early June 2007 with about a dozen traders and millers in Hirat and Mazar-i-Sharif with brief visits to the border points at Tourghundy, Termez, Andkhoi and to the markets in Shibirghan and Kabul. Market participants cited limited credit and storage facilities as their major business impediments. Security was also an important concern. The majority of traders rent or lease readily available transport. The greatly improved road situation has stimulated the transport industry and the number of highway checkpoints, have been greatly reduced.

This season, the Hirat wheat crop of over 400,000 MT is estimated to be the largest of any province, but it is mostly consumed on-farm. The survey found that 60-70 percent of the flour in Hirat markets originates from Pakistan and another 20 to 30 percent from Kazakhstan. The balance (roughly 5 to 10 percent) is Iranian, Uzbek, and local flour. Hirat is filled with consumer goods and other commodities from nearby Iran. However, there is little flour or wheat due to Iran's trade barriers. Relatively minor quantities of wheat and some flour from Kazakhstan arrive via rail at Tourghundy at the border directly north of Hirat. Tourghundy could serve once again, as it did in the past, as an alternative route during future food emergency operations. Wheat and flour in the Hirat markets are largely consumed in the city itself, but important flows also move into nearby Badghis and Ghor provinces.

Mazar is one of the key wheat and flour markets in the country, and has four operational industrial flour mills. It is in the heart of the "breadbasket" and located near the strategic border crossing at Hairatan / Termez. In the past Hairatan was a major storage and supply hub for WFP. Wheat and flour from the North and from Central Asia is temporarily stored in Mazar before being transshipped mainly to the north and central regions and but also to Kabul.

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[1] Throughout this report "wheat" refers to wheat grain and "flour" is wheat flour.

[2] Imports from Iran may well become much higher since export controls are likely to be relaxed.

There are no formal systems of grades and standards, or effective phytosanitary or health controls for wheat and flour. Most transactions occur after the buyer or his agent physically and subjectively inspect the goods. Flour is often sold based on established brands, but alteration and counterfeiting occur. Afghanistan's shattered economy serves as a dumping ground for low-quality wheat and flour from neighboring countries.

The main obstacles to trade in the region surrounding Afghanistan include transportation bottlenecks, exchange controls, and cumbersome customs procedures. However, these obstacles are not a major problem in the case of wheat and flour, with the exception of exports from Iran. Well-established formal and informal arrangements allow for ample commerce in wheat and flour. Import tariffs are only 3.5 percent, and hence contraband is not a major issue.

Key aspects of regional wheat and flour markets include the following:

- Afghanistan has replaced Iran as the region's largest wheat importer (mostly in the form of flour).
- The leading exporters (and most important sources of supplies for Afghanistan) are Pakistan, Kazakhstan, and Uzbekistan.
- Pakistan accounts for 500,000 to 600,000 MT (60 percent) of flour imports to Afghanistan. These imports are almost entirely as flour. Pakistan's huge surpluses are normally a stable source of supply for Afghanistan, although occasional interruptions occur.
- Iran is an important and uncertain "swing factor" in the region. Iran has gone from among the world's largest wheat importers to self-sufficiency. Iran may soon open up exports to Afghanistan.
- Uzbekistan has steadily shifted large portions of its massive irrigation schemes from cotton to wheat. It is Afghanistan's second largest supplier of flour, upwards of 200,000 MT. Afghanistan is perhaps the most important export market for Uzbek flour.
- Kazakhstan is a major player in world wheat markets with huge surpluses from a bumper crop of over 13.5 million MT. Kazakhstan normally has by far the largest exportable supplies of wheat and flour in the region, over seven million MT. However, production is entirely rain fed and subject to frequent drought. Still, with Iran now out of the market for Kazakh wheat, ample supplies will likely be available for shipment to Afghanistan for the next several years.
- Turkmenistan, Tajikistan, and the Kyrgyz Republic do not currently have major affects on Afghan food security situation either as suppliers or potential competitors.

The nearly-completed national "Ring Road," along with thousands of kilometers of improved secondary roads, has already had huge benefits to the overall Afghan economy. An important finding of this survey is that in recent years, imported flour has increasingly moved further into the remote districts. This has enhanced overall food security but has likely had detrimental market affects on farmers. These are major changes in the rural economy and food security situation, and merit further study.

A new railroad from Iran to Hirat is scheduled to be completed by the end of 2008 will greatly facilitate trade. In addition, two major projects which will improve ports on the Gulf of Oman and connect with highways into Afghanistan will open new alternative trade routes to India, Pakistan, and other international markets, and will therefore help enhance food security in Afghanistan. In addition, a couple of additional future factors that could affect Afghan food security include the massive transport infrastructure projects which will facilitate local and regional trade are among the most significant on the positive side and the on-going civil strife and political uncertainty on the negative side.

The survey confirmed that the principal wheat and flour markets in the northern and western areas (and, in fact, in much of the country) are closely integrated with markets within the region, and act to stabilize supplies and prices. Still, with an important portion of the urban population highly dependent on these imports, any major shock to the market and transport systems could cause substantial price increases.

The following are some of the many "information gaps" which require further attention:

- Aspects of wheat and flour markets in neighboring countries as some of these countries are largely closed to the outside world.
- Present and future food security impacts of the Ring Road and other massive transport projects on the wheat industry, farmers, and consumers.
- Dynamics between urban and rural markets for wheat and flour.
- Basic statistical and market information including crop production, imports, population, and prices. The information is either lacking and/or highly unreliable.

RECOMMENDATIONS

1. Given the vital role of imported flour in Afghanistan, early warning activities must include regular monitoring and analysis of wheat and flour markets in the broader region.

2. The highest priority should be placed on establishing a system of exchange of food security and market information between interested parties in Afghanistan and Pakistan. WFP could play an important role as a facilitator and/or participant.

3. As a prerequisite for monitoring and analyzing regional markets, FEWS NET and WFP should take steps towards gaining deeper knowledge and understanding of these markets going beyond the initial "snapshots" of this study. The focus should be on practical, "real world" insights that will assist early warning and food security analysis and programming, including food aid.

4. A systematic, in-depth analysis of Afghanistan's food security situation in the context of Central Asian regional markets should be carried out in May or June, just prior to the beginning of each marketing year, with quarterly updates.

5. Early warning activities must include regular monitoring and analysis of the wheat and flour markets within Afghanistan itself. This should include the active and mutually-beneficial involvement of a small select group of key informants (i.e. merchants, traders, millers, etc.).

6. FEWS NET and WFP should explore other possible activities that might be of mutual benefit involving information collection and market monitoring such as improved market price collection and regular reporting.

7. WFP should make every effort to purchase flour, wheat, and other foodstuffs (including fortified biscuits) from local sources in Afghanistan. This will have an important impact on the fledgling milling industry and will also help farmers and the economy in general.

8. Given increased insecurity and limited availability of local wheat, WFP should further explore sourcing wheat from Uzbekistan and Kazakhstan. Flour from both of these countries could be brought into Hirat and Mazar taking advantage of regular rail transport and ample storage at the border points of Tourghundy and Hairatan. Iran should also be considered.

9. WFP could continue to play an important role in food security by supporting Food for Work projects focused on improved wheat production, storage, and transport.

10. Follow up is recommended on issues outlined in this survey under "Information Gaps." For example, an examination of the impacts on food security of the massive transformation of the road systems.

Afghanistan and the Central Asia region

INTRODUCTION

The present survey is part of the "Central Asian Regional Wheat Markets and Afghan Food Security Initiative." It is one of five complementary activities that build on and expand the current knowledge base, and aim to clarify critical issues surrounding Central Asian regional wheat markets and their relationship to Afghan food security. The activities have included rapid assessments of markets in Hirat (west), northern wheat surplus provinces, and Nimroz (southwest). An in-depth review of Pakistani wheat and flour markets in relation to Afghanistan food security has also been completed.

The primary goal of the present survey of wheat[3], flour traders, and flour millers was to have a more in-depth understanding of how markets operate in major centers near the border in the northern and western regions of Afghanistan. Of particular interest was gaining better insights regarding trade and integration with wheat and flour markets in Central Asia and Iran. Specific areas covered were:

- Origins and flows of imports and cross border wheat supplies.
- What drives decisions to import – from where and by whom and for what Afghan markets.
- How are Afghan wheat and flour prices linked to Central Asian markets.
- What elements of northern Central Asia regional wheat markets could serve as indicators of market performance and early warning.

The survey was conducted in June 2007 primarily in Hirat and Mazar-i-Sharif, with brief visits to the border points at Tourghundy, Termez, Andkhoi, and to the markets in Shibirghan and Kabul. The emphasis was on interviews with over two dozen traders and millers. Other knowledgeable sources were also consulted: representatives of local and national government, customs officials, transporters, and members of the international community including WFP, FAO, CIMMYT, and others (Annex B).

The following presents a few "snapshots" of the wheat and flour markets in western and northern Afghanistan just prior to the harvest of 2007. It should help unveil how these markets currently operate, thereby offering a basis for visualizing possible food security scenarios and alternative sources of wheat and flour. Information relating to wheat markets is not readily available for most of countries within the region. The current initiative has attempted to give a basic "mosaic" of wheat markets, pieced together from various sources. For the markets of northern Afghanistan, the main sources of information were the interviews with market participants. Secondary sources were used to construct a general overview of the key markets in neighboring countries.

[3] Throughout this report "wheat" refers to wheat grain and "flour" is wheat flour.

CHAPTER ONE: AFGHANISTAN WHEAT AND FLOUR MARKETS

This chapter discuses a few key aspects of Afghanistan's wheat and flour markets that are important in order to understand the context in which the traders in Hirat and Mazar-i-Sharif operate. The specific results of the survey of traders are later presented in Chapter Two.

An important finding of this survey is that major portions of the expanding urban population are increasingly reliant on imported flour. Imported flour is also becoming more common in rural areas. This is due to limited marketable supplies of wheat and the non-existence of a viable modern milling industry. Also, the on-going major road building projects are causing fundamental changes in the local wheat markets. FEWS NET must place great emphasis on understanding and monitoring the markets in Pakistan, Uzbekistan, and Kazakhstan that are the primary sources of these important volumes of imported flour.

In Afghanistan bread is unquestionably the "staff of life." Bread is eaten with every meal – often a meal for the poor is merely bread and tea. Bread accounts for 50 to 70 percent of the calories in the diet. Annual per capita consumption of wheat, among the highest in the world, is estimated at 160 kg – each person averaging over 400 grams (nearly one pound) per day.

Unfortunately, there are few signs of relief in the struggle to produce enough wheat to feed a growing population that is immersed in continued social upheaval. Even in "good years," wheat production does not meet requirements, due to primitive agricultural practices, lack of improved seed and fertilizers, harsh growing conditions, and limited irrigation. Storage is another serious problem. Post harvest losses are thought to be 15 to 20 percent of the wheat crop, which if true, would mean well over a half a million metric tons are lost from each season's harvest.

Even though more than half of the total wheat area is irrigated, Afghanistan's drought-prone climate results in staggering annual variations in wheat production. Total wheat production has ranged from 1.5 million MT during the severe drought of 2000 to 4.3 million MT in 2003. The Ministry of Agriculture, Irrigation, and Livestock's (MAIL) first official 2007 crop estimate released in May forecasted this season's wheat crop at a record 4.5 million MT. However, based on field visits and discussions with traders and other key informants, this forecast was probably overly optimistic, and later reports will likely show reductions.

Table 1: Total wheat supplies

Source	Year							
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007***
National Production	1469	1597	2686	4362	2293	4266	3363	4200
Commercial Imports	650	908	500	300	1300	419	1102	900
Food Aid	196	233	397	160	90	125	109	100
Total Imports	846	1141	897	460	1390	544	1211	1000
Total Supplies	4315	4739	5585	6825	5687	7359	6580	7207

* Estimates for 2007 are based on the findings of this survey
Source: FEWS NET and WFP. Includes flour imports expressed in wheat equivalent

LIMITED MARKETABLE SURPLUSES OF WHEAT

Most wheat produced in Afghanistan never arrives in the markets. It is consumed by farm households or used as barter payment in rural areas. These highly limited marketable supplies were confirmed during the market visits and interviews conducted. Even in Mazar-i-Sharif, considered the country's key wheat market, and other important marketing centers such as Shibirghan, the amount of the wheat found was almost minuscule. At the time of the present survey in early June 2007, most of the crop was still in the fields and was only beginning to come to markets, which no doubt gave this admittedly "pessimistic" view of supplies. But previous reports have also emphasized the limited marketable surpluses of wheat.

> Only a fraction of Afghan farmers are able to sell wheat, and most of those are only able to sell modest amounts. Of all farms with wheat output, 84.3 percent had not sold any wheat by the time of the winter survey. The scale of the sales is also modest, mostly below 5 MT, and two-thirds of the sellers had sold less than 1 MT. On average only 224 kg of wheat has been sold per household (about 11 percent of the supply). Another 12 percent had been paid as land rent or for other obligations. Therefore, 77 percent of all the wheat produced remained in the households for domestic consumption or for later sale. Also, more than half of the wheat exchanged from the farm is exchanged outside of the markets (sharecropping, land rent and other obligations such as religious taxes). The proportion of wheat produced exchanged trough the market is minimal.[4]

A number of the traders and millers surveyed reported that the marketable surpluses are becoming increasingly scarce. Lack of rainfall and increased poppy planting were the common explanations given. Those surveyed almost unanimously responded that poppies have had a "big impact" on wheat production.

LIMITED INDUSTRIAL MILLING CAPACITY

Another fundamental factor which results in the growing reliance on imported flour is the near non-existence of local industrial wheat mills. There are perhaps less than 10 operational industrial mills in the entire country. By contrast, there are approximately 60 operational mills in Uzbekistan, and *over 700* operational mills in Pakistan – many strategically located near the Afghan border. Pakistan heavily subsidizes its wheat and flour industry – including incentives to boost wheat production and to build industrial-scale flour mills. While the Pakistani subsidies greatly benefit consumers in Afghanistan, they are a major problem for millers and farmers.

The most detailed known study on the Afghan flour milling industry concluded that:

> The main part of the wheat for human consumption, in the range from 70 to 80 percent of total requirement (2005: 3.7 million MT), is processed either at the household level by thousands of small-scale mills, water mills in villages or by diesel/electric powered mills in the cities. In contrast hereto, the actual operating capacities in the industrial milling sector captures only a minor share in the flour market, processing not more than 3 or 5 percent of the total requirement.[5]

A number of factors have combined to limit the rebuilding of a domestic industrial milling industry after so many years of war:

- Government-subsidized competition from Pakistan
- Competition from Uzbekistan and Kazakhstan
- Limited supplies of local wheat of consistent and reliable quality
- High prices of labor and electricity
- Uncertain investment and political environment

Despite the severe limitations, there are some positive aspects of the tiny Afghan milling industry, for instance, the progressive and well-managed Ayra Flour Company in Hirat. The few mills that exist merit continued support (not charity) by WFP and other international agencies, through, for instance, increased purchases of local flour, bread, and fortified biscuits. The new Surat Zada Mill in Mazar will be the largest in the country. However, even operating at its full capacity of 280 MT/24 hours, it would produce only about one fourth of what arrives daily from Uzbekistan and Kazakhstan.

[4] Favre.
[5] Hack and Juge.

There are thousands of very small-scale artisanal mills known as *asiabs* which turn out a crude type of whole wheat (100 percent extraction rate[6]) flour. The *asiabs* provide flour for the majority of the population, particularly in rural areas and among the poorest segments of the urban populations. Although of critical importance to food supplies, the small-scale mills are highly inefficient especially when stacked up against the huge modern milling industry of the neighboring countries, notably Pakistan. Also, many consumers have been increasingly exposed to much-preferred white, fine Pakistani flour. Many of these tiny mills will likely find it difficult to compete over time with imported flour.

Finally, in the early 1980s the USSR built five "silos" – large complexes consisting of grain storage silos, flour mills, and industrial-scale bakeries that turned out bread for the Soviet troops and their local allies. Once the Soviets pulled out, the silos' operations ceased. The facilities are now in the hands of the Afghan government and all are totally underutilized. These are the country's only large-scale bulk storage facilities, with capacity totaling over 150,000 MT. These facilities could be rehabilitated, at a minimum, for much-needed bulk storage. Some limited storage, milling, and even bread-making is currently being outsourced to private companies. However, unless the government follows through with plans for privatization, these mammoth facilities will unfortunately remain white elephants.

In summary, a modern, industrial milling industry is next to non-existent in Afghanistan. There are few indications that such an industry will develop anytime soon, especially under the shadow of Pakistan's huge, highly-subsidized industry. Several previous studies on Afghan milling had forecast that more mills would be built to serve the growing demand for flour and to mill what had been expected to be substantial increases in wheat production[7]. Unfortunately, these changes have not occurred. As a result, imported flour will increasingly dominate the markets.

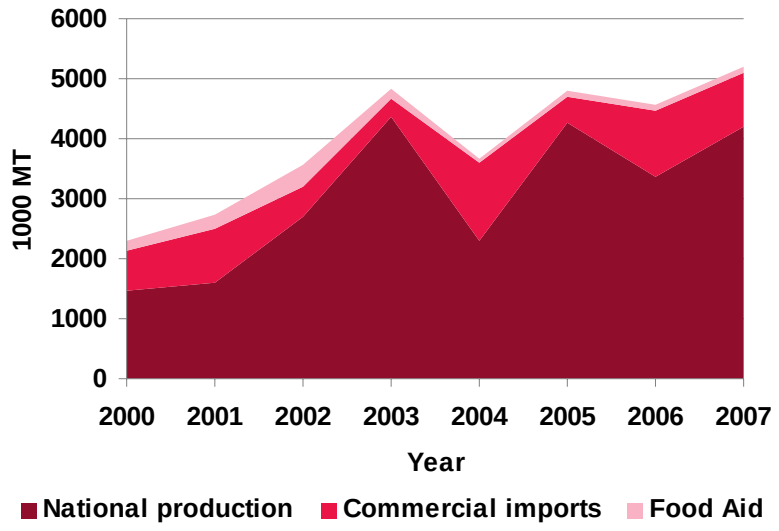
FLOUR AND WHEAT IMPORTS

Afghanistan is increasingly reliant on imported wheat and flour, with approximately one million tons of flour currently imported each year. At the national level, these imports are on the order of 25 percent of total consumption, as estimated by MAIL. However, it important to re-emphasize that the urban populations depend much more heavily on imports than the national-level figures suggest.

MAIL's first official 2007 Food Balance Sheets (released in May 2007) suggest total imports of wheat and flour of 400,000 to 500,000 MT – less than half of last season's imports of 1.2 million MT (figure 1). However, based on the impressions of market participants interviewed, it appears more likely that imports will again approach one million tons. The current 2007 wheat crop will likely not turn out as large as the initial forecast indicated, and repatriated refugees from Pakistan and Iran will also increase demand.

[6] The extraction rate is the percentage of flour extracted from a given weight of wheat, after removal of the bran and other parts of the grain. In Afghanistan, flour from the industrial mills have an extraction rate of approximately 80 to 85 percent, while the *asiabs* have a 100 percent rate since they simply grind the wheat with no further processing.
[7] Additional information on the Afghan milling industry is listed in Annex C. See especially reports by Hack and Juge, GIAI, and the World Bank (2004).

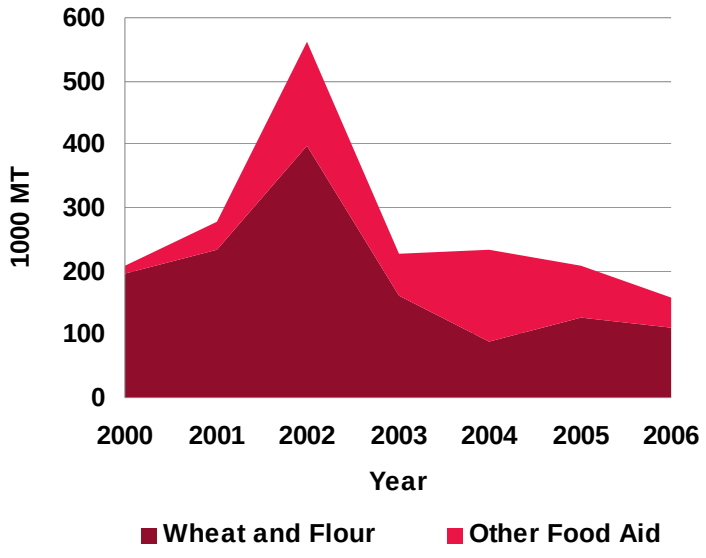
Figure 1: Total wheat and flour supplies



Source: FEWS NET and WFP

Food aid peaked at 562,000 MT in 2002 in response to several years of severe drought and war (figure 2). Of that total, around 400,000 MT was wheat and flour. For 2006, total food aid was just under 160,000 MT, of which wheat and flour totalled 109,000 MT. For 2007, food aid of wheat and flour are expected to remain about the same as last year. It is important to note that commercial imports are nearly all in the form of flour, while much of the food aid arrives as wheat.

Figure 2: Food aid imports



Source: WFP

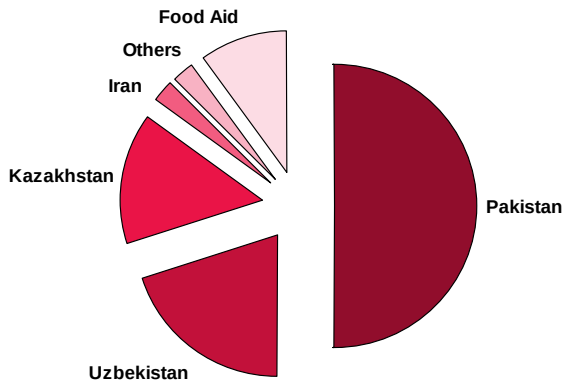
FLOUR AND WHEAT IMPORTS BY ORIGIN

A significant finding of the present survey is that an estimated minimum of 360,000 MT of wheat and flour will arrive into the Northern and Western regions from Uzbekistan and Kazakhstan in the current season[8]. This is over one-third of the expected total national imports. It approaches the current season's total national wheat deficit of 433,000 MT as estimated by MAIL. Considering that an additional 500,000 MT of flour will be imported from Pakistan, MAIL's forecast clearly has underestimated the situation.

Based on discussions with key informants, Customs data and the Pakistan wheat market survey carried out under the present initiative, it is estimated that imports for the current season will be approximately one million tons.

The following are the estimated volumes by origin: 500,000 MT from Pakistan, 200,000 from Uzbekistan, 150,000 from Kazakhstan, 25,000 from Iran, and 25,000 from other sources. Food aid in wheat and flour is estimated at 100,000 MT (figure 3).

Figure 3: Forecast wheat and flour imports by origin 2007/2008



Source: Survey of traders and millers

In conclusion, it is important to note that nearly all of Afghanistan's current one million tons of imports pass through only three key entry points: 1) Hairatan/Termez in the north – for Uzbekistan and Kazakhstan flows; 2) Spin Boldak/Chaman for Pakistani flows from the south, which reportedly often move first to depots in Kandahar, and 3) Jalalabad/Torkham for Pakistani flows whose primary destination is Kabul. These are critical points to be monitored by FEWS NET.

[8] Of the average 30,000 MT (in wheat equivalents) which arrive each month into the two survey regions, flour accounts for approximately 15,000 to 20,000 MT and wheat 6,000 to 8,000 MT.

CHAPTER TWO: WHEAT MARKETS OF NORTHERN AFGHANISTAN

This chapter discusses the results of surveys of wheat and flour traders and millers in Hirat and Mazar-i-Sharif. In each city discussions were held with about a dozen market participants, who without exception, demonstrated true Afghan hospitality and were quite willing and open to share information about their business activities.

PROFILES OF TRADERS AND MARKET PARTICIPANTS

In order to better understand the wheat and flour markets, the market participants have been classified into the following broad categories, keeping in mind that few things are not clear-cut in the grain markets of Afghanistan.

Merchants or Large-Scale Importers

There are a relatively limited number of large-scale import/export companies, who, in many cases, deal in wheat, flour, and other basic foods such as rice and cooking oil. Some also import other goods, ranging from petroleum to furniture. Most have agents, and in some cases offices, in nearby countries. They typically have their own warehouses or storage facilities, and sell on credit mostly to wholesalers. Their resources and contacts allow them to successfully operate in neighboring countries and react swiftly to market conditions. A number of new merchant companies have entered into the flour business, and gross margins have decreased – margins are reportedly on the order of US$5/MT (less than 3 percent). As a result, some of the former major players have moved out of the flour business and now focus on more lucrative products, such as petroleum. The fluid nature of entry and exit into the business and the slim profit margins suggest that price collusion among the merchants is not likely. In the case of Hirat, these large-scale importers are estimated to be quite limited in number – perhaps only five. In Mazar, there are reportedly some 40 relatively large-scale merchants, although, the top ten probably account for more than half of the business. The differences in numbers can be explained by the fact that volumes of direct imports from Central Asia are much greater in Mazar than Hirat. For Hirat, most of the flour is handled by wholesalers who bring Pakistani flour from depots in Kandahar.

Wholesalers

A relatively large number of traders are physically located in the central wholesale markets. Their main source for flour is from the large import merchants or from Kandahar in the case of wholesales in Hirat. The wholesalers sell flour into surrounding districts, as well as to bakeries and retailers and end consumers. Wheat is typically acquired from farmers in the rural areas, often via the merchants' buying agents. It is brought to the central markets where it cleaned, sorted and bagged. For Hirat and Mazar, about three-quarters of the wholesalers reported that they dealt only in flour, with nearly all of the remainder reporting they dealt in both flour and wheat. Very few reported dealing in wheat only. A detailed survey by the Grain Industry Alliance International also observed "grain markets in urban areas have minimal business.[9]"

Retailers

The retailers, or "shopkeepers" as they are known, number in the hundreds in both Hirat and Mazar. Flour and wheat are sold along with many other products, primarily to final customers. Retailers source their products from the local wholesalers or in some cases from the local industrial mills.

Millers

The few industrial millers tend to source both imported and *watani*[10] wheat via their own buying agents. They sell flour directly to local bakers or ship flour to wholesalers in surrounding districts. *Asiabs* grind wheat "on the spot" which is brought to them by the final customers/consumer. As payment for this service, the *assiabs* receive 10 percent of the resulting flour or a small fee. They number in the dozens in both Hirat and Mazar, but play a much more important role in the rural areas.

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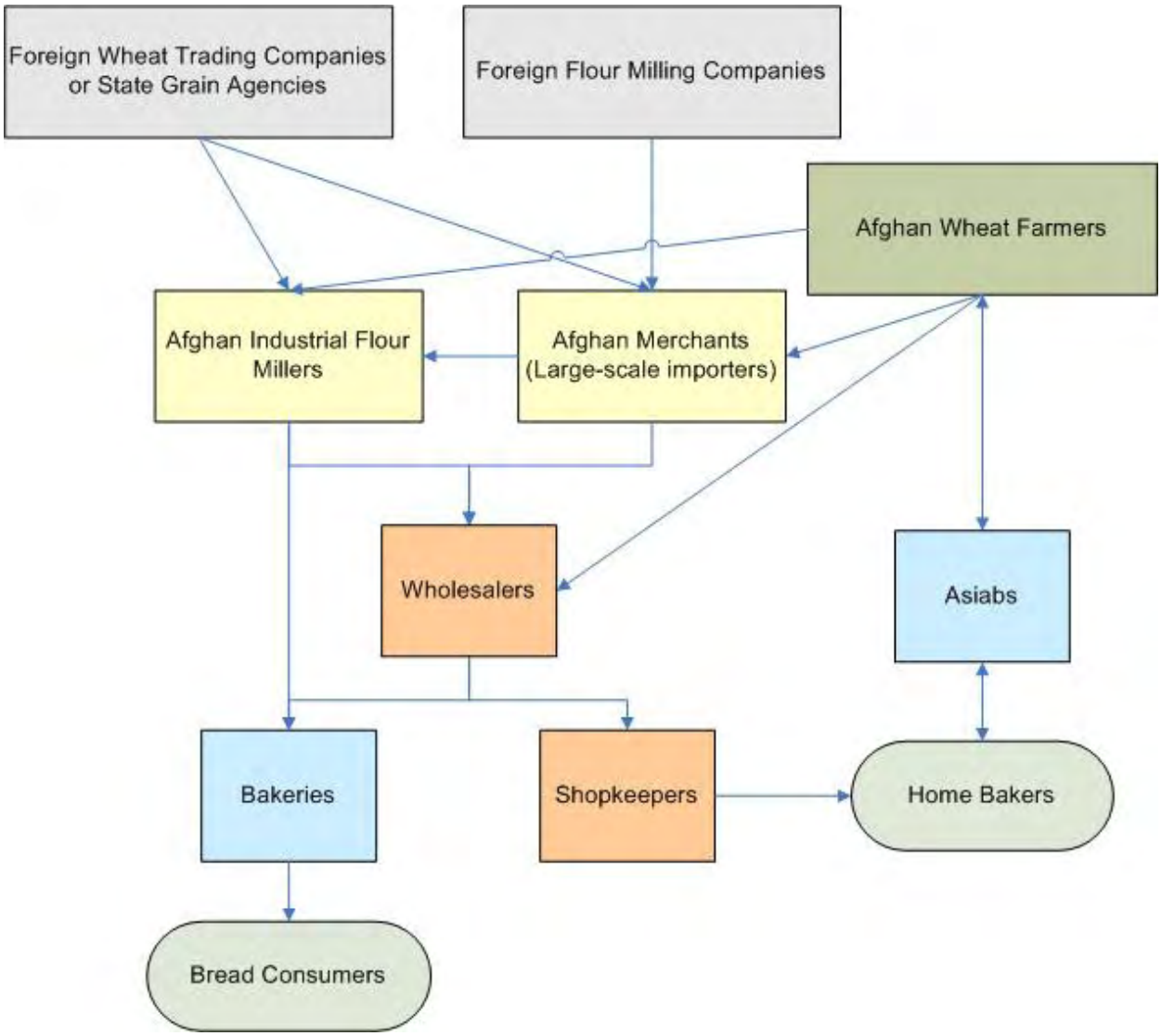
[9] GIAI.

[10] *Watani* means local so *watani* wheat is local wheat

Agents

Commission agents are common at all levels of the markets. Many merchants have trusted agents (often relatives) in key markets in neighboring countries. Agents are often involved within the towns selling flour to bakeries on behalf of wholesalers or local millers. Wholesalers also employ agents who travel to the countryside during the harvests and buy directly from farmers.

Figure 4: Flow diagram of wheat and flour markets



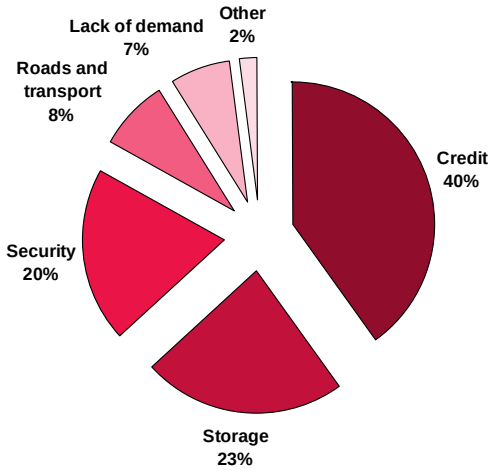
PROBLEMS AND LIMITATIONS FACED BY TRADERS

In order to better understand how the markets operate, the market participants were requested to rank the three biggest obstacles facing their business activities.

Credit was the major problem cited by the market participants (figure 5). Interest rates are over 24 percent, and formal banking loans are seldom used. However, transactions based on credit do occur. For instance, flour is often sold by merchants and traders to their customers on credit – 30 to 40 percent is paid in cash upon delivery and the remaining balance is paid off over several weeks as the flour is sold. Also, an "analysis

of the *hawala*[11] system in Afghanistan has demonstrated the close proximity between the Afghan Diaspora abroad partly financing the trade system, traders, money exchangers, and consumers.[12]" In short, although credit does exist, it is still the number one business-limiting factor mentioned by 40 percent of the survey respondents.

Figure 5: Limits on wheat and flour trade



Source: Survey or traders and millers

Storage was the second limiting factor. About 23 percent of those surveyed cited the lack of storage facilities, as well as insect and rodent problems associated with storage. Both flour and wheat are nearly always stored in sacks, often in rustic sheds or under tarps. In general, only the industrial millers have bulk grain storage, which is required for blending various types of wheat to make consistent grades of flour. Reported average storage times were two to three weeks, and maximum times were placed at about three to four months. Given the limited storage possibilities, most of the merchants and traders don't appear to engage in "temporal arbitrage" (buying and storing for sale at a later date in anticipation of market price rises) at the forefront of their decision making. However, a small percentage of the merchants and traders that have liquidity and adequate storage capacity do store for up to six to nine months.

Security clearly remains a major issue in much of Afghanistan and was cited almost as often as storage (20 percent). Even though both Hirat and Mazar are considered quite secure, the route from Kandahar has had a number of incidents. Both wholesalers and WFP reported difficulties bringing goods into Hirat through southern Afghanistan.

Given the huge transport difficulties of only a few years ago, it is quite striking that in only 8 percent of respondents cited roads and transport as limitations. This further supports the important finding of this survey that the new road building projects are having a tremendous impact on wheat and flour markets. The improved road situation has stimulated the transport industry, and there are more private transporters now for hire. Nearly all merchants and traders reported they use rented or leased transport, which is normally readily available. Highway checkpoints, previously a major problem for transporters, have reportedly been reduced, with fewer payments of "unofficial" transport taxes (to the police at the checkpoints)[13].

Lack of demand was cited in about seven percent of the cases. With widespread poverty in Afghanistan, it is somewhat surprising that this was not given higher importance. There is indeed a huge demand for staple wheat and flour, but it is mainly for the cheapest, lower grades.

Finally, the following are a few responses to the question: "do you have any suggestions on how government policies or investments might improve the wheat and flour trade?"

"The Government should do more to help farmers."

"The Government should buy from the farmers at a good price and sell into the market at a reasonable price."

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[11] Wikipedia defines *hawala* as "an informal value transfer system based on performance and honor of a huge network of money brokers which are primarily located in the Middle East, Africa, and Asia."
[12] Favre.
[13] The WFP Transport Office in Kabul told the interesting story of one of its hired transporters requesting reimbursement for a receipt given by a police officer at a checkpoint for an "unofficial tax" (i.e. *baksheesh*).

"The Government can go to hell - we don't give a damn about the Government!"

"WFP should buy local wheat and flour. Afghanistan has the potential to produce its own."

"WFP brings in Pakistani and other products and damages markets. The Government could do more to help with fortified flour programs especially for a number of international organizations such as CARE who are seeking important quantities of flour."

"We traders should be allowed to buy direct from the Pakistani Government."

"The FEWS NET Bulletin and other information you showed us appear very interesting - how can we get copies of these types of reports in the future?"

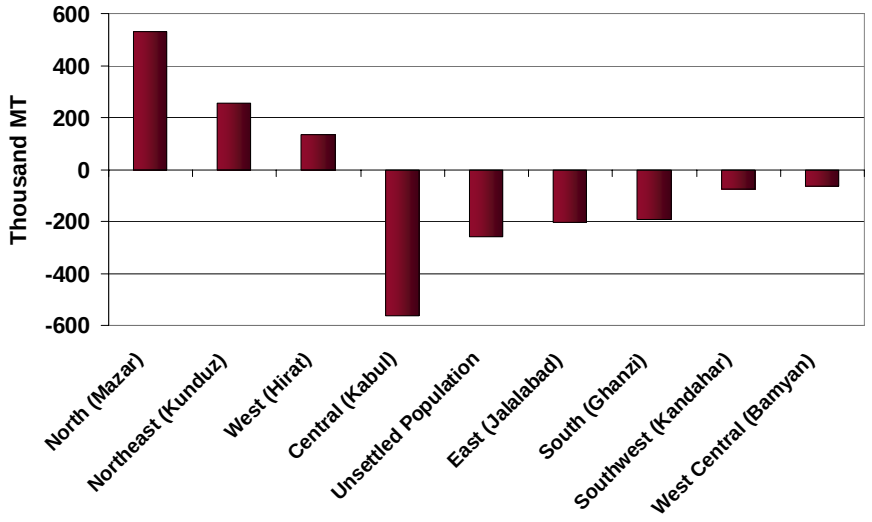
"Too many taxes and bribes - during the Taliban there were no taxes and bribes."

"Too much corruption - it's an open secret, but everyone suffers."

"You are most welcome here, but so many of you come to our mill to ask questions and make studies. Please send us copies of the studies – we can use them for fuel for baking more bread… [laughter]."

WHEAT AND FLOUR FLOWS

Figure 6: Estimated local wheat balance by region 2007/2008



Source: Calculated from MAIL

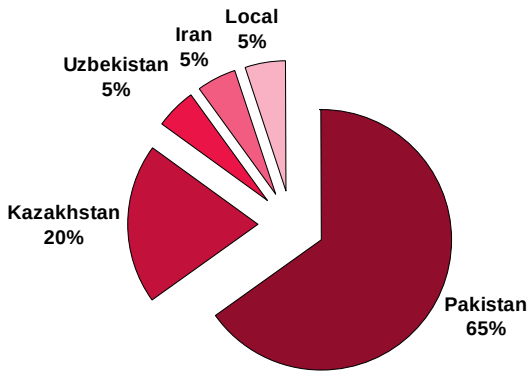
Mazar-i-Sharif is considered the most important wheat and flour market in the country. It is in the heart of the "breadbasket" which stretches across the northern border provinces from Hirat to Takhar. The substantial imports from Central Asia handled through Mazar make it one of the largest flour markets in the country, along with Kabul and Kandahar. Figure 6 presents a rough indication of local wheat surpluses and deficits for the current 2007/08 season, as estimated by the Ministry of Agriculture[14]. The wheat balances are calculated by taking estimated wheat production less estimated consumption, and do not take into account movements between provinces nor imports. The wheat production and population statistics are both highly questionable. Still, the estimated balances serve as a starting point for discussing wheat and flour flows.

The northern region, with Mazar at its center, is by far the largest surplus zone; Balkh (capital Mazar), Jawjan (Shibirghan), and Faryab (Maymana) provinces each have estimated surpluses of around 120,000 to 130,000 MT. The northeast (Kunduz) is the second largest surplus zone with 255,000 MT, followed by the western region (Hirat) with 133,000. Kabul is by far the largest deficit area at over 560,000 MT. The "unsettled population" (nomads) account for the second largest deficit at over 200,000 MT.

[14] See "Agriculture Prospects Report" from MAIL for details on estimated wheat surplus and deficit regions by province and regions.

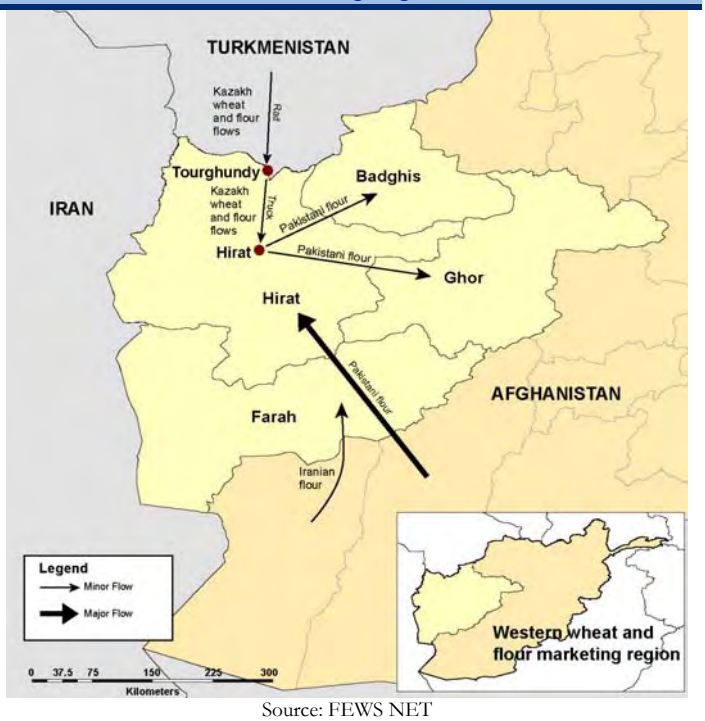
Hirat was once termed by an ancient Greek historian as the "breadbasket of Khorosan." This season, Hirat's wheat crop of just over 400,000 MT will be the largest of any province, according to MAIL. Still, since most local wheat is consumed on farm, the majority of the flour consumed in urban Hirat is imported. The survey found that approximately 60 to 70 percent of the flour in the Hirat markets originates from Pakistan. Kazakhstan accounts for another 20 to 30 percent. The balance (5 to 10 percent) is Iranian, Uzbek, and local flour (figure 7).

Figure 7: Estimated origins of flour in Hirat markets



Source: Survey of traders and millers

Figure 8: Flour and wheat entry points for western marketing region



Source: FEWS NET

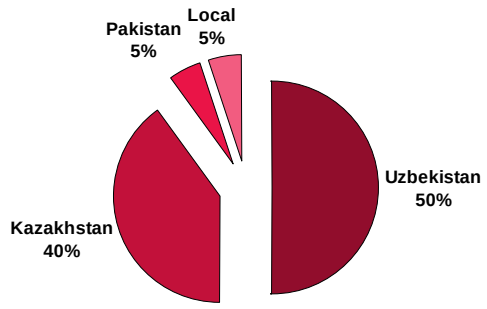
As noted, much of the Pakistani flour arrives to Hirat via important wholesale markets in Kandahar. All of the Kazakh wheat and flour arrive to Hirat via Tourghundy, the border post 110 km directly north (figure 8). This crossing into Turkmenistan was once the southernmost point of the USSR, and a spur of the Central Asian rail system crosses a few kilometers into Afghanistan. Kazakh wheat and flour arrive via a convoluted rail route through Tajikistan, Uzbekistan, and Turkmenistan. But, the goods move without difficulties thanks to well-established transit agreements. At present, scrap metal from Central Asian oil and gas fields, destined for China, account for far more of the rail traffic than wheat and flour. Tourghundy's regular rail service and ample warehouses were very important to WFP during the 2001/2002 food crisis, and could prove useful in the future.

Hirat's shops and bazaars are filled with goods from nearby Iran, but only limited volumes of Iranian flour and no wheat enters the western region. At present, Iran bans wheat exports, and places a series of barriers which effectively freeze flour exports as well. As will be discussed below, Iran may lift these barriers, and significant quantities could enter Hirat.

For Mazar, the study found that just over half of the flour in the markets is from Uzbekistan, with another 40 percent from Kazakhstan (figure 9). During the summer months, Kazak flour imports tend to overtake Uzbek flour imports. In contrast to many of the other regions of the country where Pakistani flour dominates, almost none arrives in Mazar since it cannot normally compete with low-priced Uzbek flour. Figure 10 illustrates the flows of wheat and wheat flour into Mazar.

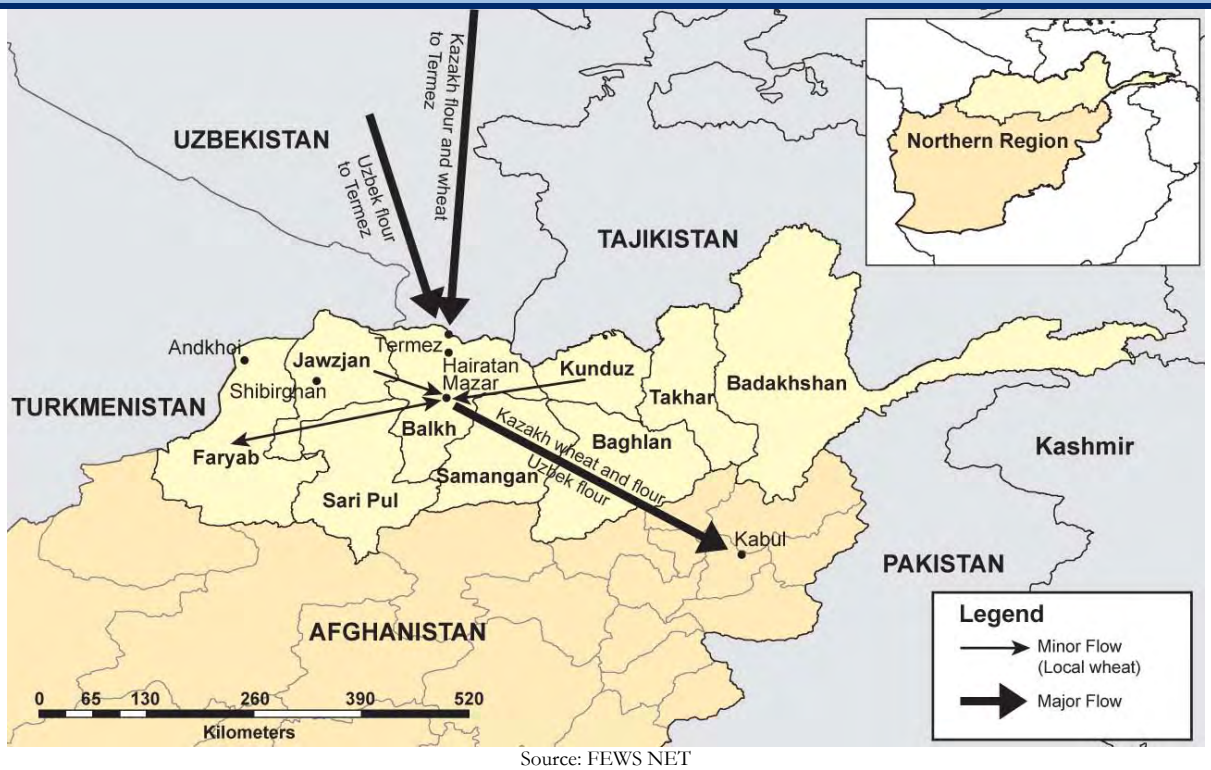
Regarding the destinations of wheat and flour, the survey found that in the case of Hirat, the majority is consumed in the city itself or in surrounding districts – especially those that do not benefit from vital irrigation along the Hari-Rud River. Traders reported that 60 to 70 percent of flour and wheat that enters the markets are destined for sale within Hirat, with another 20 percent sold to Badghis and about 10 percent to Ghor and other locations.

Figure 9: Estimated origins of flour in Mazar-i-Sharif markets



Source: Survey of traders and millers

Figure 10: Flows of wheat and wheat flour into Mazar-i-Sharif



Source: FEWS NET

This is in contrast with Mazar-i-Sharif, where wheat and flour move into a number of provinces, including all of the north. For instance, at Andkhoi, 246 km west of Mazar along the new Ring Road, over 90 percent of the flour and wheat were found to be Uzbek and Kazakh. It is notable that Andkhoi is in Faryab Province, a major grains surplus location, as just mentioned, and yet imported flour dominates the market there during the survey period. This reflects the relatively poor performance the previous season. As shown in figure 10, the flow can move both ways depending on the performance of the harvest. Given the point in the season, the presence of imported flour in Jawzjan, Faryab, Sari Pul, and Samangan provinces is expected.

Local wheat also moves into parts of the Central Highlands, Kunduz, Baghlan, and the northeast and into Kabul, the country's main deficit market. Kazakh flour, with its special blending qualities, is found year round in Kabul. Uzbek flour can sometimes compete in the markets of Kabul, for instance during the winter months, when there is often a seasonal rise in Pakistani flour prices.

DECISION MAKING AND MARKET STRATEGIES

Wheat and flour markets in Afghanistan might be described as a chaotic system of "free enterprise." This is perhaps the result of some complex combination of centuries-old Silk Road trading traditions and the extremely weak governmental and market regulatory institutions after so many years of war. The physical infrastructure of the wholesale markets remains quite primitive and inadequate, and there are numerous other limitations to trade as already described. In short, trade takes place under very rudimentary conditions.

At all levels of the markets, the participants' main decision making "markers" are very straight-forward and based on bottom line profit. One of the merchants in Mazar summarized things quite succinctly:

> I call my agent in Uzbekistan, and we look at the current prices there versus what we think the prices will be here in Afghanistan over the coming weeks. The transport and handling costs are taken into consideration and we decide how much to import. The flour arrives here in Mazar in about 10 days. I really don't know much about flour and wheat, we just buy and sell.

Table 2 shows an example of the types of margin calculations that are regularly made for import decisions – this is for the case of wheat moving from Kazakhstan to Hirat.

Import tariffs on wheat and flour, at 3.5 percent, are only one part of the costs. Other "unofficial" taxes must be paid; for instance, a payment of US$100 to US$200 to move a trailer truck across the border. Hence, merchants and traders reported that often it's more expedient to just pay the relatively low import duties rather than smuggle goods. While flour and wheat smuggling does take place, notably in the case of Iran, overall volumes are apparently not significant, at least not in the survey regions. When asked about smuggling flour across the Amu Dayra River at Hairatan, one trader laughed and pointed out that opium smuggling to Russian and beyond is much more profitable (and more common) than bulky, low-value sacks of flour.

Table 2: Approximate cost of Kazakh wheat CIF Hirat, June 2007

Item	US Dollar
Kazakh Grade 3 wheat FOB Astana	$158
Transport to Uz side of Afghan border	$30
Transport Afghan border to Hirat	$20
Taxes and import tariffs	$5
"Unofficial taxes" and other	$5
Total CIF Hirat for Miller	$210
Market price of wheat	$225
Market price of flour	$275
Gross margin $275-$262.50 (5 percent)	$12.50

Source: Traders and millers Hirat

In response to the question: "what are the two most important considerations that you take into account in forming marketing strategies?" prices were given the most weight (63 percent). The replies varied depending on the type of trader, but local prices were especially important, followed by prices in other countries, suggesting a high degree of market integration. "Harvest expectations" were second in importance (19 percent). "Government policies" were noted in 10 percent of the cases, which is somewhat surprising since there are virtually no government interventions in the markets. Other factors cited included transport costs and exchange rates.

The market participants reported varying degrees of availability of market information and intelligence. Regarding information on the important markets in neighboring countries, the merchants have a clear advantage, since they are kept well informed by their agents. The wholesalers are in daily contact with markets in other cities and towns. Retailers indicated they often rely on the wholesalers for market information. Collection and dissemination of market information is straight-forward and largely depends on cell phones, faxes, and direct conversations in the market places. There are few secrets – information travels very rapidly via the informal market "grapevine."

There are few, if any, publicly available sources of agricultural market news, save for whatever happens to be reported in the local press (mostly TV and radio). A number of merchants and traders expressed a strong distrust for the government, which might tend to limit demand for formal market news, crop and weather reports, etc. On the other hand, the merchants and to a lesser extent the millers have Internet connections.

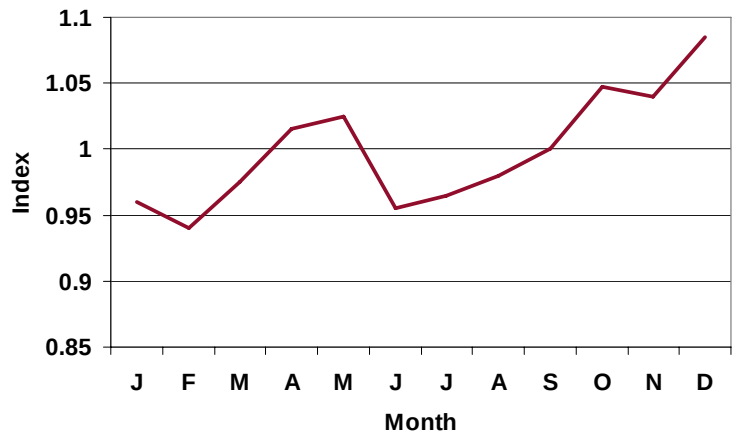
The Internet, although still in its infancy in Afghanistan, will soon take things by storm. Interest and availability of published information will soar and begin to become the new electronic market grapevine.

SEASONAL FACTORS

The majority of flour merchants and traders in both Hirat and Mazar reported that their low season of trade was during the summer months (June, July and August), which also coincides with Afghanistan's main harvest of winter wheat, (primarily in June and July). For the relatively few wheat traders that were encountered, the summer harvest season was reported as their highest season of trade by far. Traders indicated that the wheat harvest in Pakistan, which is mainly in May and June, is an important factor which weighs on markets in Hirat. For Mazar, the markets are influenced by the local harvest and later by Uzbekistan's harvest which peaks in July. The Kazakhstan spring wheat harvest follows in August and September. Iran has a wheat harvest season similar to Afghanistan's, with an important growing zone not far away in Iran's northeast.

As suggested by the following seasonal index[15] of wheat prices (figure 11), shipments of *watani* wheat push down prices in July and August, but shipments soon decline thereafter, causing price rises into the winter. Prices tend to peak in December, but drop off early in the year, before steadily increasing in the lean season ahead of the harvest.

Figure 11: Seasonal price index for Hirat wheat



Source: Calculated from WFP retail price series

As noted, there is an important seasonal increase in imports of Kazakh wheat and flour during the summer months, for use in blending. Merchants in Mazar indicate that Kazakh wheat and monthly flour imports increase by an additional 5,000 MT during the summer. However, this does not necessarily increase total import volumes, since Uzbek flour shipments tend to decline during the harvest in Afghanistan.

The fall and early winter were cited as the peak seasons by nearly all traders. Shipments increase to remote areas in order to stockpile ahead of the winter when roads become impassable. Increased demand in the winter was also explained by consumers' higher metabolism during the harsh cold. Conversely, there is a decrease in consumption in the extreme hot summer months.

The general lack of adequate grain and flour storage both on farm and in the market places tends to amplify seasonal price swings. However, this is offset by supplies from the neighboring countries. Import volumes vary from month to month and year to year, with the largest volumes typically occurring in the winter months. However, despite various attempts, more specific data or details on seasonal variations in imports were unavailable[16].

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[15] The Seasonal Index is a rough measure of each month's price level above or below the season's average. The graph presents data taken "as is." A more detailed analysis could be carried out taking into account various factors such as the severe drought years, the 2001-2002 war, the closing of the Salang Tunnel in 2003, etc.

[16] Customs data was available at the national level (see Chapter One), but not at the regional levels nor by port of entry. Visits were made to the Customs offices at Hirat, Mazar, and three border posts. Other government agencies were also contacted, including the Central Statistics Office and the highest levels of the Ministry of Commerce. The Mazar Central Statistics Office reported in a communication to WFP dated 1386/04/05 "the Quantity of Flour and Wheat from the important borders of Afghanistan during the year 1385 is (532,000) tons and during the first three months of 1386 approximately the flour and wheat imported by the border of Hiratan is (36,901) tons and the wheat flour is

PRICES AND MARKET INTEGRATION

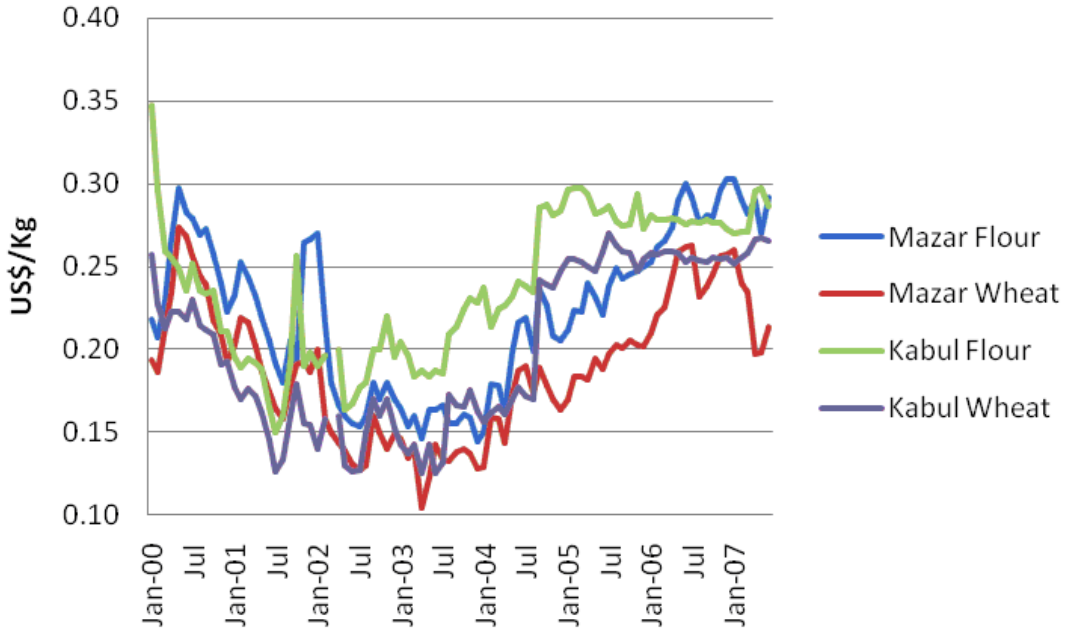
Despite the many obstacles already mentioned, the market participants at all levels are remarkably resilient — adaptation and improvisation are common after years of war and chaos. Afghanistan wheat and flour markets appear to be closely integrated with markets in neighboring countries. Market participants almost unanimously responded that markets are "highly tied" to one another. Also, respondents were asked "if your main supply route were cut off would it be difficult to find alternative sources of supplies?" The common reply was "not difficult." In the case of Hirat, where Pakistani product dominates, the alternatives cited were Kazakhstan or Iran. An exception was the local industrial miller, who replied that Kazakhstan is presently the sole source of wheat, since locally-available wheat was inconsistent in quality and "would not even last us one month." For Mazar, the merchants and traders indicated the alternative route would be through Aquena (the Turkmenistan border post north of Andhkhoi in Faryab Province), as in the past when the bridge at Termez was closed.

This close integration among markets has been confirmed by previous studies by the World Bank, FAO, and others (Annex C). For instance, one of the more in-depth analyses stated:

> Survey evidence and analysis of market prices suggest that since 2001 private sector imports (mainly originating from Pakistan and Kazakhstan) have involved substantial numbers of traders that respond quickly to shortages in domestic market supplies that would otherwise put upwards pressure on price. In this way, private sector imports have helped to stabilize both market supplies and market prices in major cities in Afghanistan[17].

Graphical representations of wheat and flour prices are presented in Figures 12 and 13. Due to high world prices, the local Afghan prices are now back to levels not reached since the major drought years at the turn of the century. Prices tend to move in tandem, with occasional exceptions mainly caused by disruptions of war, and border closures.

Figure 12: Retail prices of wheat and flour, Mazar and Kabul

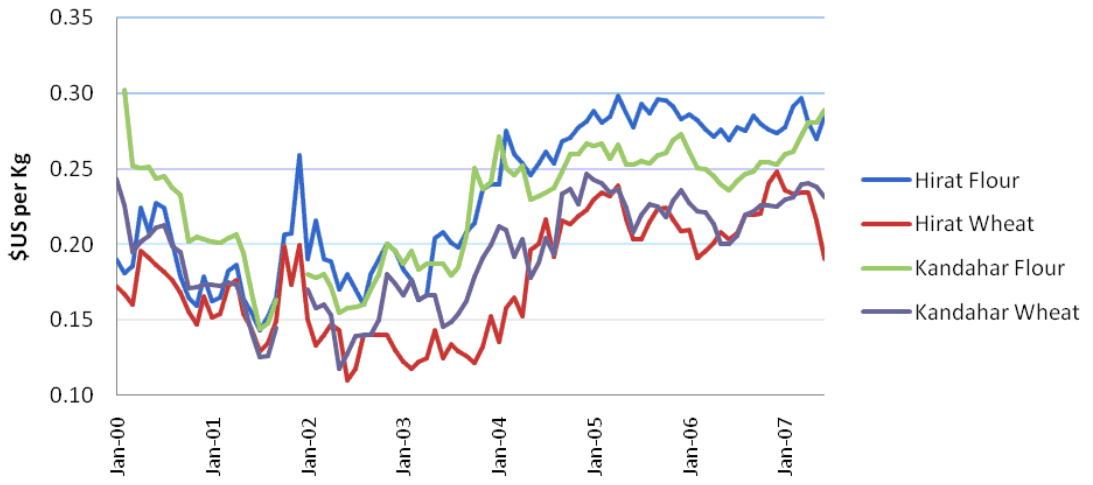


Source: MAIL

(56,318) tons." Customs information should soon improve under a major project known as the "Automated System for Customs Data (ASYCUDA)."

[17] World Bank 2005.

Figure 13: Retail prices of wheat and flour, Hirat and Kandahar



Source: MAIL

A more detailed snapshot of prices for various grades of wheat and flour are presented in table 3. Flour is sold on the basis of brands, as discussed below. The protein premiums paid for Kazakh wheat place them at the top end of the price list. At the bottom are the decidedly lower quality flours, mainly from Uzbekistan and from the very low volumes of *chakki* flour that enter the wholesale market. In the mid-ranges, there are relatively little price differences – indicative in part to the uncertainties that surround the actual quality of the various brands. Kazakh and Uzbek wheat and flour prices tend to be slightly lower in Mazar than Hirat due to lower rail rates to Termez as compared to more distant and less trafficked Tourghundy. Beyond these observations, there is not too much else to compare – Pakistani flour is virtually non-existent in Mazar, and Uzbek flour is very limited in Hirat. The markets of Hirat and Mazar are indirectly linked through northern routes to Kazakhstan, and to a lesser extent southern routes to Pakistan, but the two are at present physically separated by a 200 km gap in the Ring Road.

Table 3: Wholesale flour and wheat prices in Hirat and Mazar (US$/MT), June 2007

Flour Types	Wholesale Price Hirat	Wholesale Price Mazar
KAZ #1 Karghandar	N/A	$312
KAZ # 1 Barakat	$280	$265
KAZ #2 Palawan Chop	$270	$235
KAZ #3	$260	$220
PAK - Etemat #1, Adil #1	$268	NA
PAK- Insaf #1, Hamdar #1	$264	NA
PAK - Punjab # 2	$ 252	NA
AFG - Arya #1	$268	NA
AFG – Sayeed Jamal	NA	$300
IRAN -Hasa #3	$264	NA
UZ- #2 Palawan, Sorche	$260	$240
Wheat Types	**Wholesale Price Herat**	**Wholesale Price Mazar**
AFG - Roshan #1	$240	$220
AFG - Kalak #1	$243	$230
KAZ- #1	$225	$220
KAZ # 2	$210	$200

Source: MAIL

WHEAT AND FLOUR QUALITY ISSUES

Wheat and flour quality directly affect prices, consumer buying decisions, and hence the volumes and origins of imports. There are no formal systems of grades and standards in Afghanistan for wheat or for flour. Nor are there any effective phytosanitary or health controls, and Afghanistan is a dumping ground for low quality wheat and flour from its neighbors. While not all products that enter the country are bad quality, it is noteworthy that Grade #2 or #3 flour from Kazakhstan or Pakistan is considered standard or even "Grade #1" in Afghanistan. One of the major local flour millers bluntly stated that "most flour in the markets is animal food. We, on the other hand, are producing very good quality flour."

With no effective grades and standards nor controls of any kind, most wheat and flour transactions in Afghanistan occur only after the buyer or his agent physically inspects the goods. Kazakhstan's massive wheat export industry uses grades and standards, but even these are being modified to be more in line with international markets. Afghan importers of Kazakh wheat use the Kazakh standards (and buy Grade #3), but request an independent laboratory analysis prior to shipment. Pakistan has had a system of grading based on "Fair Average Quality" for wheat since 1930, but as reported in this initiative's Pakistan survey[18], these are not adequate, and a new system of grades and standards is recommended.

Imported and local industrial flour is traded on the basis of brands. The 50 kg sacks are stamped with well-recognized logos. These logos are important, due to the many languages used in the region. For instance, product labeling on the Kazakh and Uzbek flour sacks are written in their respective languages, but seldom in the local Dari or Pashtu. Buyers are often very careful to inspect, and touch and taste a small sample. The sacks of flour may not contain what is printed on its label – counterfeiting of the sacks and/or mixing in lower priced flours does occur. Trade disputes are usually resolved directly between buyers and sellers, although in rare cases, the Ministry of Commerce or the police may become involved.

When discussing flour quality issues with traders and millers, the "stretchiness," "stickiness," and "elasticity" of dough were the most often cited desirable traits. Elasticity stems from high gluten levels of flour ground from higher protein wheat. Most bread is still baked in traditional clay *tandoor* ovens, with the dough stuck to the inside oven roof. If the gluten content is too low or if flour has been damaged due to insects or other problems, the dough can fall from the ceiling of the oven and down onto the coals.

During the hot summer months, even higher levels of gluten are required to maintain stickiness. This explains the strong seasonal increase in demand for high-protein, high-gluten spring wheat (and flour) from Kazakhstan. Afghanistan currently has no laboratory for wheat and flour testing. Discussions with millers give rough indications that Uzbek and Pakistani wheat are on the order of 10 percent protein, local or *watani* wheat is 10 to 11 percent protein, and Kazakh high-gluten bread wheat is normally over 14 percent[19].

Bread has been the staple food of Afghanistan for centuries and it is not surprising that people prefer the taste and baking characteristics of traditional *watani* wheat. Availability of *watani* is limited in terms of volumes and consistent, uniform lots. Pakistani flour has become widely accepted because of its overall good quality and white color. Uzbek flour, as one trader aptly noted is "low quality, low priced." Given its lower price, Uzbek flour tends to dominate the markets in Mazar and in surrounding provinces.

There were numerous complaints that mid to lower grades of Uzbek flour have a limited storage life and become hard, "like cement," especially during hot weather. This is attributed to relatively high ash or high moisture content – the weight of a 50 kg sack often drops by several kilos after some weeks of storage. The weight loss could also be due to a combination of the milling characteristics of the wheat varieties themselves, and/or the use of low grade products for shipment to Afghanistan.

The low volumes of Iranian "Hasa" flour found in Hirat were criticized as "expired." This flour is made from Kazak wheat milled in Iran and, despite overall poor quality, the higher protein helps keep its price competitive with the common grades of Pakistan flour at around US$260/MT.

[18] FEWS NET 2007.

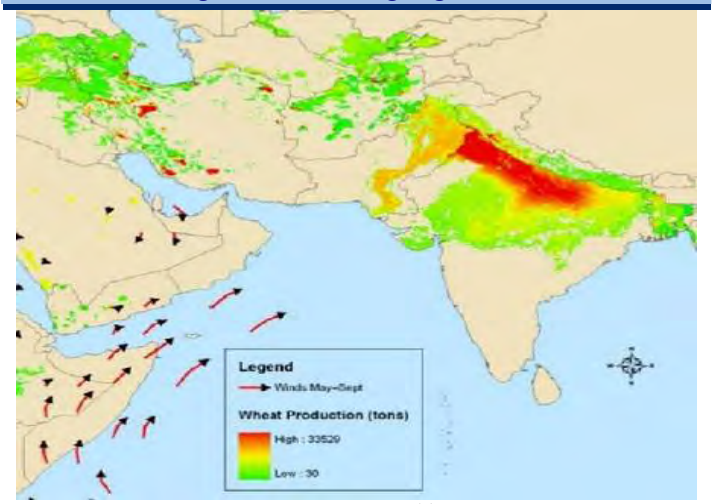
[19] The GIAI study contains the only known published detailed laboratory report of wheat and flour from various locations in Afghanistan.

CHAPTER THREE: OVERVIEW OF REGIONAL WHEAT AND FLOUR MARKETS

This chapter examines wheat economies of selected neighboring countries in relation to Afghanistan food security. For each country covered, the topics considered are: 1) basic elements of the wheat economies, 2) potential supply sources for Afghanistan, 3) potential source of competition for Afghanistan in the markets, and 4) specific noteworthy issues unique to the country in relation to Afghanistan food security. Coverage of each country is concise, and not necessarily comprehensive[20].

Fortunately for Afghanistan, it is surrounded by a number of major wheat growing nations, notably Pakistan, Kazakhstan, and Iran. What is perhaps not widely known, but verified by the present study, is that Uzbekistan is now second only to Pakistan as a supplier of flour to Afghanistan. And as has been emphasized, flour, not wheat is by far the bulk of what is traded both internationally and internally within Afghanistan.

Figure 14: Wheat production zones within the region surrounding Afghanistan



Source: CIMMYT

The chaotic, but essentially "free markets" appear to function efficiently in the importation of flour and wheat for most of the country. At the macro level, trade goes on amazingly well despite seemingly insurmountable difficulties and barriers. Clearly there are serious food security problems for remote regions of Afghanistan and vulnerable segments of the population. Poor nutrition plays a part in making life expectancy one of the lowest in the world.

REGIONAL TRADE ISSUES

The breakup of the USSR initially brought considerable economic difficulties to the Central Asia Republics (CARs), but most countries have since recovered, and are greatly benefiting from high world prices for oil and gas. The push towards self-sufficiency in food also has born results. Agricultural production is still largely controlled by Soviet-style "State Orders," especially in Uzbekistan and Turkmenistan. Oil and gas are crucial parts of the economies and all remain under Russia's shadow, politically and economically. The rail systems, which were put in place in the early 1900s, remain vital to the region. These railroads have primary links with Russia, and are a vital element of Kazakhstan's wheat marketing system.

Key obstacles to trade include transportation bottlenecks, exchange controls, and cumbersome customs procedures, to name just a few. The issues are complex and vary from country to country.

> Current trade policies of the countries of the region vary substantially, mainly as a result of diverse historical circumstances. Iran and Pakistan are sizable exporters and are largely integrated into the world economy. Both countries have made significant efforts to streamline their trade regimes, with import duties being now the main trade policy instrument. In recent years, Turkmenistan and Uzbekistan, by contrast, have pursued policies intended to promote national self-sufficiency, rather than international integration[21].

[20] Annex C provides additional resources.
[21] World Bank 2004a.

A recent major UN Development Program study on Central Asia[22], presents the following summary of issues of "trade, transport and transit":

- Trade in CAR could be much expanded despite the land-locked location.
- Trade barriers/costs are high in Central Asia due to opaque trading rules, high border transit costs, poor transport networks and services and long distances to markets.
- Falling trade costs are significantly increasing incomes, employment and consumption in the region (conservative estimate: by 20 percent).
- Domestic supply response is weakened by poor investment climate and lack of financial services.
- Borders crossings are difficult/expensive/time consuming/dangerous.
- Visa requirements are burdensome.
- Customs regulations and enforcement are often arbitrary and corrupt.
- Regional trade agreements are overlapping and complex.
- Air transport is underdeveloped, within region and with rest of world.

The UNDP report speculates that:

> Adding up all the quantifiable and non-quantifiable potential benefits from cooperation in trade, transport and transit, as well as from substantial reforms of behind-the-border business and financial conditions in Central Asia, per capita incomes could increase between 50 to 100 percent over the next 10 years, compared to a continuation of current policies[23].

As already described, and on a more practical level, the traders and millers interviewed were basically split between two groups of "haves and have-nots" in terms of access to regional markets. The larger traders and millers have the ways and means to overcome the barriers. For instance, they can afford their own offices or agents and can easily bribe their way through travel and other restrictions. Others with less resources and clout are left out.

KEY CHARACTERISTICS OF REGIONAL WHEAT AND FLOUR MARKETS

Table 4 below summarizes key indicators of regional wheat and flour markets. More detailed time series data for wheat markets for each of the countries in the region has been compiled in Annex F. Important discrepancies in the data from various sources underscore the "challenges" of market analysis in Afghanistan and the region. Among the most notable characteristics are:

- Afghanistan has replaced Iran as the region's largest wheat (flour) importer.
- The leading exporters (and most important sources of supplies for Afghanistan) are Pakistan, Kazakhstan, and Uzbekistan. Afghanistan, as the largest importer, faces "competition" for wheat and flour supplies only from Tajikistan.
- Iran is an important and uncertain "swing factor" in the regional markets. It has gone from among the world's largest wheat importers to self-sufficiency. For 2007, Iran's government has suggested it might export wheat or flour in significant quantities, and it appears some of this may go to Afghanistan.

[22] UNDP.
[23] UNDP.

Table 4: Afghanistan regional markets – basic wheat and economic indicators										
Country	Population (millions)	GDP PC (US$)	PC Wheat Consumed (kg/year)	Wheat Production			Imports		Exports	
				2005	2006	2007	2005	2006	2005	2006
Afghanistan	32.3	800	160	4,270	4,400	4,400	600	1,200	0	0
Pakistan	164.6	2,600	131	21,600	21,700	21,800	954	150	550	700
Uzbekistan	27.4	2,000	155	5,800	5,850	5,850	200	200	200	200
Kazakhstan	14.8	9,400	126	11,000	13,500	12,500	41	15	3,000	5,500
Iran	71.2	1,680	170	14,500	14,800	15,000	380	1,000	50	50
Tajikistan	6.7	180	121	550	530	530	450	450	0	0
Turkmenistan	5.0	750	211	2,600	2,600	2,600	25	25	0	0
Kyrgyzstan	5.4	270	210	950	840	900	200	200	25	25

Wheat expressed in thousand metric tons
GDP PC = Gross National Product Per Capita
Sources: USDA, World Bank, UNDP.

PAKISTAN

Well over half of the flour marketed in Afghanistan is imported from Pakistan. Due to the critical importance of Pakistan, interested readers are encouraged to consult "Pakistan Wheat Market Review and its Implications on Afghan Food Security" prepared by FEWS NET as part of the present initiative. This section draws heavily from that in-depth survey and report.

Wheat is Pakistan's most important agricultural commodity. Its share in the total crop area is 37 percent. The Green Revolution laid the foundation for self-sufficiency in wheat production in Pakistan and in the region. Pakistan's huge wheat production (over 22 million metric tons) has been fairly stable over the last five years partly due to the Pakistani government's campaign to "grow more wheat" and to the fact that most production occurs under ample irrigation in the fertile Punjab. Pakistan intends to raise its wheat output to 30 million metric tons by 2015.

Pakistan wheat markets are heavily subsidized by the government, with interventions at all levels – at the farm, flour mills, and in consumer and export markets. This is in stark contrast to Afghanistan where there is essentially no government involvement in the markets. At first glance, Afghanistan on the whole has benefited from Pakistan's heavily subsidized system. Prices are lower than they would probably be without the subsidies. According to those interviewed as part of this study, Pakistan is a stable source of flour, which has proven to be a market "shock absorber" (providing a supply that is flexible, responsive, and reliable) when the Afghan harvest is particularly bad and during times of internal strife.

Afghan farmers and millers, however, have felt the disincentive effects of these lower prices. Also, subsidies have brought rapid, excessive growth of private, modern flour mills in Pakistan, especially along the Pakistan-Afghanistan border. There are now over 600 flour mills in Punjab Province, 300 in Northwest Frontier Province, 320 in Sindh Province, and over 76 in Balochistan Province. Less than half of these flour mills are operational while the rest are completely shut down. Flourmills in central and south Punjab and in Islamabad are fully operational because surplus wheat is readily available and the mills are able to operate at profitable levels.

The impacts on Afghan farmers are not well known, but this goes beyond the scope of the present survey. However, if the dramatic state of the Afghan milling industry is any indication, there must be serious negative effects on farmers' main livelihood (wheat). Also, within the context of the present survey, market participants nearly universally indicated that the combination of low wheat prices and harsh growing conditions has stimulated poppy cultivation in recent years.

The GOP's direct and heavy interventions in markets are highly politicized and are another serious concern for Afghan food security. Various export and internal transport bans have occurred over the years. However, for the foreseeable future it is unlikely that exports would be interrupted for any length of time. Afghanistan is a very important market for Pakistan.

UZBEKISTAN

The Hairatan, Afghanistan frontier post, 86 km north of Mazar-i-Sharif, controls the lucrative trade route with Uzbekistan, Central Asia, and beyond. Termez is its counterpart city across the Soviet-built "friendship" bridge on the Uzbek side of the Amu Dayra River. This was the main entry point for the Soviet invasion of Afghanistan and Hairatan was a major weapons depot. Goods move by rail, barge, and truck between the two towns. In the past, Hairatan was a major storage and supply hub with warehouses that could store over 20,000 MT, although many have not been used in 15 years and are in serious disrepair.

WFP used this corridor for wheat from international donors and brought in over 76,000 MT during the food crisis in the early 2000s. At present, three-quarters of Afghanistan's food aid imports in the form of wheat and flour arrive much more economically via the huge modern port of Karachi, Pakistan (this is more economical than the Hairatan route). Approximately 3,000 MT out of WFP's current 30,000 MT pipeline is expected to pass through this route and this is only because WFP brings in Kazakh wheat as part of its "triangular purchases." Due to restrictions from Pakistan, WFP is forced to ship high protein biscuits donated by the Government of India through an excessively long route that includes the port of Bandar Abbas, Iran and finally to Hairatan. Crossing the border into Uzbekistan is notoriously difficult and is one major obstacle to trade. However, the larger and more enterprising merchants who can afford to pay "unofficial taxes" find the Uzbek officials "much more open to free trade."

USDA estimates total exports for 2006 at as high as 450,000 MT in wheat equivalent. More than half of the exports are in the form of flour. Uzbekistan is now Afghanistan's second largest supplier of flour – perhaps upwards of 200,000 MT. It also exports flour and possibly some wheat to other countries in the region, although wheat exports are reportedly banned. Iran was an important export destination in the past for the higher grades of Uzbek flour. With Iran now self-sufficient in wheat, it may well be that Afghanistan is the leading importer of Uzbek flour.

Uzbekistan has long been one of the world's leading cotton producers, but until recently, was deficient in wheat. The principal crop is cotton (world's fifth-largest producer and second-largest exporter). Over four million hectares are under irrigation (all crops). Water (over-used) is mainly directed at cotton growing in arid and semi-arid areas, resulting in considerable water depletion, degradation of soil (high salinity), and heavy use of herbicides. The combination of these factors produced negative conditions, like the shrinking of the Aral Sea, severe health hazards affecting rural populations, the destruction of lesser crops, etc. The current trend is aimed at gradually privatizing the agricultural sector, reducing dependency on cotton and maintaining self-sufficiency in food.

In the decade after independence, Uzbekistan went beyond wheat self-sufficiency, and is able to export. Following independence, land devoted to wheat has increased at the expense of cotton. Wheat has been increasingly rotated with cotton. Wheat yields have nearly doubled, due largely to a significant increase in the amount of wheat under irrigation. According to the US Department of Agriculture (USDA) over 85 percent of Uzbekistan's grain is now irrigated compared to about 40 percent in 1990.

Uzbekistan imports some wheat from Kazakhstan in order to boost the protein content of bread flour. However, according to merchants and traders, the great bulk of the flour milled in Uzbekistan is produced from locally grown wheat. This is backed up by a 2003 report by FAO[24] which found that over 90 percent of wheat that is milled is grown locally. Much of the wheat is grown in southern and eastern portions of the country, relatively close to the Afghan border along the irrigation schemes of the Amu Darya and Syr Darya rivers.

Uzbekistan has an active industrial flour milling industry started many years ago, with over 64 large mills and major investments from Turkish milling interests. An FAO report states that: "In 2002, total flour production was 3,375,000 tons (70-75 percent of total production capacity). The main concern of Uzbek flour mills is to produce high quality flour in order to remain competitive with Kazakh imports." Key constraints are:

[24] FAO 2003.

- Equipment is old (latest investments were in the late 1980s)
- Flour mills are still subject to State Orders, requesting them to reach yields of 78 percent. Such results can only be achieved by reducing the quality of the flour
- Uzbek wheat is of lower quality than Kazakh wheat due to poor agronomic practices.

KAZAKHSTAN

The economy of Kazakhstan is larger than all the other CAR countries combined. Apart from the energy resources, Kazakhstan is well known for other mineral resources. Wheat and other grains are also an important part of the economy (figure 15). Kazakhstan's 2007 wheat production is now forecasted by USDA to match last year's record crop of 13.5 million MT. Kazakhstan's crop is largely spring wheat and has a harvest that is several months after Afghanistan's main June-July winter wheat harvests.

Figure 15: Kazakhstan wheat production areas

Source: FEWS NET

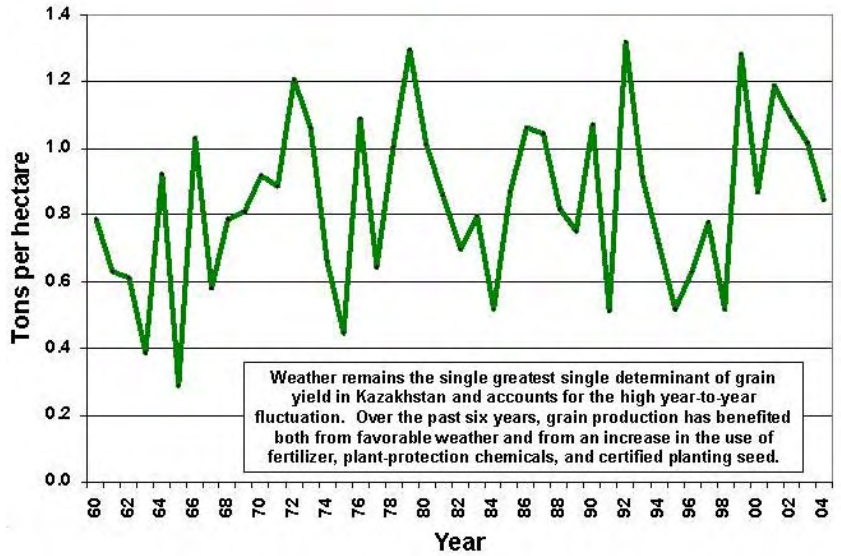
It is important to note that while Kazakhstan is potentially a huge source of wheat and flour, supplies are not entirely reliable.

> The main wheat production zones in northern Kazakhstan lie in a zone of inherently fertile *chernozem* and *kashtan* soils. The land is flat, and is capable of producing outstanding harvests during years of adequate moisture. However, the region is subject to frequent drought and is considered a zone of risky agriculture. Average annual precipitation in northern Kazakhstan is barely enough to support a wheat crop. Historically, Kazakhstan grain production suffers from serious drought two out of every

five crop seasons. Since virtually none of the wheat is irrigated, production is marked by frequent and sharp year-to-year fluctuations[25].

Given the high probability of drought, exportable supplies may well become limited at some point the future. Demand will also increase, but this depends largely on how well the crops in Russian and Ukraine perform. At least one bio-fuel plant has been built and this should drive up demand for lower grade wheat. This has important implications particularly for Afghanistan since lower grades of Kazakh wheat account for a significant portion of production. Therefore, the bio-fuel plants might consume some of the wheat that might otherwise have been destined for Afghanistan – the regional dumping ground for low grade wheat and flour.

Figure 16: Kazakhstan estimated wheat yield, 1960-2004



Source: USDA, Production Estimates and Crop Assessment Division, Foreign Agricultural Service

However, there are a number of mitigating factors. Demand for Kazakh wheat is limited by Kazakhstan's landlocked location, far distant from export markets. Grain transport costs are at the mercy of Russian's rail rates, which can sometimes be excessive. Also, as discussed below, Kazakhstan's projects to improve export facilities for shipment to Iran via the Caspian Sea are on standby now that Iran is self-sufficient in wheat.

Wheat yields may become somewhat more stable from increased use of improved, drought varieties. No-till and low-till farming, which greatly limits soil moisture loss has now become widespread. The Government of Kazakhstan has an on-going program of expanding export and bulk storage facilities, and, therefore, exportable supplies of wheat should be readily available for most years. Considerable bulk storage already exists. Ending stocks in recent years have been on order of three to four million metric tons – roughly equivalent to Afghanistan's entire annual wheat crop.

Exports of Kazakh wheat and flour are mainly to Russia and other Commonwealth of Independent States (CIS). At the breakup of the USSR, Russia was importing over 10 million MT, but since 2001 is a net wheat exporter and is now exporting similar volumes. For instance, for 2006/2007, exports were 10.7 million MT while total imports were 1.2 million MT. Part of force behind this massive turnaround in wheat markets is the huge uneconomical livestock herds that were drastically drawn down after the fall of the USSR.

For the current 2006/2007 year Kazakhstan's total wheat exports are estimated at 6.5 million MT including 1.6 million MT of wheat flour in grain equivalent. Nearly 4 million MT (56 percent) of the total will go to CIS countries. According to traders' estimates, Afghanistan purchases are about 100,000 MT – a rather insignificant amount of total exports. Kyrgyzstan, Tajikistan, and Uzbekistan have also been among the important buyers in recent years, mainly to take advantage of the higher protein content of Kazakh wheat. WFP has recently made "local purchases" or "triangular purchases[26]" of Kazakh wheat (in Kazakhstan) for its Afghanistan operations.

[25] USDA 2003a.

[26] Purchase in one location for sale or distribution in a third location, e.g., purchases in Kazakhstan for food distribution in Afghanistan.

The medium-term outlook for Kazakhstan wheat and flour vis-à-vis Afghanistan will depend on the weather, and the situations in the CIS and in Iran. However, for the next year or two, Kazakhstan will likely be a good potential source of wheat and flour supplies for Afghanistan.

IRAN

In the past, Iran imported significantly more than five million MT of wheat annually, placing it among the world's largest importers. Since the 1979 revolution, Iran has subsidized producer prices in an attempt to reach self-sufficiency in wheat. At the same time, consumption was stimulated by artificially low price controls on bread, and so it took until around 2004 before self-sufficiency was reached.

> The government's modernization policies encouraged farmers to employ more mechanical and biological inputs, which had a favorable effect... Wheat production grew at an annual rate of 3.1 percent after the Revolution. The record stands well if compared with the averages in either the Near East or in developing countries as a whole[27].

This "agricultural jihad" as it is called in Iran, has over time resulted in substantial increases in wheat output, and this year's record 15 million MT crop will top even Kazakhstan - Iran's former major supplier. Concerns over further economic sanctions, or worse, appear to have accelerated the drive towards self-sufficiency in recent years. In addition, as part of this drive, wheat and flour have not been allowed to leave the country. Flour is theoretically allowed to cross border, but many traders face a suffocating combination of relatively high prices, import taxes, bribes, transport, foreign exchange controls, and travel restrictions.

However, the Iranian government announced in May 2007 that with the expected bumper crop, export licenses of a million tons will be issued during 2007/2008. Whether such large export volumes take place remains to be seen. Given Iran's close ties and massive economic aid to Hirat and Afghanistan as a whole, it would seem likely that Iran will relax past restrictions, and some portion its wheat surpluses may be exported to Afghanistan. Iran is, at present, a big unknown – a major "swing factor" – in the regional markets and the situation merits close attention.

Iran's shift from huge importer to possible exporter has important implications for Afghanistan. First, Iran may be an alternative wheat and flour supplier. This is even more significant given that Iran is supposed to finish a new railroad system far into Afghanistan at Hirat within the next 12 months[28]. Also, the absence of Iran in region markets, especially Kazakhstan, is a substantial decrease in demand that no doubt helps mitigate price increases.

TURKMENISTAN

The major route that runs southeasterly from the strategic rail hub at Turkmenabad, (Chardzhou) towards Termez, Uzbekistan mostly follows the Amu Darya and zigzags several times between the Uzbekistan and Turkmenistan borders (see figure 15). During the Soviet times, barge traffic moved directly between Turkmenabad and Termez and on to Hairatan, Afghanistan some 17 km further upstream. The barge route from Turkmenabad is technically still possible, but bureaucratic logjams have brought it to a halt and the river itself has decreased its flow. Some barge traffic still exists between Termez and Hairatan since using this route allows traders to avoid some taxes such as the US$100 to US$120 tax the Uzbeks charge on trucks passing over the Friendship Bridge.

The survey did not encounter any flour or wheat that originated from Turkmenistan. No key informant one mentioned Turkmenistan as a source of flour or wheat, and several of the merchants interviewed confirmed that there are no Turkmen products at present (if ever).

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[27] Amid.

[28] Personal interview, Mr. M. Azim Wardak, President of International Trade, Ministry of Commerce.

Turkmenistan is apparently self-sufficient in wheat but, unlike neighboring Uzbekistan, it doesn't export. Information on Turkmenistan's food security situation is not readily available. USDA data shows current wheat production at 2.6 million MT, and imports of only 25,000 MT. Turkmenistan's future remains uncertain, following the death of President "Turkmenbashi," one the "world's most authoritarian and reclusive leaders" who served as the first president of Turkmenistan from 1990 until 2006.

Turkmenistan has the second largest gas reserves among all former Soviet republics after Russia, and is being actively courted to further develop these fields. Increased revenues from gas could allow for the new president to make good on his promise to improve agriculture. Finally, Turkmenistan's border points at Tourghundy and Aquena were important import corridors during past food crises. And, wheat and flour of Kazakh and Uzbek origin did transit through Turkmenistan and on through Aquena (the border post north of Andhkhoi), especially during the several years prior to 2001 when the Uzbeks had barricaded the bridge at Hairatan, Afghanistan against the Taliban.

TAJIKISTAN

Mountainous Tajikistan, considered the second poorest country in the region, after Afghanistan, has an "overproduction of cotton" but only produces some 500,000 to 600,000 MT of wheat. Imports – largely from Kazakhstan and Uzbekistan – have recently averaged around 400,000 MT. A recent WFP report "Tajikistan: Market Profile for Emergency Food Security Assessments" notes:

> Privatization, political stability and rising incomes have fueled demand for higher quality imported flour in recent years. This is one reason for the surge in purchases of wheat flour from Kazakhstan in spite of the rise in domestic production. Very little of the domestic produce actually reaches main urban centers as most of production is consumed at source. Lately, imported wheat flour accounted for more than 50 percent of domestic flour consumption. Most of the imports are of Kazakh origin (from five or six large mills in that country), some from Uzbekistan and a small amount from Kyrgyzstan[29].

Although Tajikistan is not usually an important factor in the overall Afghanistan food security situation, a new bridge being built on the border not far from the important Afghan wheat center of Kunduz will facilitate trade.

KYRGYZ REPUBLIC

Wheat markets in the Kyrgyz Republic have little or no impact on Afghan food security due to its isolation on the other side of Tajikistan and due to the fact that its wheat production, approaching one million tons, apparently meets a large portion of its needs. Imports have recently ranged from 150,000 to 200,000 MT. Such quantities can easily be met from Uzbekistan, Kazakhstan, and other sources outside the region; hence the Kyrgyz Republic is not likely to be a significant "competitor" with Afghanistan for regional supplies of wheat and flour.

REGIONAL TRANSPORTATION PROJECTS TO ENHANCE MARKETS AND FOOD SECURITY

Billions of dollars have been spent on rehabilitating the "Ring Road" that circles the country and will literally form a new "roundabout of Asia," as the historian Toynbee once described Afghanistan. The main Ring Road has been largely completed by mid-2007, save for the last remaining gap between Maymana and Hirat. It is widely agreed that the road has already had huge benefits to the overall Afghan economy as well as to the wheat and flour sector. This was widely confirmed by the traders and millers as well as WFP logistics staff. According to one study, "The Impact on Agricultural Markets," around "63 percent of the cultivated agricultural land in Afghanistan lies within 50 kilometers of the Afghanistan Ring Road" and hence "reconstruction of the Ring Road would link agricultural producers and products to markets."

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[29] Abassian.

Prices should equalize between goods from the north and the west as this final gap in the Ring Road gradually closes over the next year or two. How this will affect flows of wheat and flour is not clear, but it will surely be significant. In good harvest years, wheat from the northern "breadbasket" could move increasingly west. Flour from Uzbekistan and Kazakhstan, already dominating markets in an important wheat production zone of Andkhoi, will also travel further west.

These western flows will soon run head to head with flour from Pakistan, which dominates Hirat. Depending on the relative price of flour and to a lesser degree wheat, markets will reach equilibrium. The free movement of goods is a good thing for food security, although as stated elsewhere, the increased competition from imports may be harmful to Afghan wheat farmers.

A new railroad from Mashad, Iran to Hirat will greatly facilitate trade and no doubt have a huge impact on the regional economy[30]. Goods from Iran, and even Kazakhstan might move into Hirat. Presumably the current restrictions on flour and wheat will be relaxed.

Markets and Completing the Ring Road

"Construction of the Mazar-Hirat section of the 2,700-kilometer Afghan Ring Road is underway, and the ungoverned 210-km stretch of land between Andkhoi and Qaisar is being measured and graded. Afghanistan will be one step closer to being a unified state. In Afghanistan's lawless northwest, the ring road has always been a dilapidated dirt track which signifies a four day ride from Hirat to Mazar-i-Sharif... Enter the Ring Road, which once ended on the western outskirts of Mazar-i-Sharif, but has, since 2002, steadily extended westward to Andkhoi, in northern Faryab a desperately dry, dilapidated place which might one day be sustained by cross-border traffic between Turkmenistan and Afghanistan, if only the border controls would loosen. Economic incentives always accompany such road-building – the inauguration of the Salang Pass in the 1960s, besides making the once-deadly Hindu Kush crossing decidedly less so, led to price equalization between Afghanistan's north and south for the first time ever."
- Bobby Anderson, *Central Asia-Caucasus Analyst*, Jan. 2007

Also, two important projects will improve ports on the Gulf of Oman not far from each other on either side of the Iran-Pakistan border. Under the Chabahar project in Iran, Afghanistan will become better linked with India and its huge supplies of wheat and flour. India is contributing some US$750 million to road construction in Afghanistan, an especially noteworthy major effort that will link Nimroz Province in southwest Afghanistan to the Gulf of Oman. The India-Pakistan rivalry perhaps has positive implications for Afghanistan as part of what *The Economist* magazine calls "the Great Game Revisited."

> A Chinese-Pakistani joint-venture port at Gwadar in Balochistan matched by an Iranian-Indian venture to develop the "free port" at Chabahar in the Gulf of Oman. Both would require road links across Afghan territory. Indian engineers are currently connecting Afghanistan's ring road to the Iranian border[31].

India could become an important source of wheat and flour for Afghanistan. Pakistan unfortunately stands in the way of huge potential shipments of excellent quality and relatively low priced wheat and flour from India to Afghanistan. Even if political relations improve between India and Pakistan, the next step would be for Pakistan to be less protective of its domestic wheat markets.

These various transport projects will greatly enhance the overall food security situation of Afghanistan. This is especially true given the remarkable ability of Afghan merchants and traders to rapidly adjust to changing market conditions.

[30] The new Railroad is important both economically and historically. It will be the first long distance rail line in the country

[31] *The Economist.*

POSSIBLE FUTURE AFGHANISTAN AND REGIONAL MARKET FOOD SECURITY SCENARIOS

While market forecasting is always a highly precarious business, it is an essential part of food security early warning and planning. A few important trends and developments that will likely influence markets, and food security are outlined in this section.

The precarious security and political situations in Afghanistan and in much of the region are clearly crucial to food security, but they go beyond the scope of the present study. Table 5 summarizes some possible positive and negative outcomes of some critical issues that will likely affect food security. It is by no means comprehensive. Many of these issues have been mentioned in this study and more details can also be found in Annex C.

Table 5: Factors with potentially positive/negative effects on future Afghan food security

Positive Factors	Negative Factors
SUPPLY ➢ Close proximity to major sources of flour and wheat in Pakistan, Uzbekistan, and Kazakhstan. ➢ New sources of supplies: Iran likely to relax export restrictions on flour and wheat given current huge surplus. India possible supplier medium term.	**SUPPLY** ➢ Shortage of local wheat ➢ Very limited milling industry and high dependence on outside countries. ➢ Drought, major crop disease outbreak, poor quality wheat ➢ Political instability, civil strife could cut off exportable supplies in region. ➢ High prices of wheat in world markets will affect export strategies.
TRANSPORTATION ➢ Improved road systems in Afghanistan will benefit the economy, wheat markets and integration of rural areas. ➢ Well-established private truck transport system. ➢ Rapid improvements in international and regional transport: rail road from Iran to Hirat; massive port and transport corridor projects on Gulf of Oman, new bridge to Tajikistan.	**TRANSPORTATION** ➢ Regular transport into the districts via secondary roads still quite limited. Increasing flows of imported flour into rural areas cause disincentives to farmers. ➢ Security on highways remains a serious problem. ➢ Significant security and political risks limit investments in roads, railroads, and pipelines of potential huge economic benefits to the region.
PRICES ➢ Current high wheat prices in international markets will stimulate production and perhaps bring prices back down, including in Afghanistan	**PRICES** ➢ World grain prices at highest levels in years. ➢ Possible rapid economic growth in various parts of Asia and biofuels boosting demand for grains, with regional drought-induced production shortfalls reducing supplies.
PRODUCTION PROSPECTS ➢ Cautious optimistic outlook for wheat production and trade in region. ➢ Oil and gas revenues invested in agriculture (wheat) with food security as goal ➢ Afghan wheat production has great potential for improvement through improved technologies. FAO and numerous other programs underway	**PRODUCTION PROSPECTS** ➢ Long term sustainability of irrigation in Uzbekistan and Turkmenistan questionable given Aral Sea disaster. ➢ Global warming - rising temperatures and less water from glaciers and snow melt. But could mean longer growing season for Kazakhstan, which would boost wheat output. ➢ Insufficient political will for agriculture. New National Assembly building to be located on land of invaluable agricultural experiment station started in 1940s perhaps indicative of priorities.
FOOD AID ➢ Well established, experienced food aid programs especially WFP. WFP is very highly respected by Afghans.	**FOOD AID** ➢ Lags in sourcing food aid. Local emergency response weak. Many natural hazards including drought, earthquakes, flooding, landslides, etc.

CHAPTER FOUR: MARKET INFORMATION FOR FOOD SECURITY EARLY WARNING

This chapter presents a framework which can be used by FEWS NET and WFP to further integrate market information and analysis into food security monitoring and planning. A few of the main "information gaps" are also discussed.

MARKET AND PRICE INFORMATION REQUIREMENTS

Early warning and food security planning must incorporate regular monitoring and analysis of wheat and flour markets, both within Afghanistan and the region. Table 6 summarizes key types and sources of information, and possible sources required for analyzing wheat and flour markets at the national, regional and international levels. The sources for market information are various. Nearly all these information sources can be found on the Internet, which is now an essential tool for tracking markets. For background understanding of markets and policies as well as for historical data, often a good starting point are the multitude of publications and reports of the multinational organizations including FAO, the World Bank, the Asian Development Bank, and the CGIAR. For the current wheat market outlook, USDA, FAO and the International Grains Council are key sources. International market information can be readily found online from various market analysts, news sources and commodity exchange web sites.

Given the precarious nature of food security in Afghanistan, a systematic, in-depth market analysis should be carried out at the beginning of each marketing year in May or June. The analysis should focus on the food security situation in the context of Central Asian Regional Markets. Some standard components of the analysis would be:

- Food balance sheets (national and subregional level for Afghanistan and national level for neighbors)
- Market analysis which includes topics listed in Table 6
- Food Aid situation
- Transportation and logistical issues for Afghanistan, its neighbors and for the various corridors to wider international markets
- Risk assessments for specific man-made and natural calamities (security, political issues, trade restrictions, earthquakes)
- Summary of the "situation and outlook" for international wheat markets, with specific implications on Afghan markets and food security.

The fact that market information Afghanistan and in most of the countries in the region is highly limited and often unreliable makes it even more important to establish contacts among wheat and flour traders. Contacts with a few select key informants (traders, millers, government officials and others) within Afghanistan and if possible, in surrounding countries, must be cultivated. They are the most efficient and up to date source of market conditions and prospects, which in turn can provide "early warning" of factors affecting (or soon to be affecting) food security.

Table 6: Basic market indicators to monitor for food security monitoring, analysis, and reporting				
Item	**Data/Info Requirements**	**Markers or Indicators to be calculated**	**Sources**	**Observations**
Crop and weather conditions	Agro meteorological data, satellite imagery, crop progress and ratings	Trends, deviations from normal, crop condition commentaries	FEWS NET, USGS, USDA/FAS/PECAD, FAO, Agromet (Af), Met Offices each country, WMO	FEWS NET and USDA/FAS/PECAD are good starting points
Production trends and stocks (including food aid and government reserves) of basic staples	Area, yield, and production data	Current and expected production compared with past years and trends. Food, grain stocks if data are available, or qualitative indications if not	Country ministries of agriculture, commerce, etc; FAOSTAT, FAS/PSD, news reports. For stocks – traders and millers, state grain agencies	Trade sources may be able to give "qualitative" info that can be used along with Agromet and to give a reasonable early season estimates of area and crop.
Consumption factors	Estimated national consumption. Purchasing power	Changes in factors affecting demand	Economic surveys, studies, CPI, terms of trade	National consumption in Food Balance Sheets are rough estimates, but still needed
Trade flows and routes	Import data and/or estimated flows.	Volumes of trade, by origin, using seasonal considerations	Customs bureaus (and discussions with officials and others at border points), larger traders, transporters	Official statistics notoriously unreliable, so trade, transport, and other sources very important. Afghan customs data looks surprisingly "reasonable" – more analysis needed
Transport situation and rates	Transport rates for key routes (e.g., Pakistan FOB mills to Kabul, Kazakhstan to CIF Mazar).	Unusual changes in rates and transport availability	Traders and transporters	Need solid background knowledge of key transport infrastructure and bottlenecks
Market prices	Prices, import tariffs, handling costs and exchange rates	Trends, deviations from normal, import Parity Price	Traders, millers, WFP market reporters, ministries of agriculture or other	Prices available at present only for Afghanistan and Pakistan. Further studies needed for other countries. Larger traders and some millers have prices for other countries
Structure, conduct, perfomance issues	Number and type of traders, storage capacity, credit	Concentration ratio in volumes traded, percent stock out on credit. Maximum volumes by largest traders	Trader and miller contacts, market visits, rapid surveys	Afghan wheat and flour markets are relatively small and it is not difficult to identify key players. Other countries more difficult for FEWS NET/Afghanistan-site visits invaluable.
Various issues: Agricultural or trade policies, macroeconomic, political, security, trade barriers	Key factors affecting markets	Main news events shaping markets	Traders, millers, news reporters, others. Automated web feeds: RSS, XML, Google alerts, others	WFP Price Reporters could send brief, practical reports on key factors affecting the markets.

INFORMATION GAPS

Considerable further studies are needed on all aspects of neighboring countries' wheat and flour markets which are so vital to Afghanistan's food security. The present initiative, of which this report forms one part, will hopefully serve as a starting point – few if any, previous studies have examined the Afghan wheat and flour markets in a regional context. Information on markets in individual countries is quite scarce. The previous section described a number of the "Basic Indicators for Market Monitoring" – many of which are still quite sketchy for the key neighboring countries such as Kazakhstan and Uzbekistan.

Perhaps the two most basic questions for are: 1) what is the present and future potential of the country as a reliable supplier of wheat and flour (and other basic foodstuffs), and 2) what are the possible sources of market intelligence, both formal and informal. As has been made evident by the present survey, the monitoring is greatly simplified by the fact that there are basically three main origins of imports and three main border points. On the other hand, there are numerous, ever-changing factors that must be taken into consideration.

Much is unknown about the markets in Afghanistan. For instance, who are the major merchants and traders, which are the most important brands of flour in the markets, and who imports them, etc. This survey made some major inroads into these questions for Mazar and Hirat, but for instance, more should be known about other key markets such as Kabul and Kandahar. Better contacts are needed with the importers of Pakistani flour.

The dynamics between the urban and rural markets for wheat and for flour are not clear at this point. The discussions with traders and millers revealed that with the many road building projects, major quantities of flour are moving beyond the main market cities such as Mazar and Hirat into other towns and villages. Just how much flour moves how far into the more remote areas is not clear but it is no doubt highly significant. The road system has been dramatically improved – not only the famous Ring Road but also many thousands of secondary roads, including many built under WFP's Food for Work projects.

More study is required of urban markets and consumption patterns of various types of flours – *chakk*i flour, national industrially milled, and imported. Similarly, further study is needed on the extent of disincentives to Afghan farmers from Pakistan's heavily subsidized wheat and flour industry. Finally, a more thorough analysis of the relation between imports and food security could be helpful. Are imports leading to more stable prices? And to lower prices? Are food-insecure households net-wheat buyers, benefiting this from lower and more stable prices?

Crop production statistics in Afghanistan, as in many developing countries, are notoriously unreliable. This is a critical information gap for food security early warning. Also, estimated food aid requirements are based at least in part on very questionable crop statistics. FEWS NET should assist in obtaining very high resolution satellite imagery that could serve as a base for a sound, statistically verifiable estimate of area planted for key crops, including wheat. This same imagery could then be used for statically-based sampling – based on some combination of farmer surveys and crop cuts as well as well as yield estimates from the imagery itself. The details of this remain to be worked out and go beyond the present study.

Due to the lack of detailed, reliable import data, FEWS NET should consider establishing a system to monitor shipments through the three key borders points: Hairatan, Jalalabad, and Chaman. Imports are crucial indicators to be applied in regular markets for food security monitoring, analysis and reporting. This monitoring might engage the WFP Price Reporters in collaboration with MAIL and Pakistani counterparts on the other side of the border. This could be an important aspect of the information sharing scheme with Pakistan, as proposed in this initiative's Pakistan survey.

CHAPTER FIVE: RECOMMENDATIONS

1. Given the vital role of imported flour, Afghanistan early warning activities must include regular monitoring and analysis of wheat and flour markets in the region. The key countries (in order of importance) are Pakistan, Uzbekistan, and Kazakhstan. FEWS NET should also keep abreast of general trends in Iran and in international wheat markets.

2. The highest priority should be placed on establishing a system of interchange of food security and market information between interested parties in Afghanistan and Pakistan. WFP could play an important role as a facilitator and/or participant. An initial proposal for this critically important "Pak-Afghan Data Exchange," was one of the recommendations of the Pakistan wheat markets survey carried out under the present initiative. The effort might include a Commodity Bulletin, or Internet-based newsletter.

3. As a prerequisite for monitoring and analyzing regional markets, FEWS NET and WFP should take steps towards gaining deeper knowledge and understanding of these markets beyond the initial "snapshots" of the present study. The focus should be on practical, "real world" insights into the markets that will help in early warning and food aid planning and operations. Suggested steps:
    a. Background studies of markets (mostly via the Internet), building on sources cited in the present study and the framework of Chapter Four.
    b. Establish contacts with traders, millers, and other key informants within Afghanistan since many are familiar with markets in neighboring countries – many with offices and agents abroad
    c. Site visits to key neighboring countries, to understand markets, establish foreign contacts, and explore possible formal and informal information exchanges

4. A systematic, in-depth analysis of Afghanistan's food security situation and outlook in the context of Central Asian regional markets should be carried out in May or June, just prior to the beginning of each marketing year, with quarterly updates. This analysis should take into consideration the factors outlined in the present report, and be based on information exchanges from sources established in neighboring countries.

5. Early warning activities must include regular monitoring and analysis of the wheat and flour markets within Afghanistan itself. This should include the active involvement of a small select group of key informants (traders, millers, and others). The relationship with key informants should involve practical and mutually-beneficial activities:
    a. Identify and establish contacts with a few select key informants who can speak to various geographic regions, sectors or market activities (for example, importers of Uzbek flour in Mazar)
    b. Based on key informants' interests, make them aware of readily-available publications and resources generated by FEWS NET, WFP, MAIL and others (such as Agromet), market outlook reports on neighboring countries and world markets Later share on a regular basis the information identified as of interest.
    c. After these initial contacts, carry out several regional workshops to explore means of practical and mutually beneficial information exchanges. Workshops should include various representatives from the wheat industry and from key food security and agricultural organizations. WFP's participation and support in these would lend significant weight as it is highly respected in Afghanistan. It would also be beneficial for WFP to strengthen relations with the local wheat and flour industry.

6. FEWS NET and WFP should explore other possible activities that might be of mutual benefit and also to food security of the Afghan people:
    a. FEWS NET should review and collaborate on the current WFP Afghanistan Logistics Capacity Assessment currently being completed. For instance, this may include FEWS NET supplementing the report with existing information on markets and agro-meteorological data. FEWS NET would benefit from WFP's profound knowledge and experience in transport, logistics, and food security.

b. Improve and fully exploit the well-established market price reporting systems which WFP has carried out for a number of years. This should include a thorough examination of the price collection process in order to assure accuracy and standardization. At present, only retail prices are collected, but wholesale prices should also be included. Succinct reporting of basic "market news" (the key factors affecting the markets) could prove invaluable for early warning and for WFP operations planning. FEWS NET and WFP might request the price reporters to briefly investigate particular topical issues of interest, for example, traders' views on transport security situation in a given region. Consideration might also be given to occasional, more in-depth surveys, such as import volume at the three key border crossings collected by proposed market enumerators.
c. FEWS NET and WFP should lend support to improvement of crop estimates. There is a current window of opportunity to use likely ample funding from the USAID ASAP and World Bank horticultural projects for implementing statistically-based crop estimates.

7. WFP should make every effort to purchase local Afghan flour, wheat, and other foodstuffs (including fortified biscuits). This will have an important impact on the fledgling milling industry and will also help farmers. This was a plea by several of the millers interviewed. The installation of proper wheat and flour testing laboratories, perhaps with the assistance of the Grain Industry Alliance International, could also prove invaluable, given the highly questionable quality of imported flour from a food safety standpoint.

8. WFP could play an important role in the long-term food security by supporting Food for Work projects focused on improved wheat production and storage. Although of "low value," wheat is a major part of farmers' incomes and livelihoods.

9. Given limited availability of local wheat, WFP might further explore sourcing wheat from Kazakhstan and possibly Uzbekistan. Flour from both of these countries could be brought into Hirat and Mazar taking advantage of regular rail transport and ample storage at Tourghundy and Hairatan.

10. Follow up is recommended on issues outlined in this report as "Information Gaps." For instance, a study that estimates the extent of disincentives to Afghan farmers resulting from the flour imports from Pakistani and Central Asia. The current and future impacts on markets and food security of the Ring Road and other local transport projects also merit further investigations.

ANNEX A: SCOPE OF WORK

Central Asia Wheat Trade Specialist
Northern Wheat Trader Study and Afghan Food Security
Scope of Work
Famine Early Warning Systems Network (FEWS NET) and World Food Program (WFP)
February 12, 2007

Objective:
To enhance the knowledge base on Central Asian regional wheat markets and trader behavior as they relate to Afghan wheat markets and food security with an aim toward improved food security analysis, early warning, food needs assessments and general decision support.

Background:
A key area of focus for the current FEWS NET/WFP activity is developing methods for examining, understanding and monitoring the food security characteristics of national and regional food market systems. This is consistent with the interests and envisioned direction of the network of Afghan food security stakeholders. Wheat production, marketing and consumption are critical contributors to food security in Afghanistan; however, the importance of national wheat production in the determination of the food security status of different population groups varies across sub regions and provinces. For the traditional surplus wheat producing provinces in the north, the performance of the wheat harvest strongly correlates with the food security situation. In contrast, domestic production has less of an impact on populations of in the south, southeast, southwest, central and western sub regions.

It is increasingly being recognized that Afghanistan wheat supply is determined only in part by domestic production and is highly dependent on wheat production within the broader region (e.g. Pakistan, Kazakhstan). It has been suggested that the supply and markets for wheat can be divided into distinct zones: the north, west, central west highlands, central east and south. However, this model has not be thoroughly investigated and numerous questions surround the origin and flows of regional wheat supplies, wheat quality preferences of different consumers (e.g., households, millers) and the dynamics of the northern market (e.g., trader conduct, integration of market functions and stages). To effectively analyze and monitor the food security, it is important consider factors in addition to local production such as regional wheat production and trade flows, food price behavior, trade restrictions, wage rates and employment opportunities. To gain a better understanding of these issues, FEWS NET designed a Central Asian Regional Wheat Markets and Afghan Food Security Initiative that is comprised of several complementary components, one of which is the Northern Wheat Trader Survey. It is jointly funded and supported by WFP.

The Regional Wheat Markets and Afghan Food Security Initiative:
The Northern Wheat Trader Survey activity is part of a larger initiative: the Central Asian Regional Wheat Markets and Afghan Food Security Initiative. It is one of five complementary activities that build on and expand the current knowledge base, and aim to clarity critical issues surrounding Central Asian regional wheat markets and their relationship to Afghan food security.

Building on the current knowledge base and conservations with representatives from organizations that have recently conducted studies of wheat markets in Afghan (e.g., World Bank, US Department of Agriculture, World Food Program), FEWS NET has been undertaking a multi-faceted Central Asian Regional Wheat Markets and Afghan Food Security Initiative with an aim to close some of the exciting crucial information gaps and strengthen the knowledge base on wheat markets and food security in Afghanistan. This imitative is designed as a set of distinct but complementary activities, which reflect both the fragmented nature of Afghan wheat markets and the diversity of methods required to effectively and efficiently undertake steps toward eliminating the information gaps and clarifying how regional wheat markets influence Afghan wheat markets and food security.

The umbrella Central Asian Regional Wheat Markets and Afghan Food Security Initiative is comprised of the following components designed to cover the range of regional wheat market linkages that collectively determine the Afghan supply of commercial wheat:

1. *Rapid assessment of Hirat and northern border markets*:
   Comprised of a rapid targeted assessment aimed to determine the origin of wheat supplies and identify key traders. The information will help to define the scope and depth of a northern wheat trader study. (Completed).

2. *Rapid assessment of northern wheat surplus region*:
   Forming part of a more broadly defined food security assessment for the coming winter season, the market assessment will determine local wheat supply links to border regional markets and trade networks. Information on current local market prices and stocks will also be collected. (Completed).

3. *Nimroz Province rapid wheat supply assessment*:
   Comprised of a quick trip to southwestern Nimroz Province by a capable consultant (with both technical skill and ability to move safely within the area) with the aim to establish the origin of wheat supply - Iran, Pakistan, other. (Completed).

4. *Review of Pakistan wheat markets and the influence on Afghan wheat markets and food security*:
   Comprised of a review of existing literature and knowledge on the influence of Pakistan wheat markets on Afghan wheat markets and food security, a draft plan for incorporating Pakistan wheat market information into regular food security analysis, early warning and reporting for Afghanistan, a one-day workshop with partners to review, comment on and agree upon the findings and proposed plan. (For details see the specific SOW. Study is on-going and the completion date in the end of February, 2007).

5. *Northern wheat trader survey and Afghan food security*:
   Based on findings of Hirat and northern market assessments, a trader survey will be developed to gain greater insights on the dynamics of regional wheat production and trade (e.g., Uzbekistan, Kazakhstan and Turkmenistan) and their influence on Afghan wheat markets and food security. This study will be conducted in collaboration with World Food Program (WFP). (For more details, see attached SOW. Activity has not yet been initiated, but is scheduled for March/April, 2007).

Northern Wheat Trader Survey and Afghan Food Security:

The scope of work for the Central Asian Wheat Trade Specialist centers on activity number five - Northern Wheat Trader Survey and Afghan Food Security. In addition, the Central Asian Wheat Trade Specialist will assimilate of the findings from all five components of the broader Initiative into the findings from the northern wheat trader survey, and provide guidance on how the findings can be utilized by FEWS NET, WFP and their partners to better integrate important regional wheat markets variables into its regular food security monitoring, analysis and early warning.

FEWS NET/Kabul and its partners are largely interested in knowing the origin of imports/cross border wheat supplies, what variables are driving decisions to import (from where and by whom and for what Afghan markets), how are Afghan wheat prices linked to (determined by) Central Asia regional wheat market variables, and what elements of Northern Central Asia regional wheat markets could serve as indicators of market performance and early warning.

Activities:

1. Review output from other component activities of the Initiative – Pakistan Wheat Markets and Afghan Food Security Review, Notes from rapid markets assessments.
2. Review existing literature on Central Asia wheat markets and links to Afghan wheat markets, e.g., World Bank and USDA reports and presentations, FAO publications and bulletins, WFP studies.
3. Conduct phone interviews with a small set of key informants. Informants may be selected based on their ability to contribute knowledge on Central Asia markets or provide suggestions on survey logistics.
4. Develop a Central Asian Wheat Trader Survey Plan including markets to visit, individuals to interview, survey instruments and schedule of field implementation.
5. Carry out interviews with traders and other key informants in the field in key border markets and possibly Almay, Kazakhstan.
6. Draft a concise report on Central Asian wheat markets, Afghan wheat markets and Afghan food security. The report should provide guidance on what information could be utilized in what way for regular food security analysis and early warning (for details on content see deliverables).
7. Collect electronic copies of documents reviewed.

Deliverables:

1. Draft Central Asian Wheat Trader Survey Plan for FEWS NET review and comment.
2. A short concise (not more than 30 pages) draft report on Northern wheat markets, trader conduct, and the relevance to Afghan food security. The paper should include a synthesis of other outputs of the broader initiative. The report should contain, not be limited to, the following:
    a. Map(s) of northern Central Asia wheat market networks relevant to Afghanistan – origin of wheat supplies, flows (typical patterns, relative magnitudes and key variations in these patterns over an agricultural season and in good and bad production years).
    b. Description of who are the northern wheat traders, where they source their grain (country and region, which can include Afghanistan), management of stocks, which markets in Afghanistan do they regularly supply, their relationships to other actors within the market system, their clients (e.g., other traders, millers, consumers), commodity sourcing and market provisioning behaviors and decision making.
    c. Discussion of factors determining wheat prices – how Afghan wheat prices are linked to, or determined by, regional wheat market variables.
    d. Determination of any markers upon which traders base their expectations and decisions – data or information on agro climatic conditions, production estimates, price behavior and trends within the region at certain points during the agricultural season.
    e. Discussion of key policies within the region that influence trade patterns and trader behavior, key market distortions (Uzbekistan and Turkmenistan border closings) and likely implications if distortions are removed.
    f. Relationship between northern Central Asian wheat supply and Pakistan or Iranian supplies – who is supplying wheat to the primary northern Afghan markets, when, with what type/quality wheat, etc.
    g. Key gaps in the knowledge base and recommendations for further study.
    h. Recommendations for market and trader indicators to be used in regular markets monitoring for food security monitoring, analysis and reporting. The recommendations should consider the findings for the other components of the larger initiative.
3. A set of electronic documents used.

ANNEX B: LIST OF PERSONS INTERVIEWED OR CONSULTED

Abdullah, Afghan Customs Department, Hairatan
Edward W. Allen, USDA, ERS, Washington
Hajji Mail Ahmadi, Qadri, Co. Mazar
Wahida Azizi, WFP, Kabul
Atiq, Miller, Arya Co. Ltd, Hirat
Hajji M. Bakhteyari, Trader, Hirat
Suresh Babu, IFPRI, Washington
Basir Ahmad, Trader, Hirat
Bashir Ahmad, Merchant, Barakat Co, Hirat
Peter Bojilov, WFP, Mazar
Philippe Chabot, USDA, FAS, Washington
Hom Chhetri, WFP, Hirat
Paul Dorosh, World Bank, Washington
M. Eshan, Shopkeeper, Hirat
Lou Faor, ASAP, Kabul
David Frey, GIAI, Kabul
Scott Gibbon, ASAP, Kabul
Nabi Gul, FAO, Hirat
Halim, Trader, Hirat
Abdul Wassay Haqiqi, Senior Advisor to the Minister of Commerce
Ghulam Hazrat, Trader, Andkhoi
Paul Hicks, CRS, Hirat
Mohamamd Haroon, Trader, Mazar
M. Humayun Haris, WFP, Kabul
Sayeed Jamal, Miller, Mazar
Mohammad Jamil, Merchant, Barakat Co., Mazar
Ahmad Jawad, Trader, Mazar
Khusro Jaweed, WFP, Kabul
Abdul Kahriq, Hirat
Kefayat, Merchant, Mazar
Olga Liefert, CAR Grains Consultant, Washington
Hajji Mahmood, Trader, Shibirghan
Ali Mohammad, Trader, Hirat
Ali Mohammad, Trader, Mazar
Gul Mohammad, Trader, Hirat
Hajji Mohammad, Trader, Hirat
Noor Mohamamd, Trader, Shibirghan
Raz Mohammad, Merchant, Hirat
Mohamed A. Gadir Musa, WFP, Kabul
Naim, Trader, Mazar
Mahmood Osmanzai, CIMMYT, Kabul
Patrick M. Philemon, WFP, Hirat
Pesaran Hajji, Merchant, Mazar
Haqiqatpal Ghulam Rabbani, FAAHM, MAIL
Stacey Rosen, USDA, ERS, Washington
Andres Salahuddin Judeh, ASAP, Hirat
Abdul Salam, Trader, Hirat
Robert L. Schulte, Agronomist, Washington
Ahmad Shah, Miller, Eshan Kamal, Mazar
Ahmad Shah Shahi, WFP, Kabul
Shahla Shapouri, USDA, ERS, Washington
Sibghatullah, Merchant, Hirat

Tawakaly, Merchant, Tawakaly Ltd. Mazar
Al Haj Saeed Tahir, Miller, Eshan Kamal, Mazar
M. Azim Wardak, President of International Trade, Ministry of Commerce
William Wigton, USDA, NASS, Washington
Ahmad Zia Aria, FAO, Kabul
Hajji Zabihullah, Merchant, Kabul

ANNEX C: SELECTED SOURCES OF INFORMATION

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ANNEX D: DETAILS OF WHEAT AND FLOUR IMPORTS

Reliable statistics on wheat and flour imports are not readily available, especially by origin and by point of entry. However, FEWS NET was able to obtain wheat and flour import data from the Afghanistan Customs Department. Notably, the data (table D.1) show that the overwhelming share of imports is in the form of flour rather than wheat (approximately 85 to 90 percent). This confirms what was reported by traders, millers, and others.

Table D.1: Wheat and flour total imports

	2005/2006	Wheat and flour percent of total	2006/2007	Wheat and flour percent of total
Flour	370	84%	694	90%
Wheat	90	16%	93	10%
Total (Wheat Equivalent)	526	100%	925	100%
Min. of Ag. Estimate (Wheat Equivalent)	544		1211	

Includes both commercial and food aid. Percentages reflect wheat equivalents. The periods 2005/06 and 2006/07 correspond to *Jalali* years 1384 and 1385, respectively. Source: Afghanistan Customs Department.

Undoubtedly, the customs data presented in Table D.2 underestimate the total actual trade, given that smuggling in the region is universally considered "business as unusual." However, the customs data is surprisingly consistent with other sources[32]. This might be explained by the fact that the main transport corridors are under heavy security, and flour smuggling is a far less interesting business venture than smuggling opium and other high-value goods.

Table D.2: Total wheat and flour imports by origin (thousand metric tons)

	2005/2006	Percent of total	2006/2007	Percent of total
Flour				
Pakistan	215	58%	428	62%
Uzbekistan	112	30%	134	19%
Kazakhstan	24	6%	94	14%
Russia	10	3%	10	1%
Iran	4	1%	3	0%
USA	1	0%	20	3%
Others	3	1%	4	1%
TOTAL	370	-	694	-
Wheat				
Pakistan	36	44%	43	46%
USA	26	32%	6	6%
Kazakhstan	10	12%	12	13%
Uzbekistan	8	10%	30	32%
Others	10	12%	1	1%
TOTAL	82		93	
Total Wheat Equivalent	526		925	

Includes both commercial and food aid. Source: Afghanistan Customs Department

These customs data have been used in the current study as an important point of reference to cross check the best estimates from traders and key informants at the border points, including individual customer's agents, warehouse managers and transporters. According to the Customs data, flour imports by origin were largest from Pakistan – 215,000 MT in 2005/06 and 428,000 MT last season (see Table D.2). In both years, Pakistan's share accounted for about 60 percent of total flour imports. Uzbekistan accounted for another 20 to 30 percent of total flour imports. Imports from Kazakhstan were next at roughly 10 percent. In the case of wheat grain, Pakistan accounted for approximately 45 percent of the total in both years. Uzbekistan and

[32] The total volumes of trade reported by Customs seem remarkably reasonable compared to other sources. For *Jalali* year 1384 (2005/06) imports of 526,000 TMT are virtually the same as the 544,000 TMT reported by the Ministry of Agriculture. For 2006/071385, the customs data is 925,000 TMT compared with 1,211,000 TMT reported by the Ministry.

Kazakhstan again account for important market shares. Wheat grain for food aid from the USG makes up an important part of the total imports – for example, 32 percent in 2005/06.

In conclusion, Pakistan, Uzbekistan, and Kazakhstan account for the overwhelming share of wheat and flour imports, should receive the most attention from FEWS NET in its food security monitoring.

ANNEX E: CALCULATIONS OF INTEGRATION AMONG WHEAT AND FLOUR MARKETS

Time series price data which would allow testing of market integration between Afghanistan and the three key neighboring countries was unfortunately not available. However, in order to better understand integration among markets in Afghanistan, correlation coefficients were calculated for prices at key markets. For flour, the highest correlation is between Kabul and Kandahar (92 percent) since both markets are closely tied to one another to nearby Pakistan. Hirat and Kandahar, as already mentioned are closely tied. It is worth noting that the price series from Kandahar might be considered as a proxy for Pakistan prices, given the close geographic location and well-known market links. Finally, the data also tends to confirm that Mazar and Hirat are effectively in two different market zones, with coefficient of only 49 percent.

Table E.1: Correlation coefficients for flour prices

	Hirat	Kandahar	Mazar	Kabul
Hirat	–	0.75	0.49	0.79
Kandahar	0.75	–	0.52	0.92
Mazar	0.49	0.52	–	0.56
Kabul	0.79	0.92	0.56	–

For wheat, the correlations are surprisingly high for many of the markets. The Hirat-Kandahar connection is again quite evident, with a coefficient of 84 percent. Somewhat surprising is the high correlation of Mazar to Kandahar, since important flows between the two markets were not reported in the survey.

Table E.2: Correlation coefficients for wheat prices

	Hirat	Kandahar	Mazar	Kabul
Hirat	–	0.84	0.67	0.86
Kandahar	0.84	–	0.84	0.88
Mazar	0.67	0.84	–	0.70
Kabul	0.86	0.88	0.70	–

Finally, for each location, the correlations between the price of wheat and flour were calculated and generally were very high, as expected. Hirat is somewhat low, but may be due to irregularities in the price data.

Table E.3: Correlation coefficients between flour and wheat prices within each market

Hirat	0.83
Kandahar	0.94
Mazar	0.95
Kabul	0.93

ANNEX F: PRODUCTION, SUPPLY, AND DEMAND

Country	Attribute	2000/1	2001/2	2002/3	2003/4	2004/5	2005/6	2006/7	2007/8
Afghanistan	Area Harvested	2,029	1,779	1,742	2,300	2,200	2,200	2,200	2,200
	Production	1,469	1,597	2,686	4,360	4,000	4,270	4,400	4,400
	TY Imports	574	1,000	1,000	100	200	100	125	100
	Total Supply	2,043	2,597	3,686	4,460	4,200	4,370	4,525	4,500
	Total Consumption	2,043	2,597	3,686	4,460	4,200	4,370	4,525	4,500
	Total Distribution	2,043	2,597	3,686	4,460	4,200	4,370	4,525	4,500
	Yield	0.72	0.9	1.54	1.9	1.82	1.94	2	2
Iran	Area Harvested	5,100	5,600	6,200	6,500	6,800	6,950	6,900	6,900
	Beginning Stocks	4,388	3,172	3,126	3,301	3,267	3,267	3,097	3,547
	Production	8,000	9,500	12,450	13,500	14,500	14,500	14,800	15,000
	TY Imports	6,245	5,586	1,561	246	200	1,105	500	200
	Total Supply	18,672	17,968	17,651	17,567	17,967	18,147	18,897	18,747
	MY Exports	0	42	0	0	0	50	50	50
	Total Consumption	15,500	14,800	14,350	14,300	14,700	15,000	15,300	15,600
	Ending Stocks	3,172	3,126	3,301	3,267	3,267	3,097	3,547	3,097
	Total Distribution	18,672	17,968	17,651	17,567	17,967	18,147	18,897	18,747
	Yield	1.57	1.7	2.01	2.08	2.13	2.09	2.14	2.17
Kazakhstan	Area Harvested	10,500	10,700	11,500	11,300	11,800	11,800	12,400	12,750
	Beginning Stocks	700	1,146	4,084	3,673	3,777	3,642	4,283	4,003
	Production	9,100	12,700	12,600	11,000	9,950	11,000	13,500	14,000
	TY Imports	14	15	27	14	15	41	20	15
	Total Supply	9,814	13,861	16,711	14,687	13,742	14,683	17,803	18,018
	MY Exports	3,972	3,977	6,238	4,110	2,700	3,000	6,000	6,500
	Total Consumption	4,696	5,800	6,800	6,800	7,400	7,400	7,800	7,800
	Ending Stocks	1,146	4,084	3,673	3,777	3,642	4,283	4,003	3,718
	Total Distribution	9,814	13,861	16,711	14,687	13,742	14,683	17,803	18,018
	Yield	0.87	1.19	1.1	0.97	0.84	0.93	1.09	1.1
Kyrgyz Republic	Area Harvested	506	480	500	435	415	430	406	406
	Beginning Stocks	300	200	300	364	314	289	264	159
	Production	1,039	1,191	1,306	1,100	1,000	950	840	900
	TY Imports	127	191	114	150	200	200	200	200
	Total Supply	1,466	1,582	1,720	1,614	1,514	1,439	1,304	1,259
	MY Exports	100	25	25	25	25	25	25	25
	Total Consumption	1,166	1,257	1,331	1,275	1,200	1,150	1,120	1,120
	Ending Stocks	200	300	364	314	289	264	159	114
	Total Distribution	1,466	1,582	1,720	1,614	1,514	1,439	1,304	1,259
	Yield	2.05	2.48	2.61	2.53	2.41	2.21	2.07	2.22

Country	Attribute	2000/1	2001/2	2002/3	2003/4	2004/5	2005/6	2006/7	2007/8
Pakistan	Area Harvested	8,463	8,181	8,058	8,034	8,216	8,358	8,355	8,400
	Beginning Stocks	3,257	3,633	2,597	1,445	1,382	2,248	3,264	2,964
	Production	21,079	19,024	18,227	19,183	19,500	21,612	21,700	23,000
	TY Imports	50	250	181	47	1,416	966	100	150
	Total Supply	24,386	22,892	21,010	20,675	22,298	24,814	25,064	26,114
	MY Exports	253	495	1,185	193	50	50	200	600
	Total Consumption	20,500	19,800	18,380	19,100	20,000	21,500	21,900	22,400
	Ending Stocks	3,633	2,597	1,445	1,382	2,248	3,264	2,964	3,114
	Total Distribution	24,386	22,892	21,010	20,675	22,298	24,814	25,064	26,114
	Yield	2.49	2.33	2.26	2.39	2.37	2.59	2.6	2.74
Tajikistan	Area Harvested	301	290	325	290	300	285	315	315
	Beginning Stocks	50	50	50	50	50	50	50	50
	Production	406	387	545	660	650	550	530	530
	TY Imports	467	503	486	325	400	450	450	450
	Total Supply	923	940	1,081	1,035	1,100	1,050	1,030	1,030
	Total Consumption	873	890	1,031	985	1,050	1,000	980	980
	Ending Stocks	50	50	50	50	50	50	50	50
	Total Distribution	923	940	1,081	1,035	1,100	1,050	1,030	1,030
	Yield	1.35	1.33	1.68	2.28	2.17	1.93	1.68	1.68
Turkmenistan	Area Harvested	700	700	700	850	800	850	850	850
	Beginning Stocks	300	350	375	800	1,200	1,375	1,500	1,425
	Production	1,150	1,200	2,000	2,200	2,450	2,600	2,600	2,600
	TY Imports	25	42	51	25	25	25	25	25
	Total Supply	1,475	1,592	2,426	3,025	3,675	4,000	4,125	4,050
	Total Consumption	1,125	1,217	1,626	1,825	2,300	2,500	2,700	2,700
	Ending Stocks	350	375	800	1,200	1,375	1,500	1,425	1,350
	Total Distribution	1,475	1,592	2,426	3,025	3,675	4,000	4,125	4,050
	Yield	1.64	1.71	2.86	2.59	3.06	3.06	3.06	3.06
Uzbekistan	Area Harvested	1,200	1,200	1,200	1,450	1,400	1,450	1,300	1,300
	Beginning Stocks	500	500	550	900	900	900	1,200	1,150
	Production	3,600	3,400	5,000	5,400	5,250	5,800	5,850	5,850
	TY Imports	550	481	254	229	200	200	200	200
	Total Supply	4,650	4,381	5,804	6,529	6,350	6,900	7,250	7,200
	MY Exports	0	0	0	450	100	100	100	100
	Total Consumption	4,150	3,831	4,904	5,179	5,350	5,600	6,000	6,100
	Ending Stocks	500	550	900	900	900	1,200	1,150	1,000
	Total Distribution	4,650	4,381	5,804	6,529	6,350	6,900	7,250	7,200
	Yield	3	2.83	4.17	3.72	3.75	4	4.5	4.5

Source: USDA PSD Online

U.S Agency for International Development
1300 Pennsylvania Avenue, NW
Washington, DC 20523
Tel: (202) 712-0000
Fax: (202) 216-3524
www.usaid.gov