



AFGHANISTAN COUNTRYWIDE FOOD NEEDS ASSESSMENT

FOR

RURAL SETTLED POPULATIONS

JULY – SEPTEMBER 2002

WFP VULNERABILITY ANALYSIS AND MAPPING UNIT AND PARTNERS

WORLD FOOD PROGRAMME

AFGHANISTAN

PREFACE

This report is the result of a set of work conducted by the Afghan national team of the World Food Programme's Afghanistan Vulnerability Analysis and Mapping¹ Unit, together with the participation² of MADERA, the Agricultural Faculties of Jalalabad and Kandahar Universities, CARE, MCI, ICRC, GOAL, SCA, IRC, DACAAR, CHA, ADA, SC-US, SC-UK, JDA, NPO/PRAA, CONCERN, OXFAM, FOCUS, NAC and OCKENDEN International.

During July and September 2002, a nationwide assessment to estimate the levels to which rural settled populations in Afghanistan could meet food requirements in the coming year, was conducted. This assessment did not cover internally displaced people, returnee populations, or migrating pastoralists, unless they were settled in the villages assessed.

For the first time since the development of this type of survey by WFP VAM in 2000, field assessors were able to conduct assessments in each District of the country - including highly insecure areas - through a closely co-ordinated effort by the UN community, WFP VAM and participating partners.

Using the 1984 gazetted boundaries of Afghanistan, all 32 Provinces, 329 Districts, and a total of 1887 villages in various farming practice / agro-ecological zones were surveyed, by 30 WFP VAM monitors and 120 partner surveyors.

The survey instruments and analytical tools implemented throughout this assessment have been built on existing WFP VAM Afghanistan products, and all further developments in the methodology result from a series of inputs and public consultations with the Ministry of Rural Rehabilitation and Development for Afghanistan³, the Ministry of Public Health⁴, and various Agencies and NGO's.

Due to the length of this report, the document has been structured to ensure that the most pertinent sections are made available to the reader at the start. Thus, breaking away from conventional reporting procedures, this document will begin with an executive summary, which discusses the conclusions of this assessment. This will be followed by the recommendations of the WFP VAM team. The findings will be given as a textual narrative in the report, and as a set of maps and tables in a series of Annexes. For those readers who are interested, the methodology used is described at the end of the report.

The analysis, mapping, and report was conducted, written and edited by Waheeda Azizi, AhmadShah Shahi, and Scott Ronchini, from data and draft reports provided by the WFP VAM field teams.

¹ VAM

² Refer to the map in Annex 1 for WFP VAM / Partners coverage of the assessment

³ MRRD

⁴ MoPH

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1 – EXECUTIVE SUMMARY

Despite rainfall across parts of Afghanistan this year, the majority of the country still remains gripped in the throes and aftermath of a four-year drought.

Due to the rugged terrain, steep mountain slopes and deep valley floors throughout much of the country, arable land is limited. Most of the rural settled population owns some land, though for the greater part these are small agricultural plots, particularly in the densely populated areas of the east. In normal years, with the exception of the northern rainfed agricultural belt, and the irrigated farmlands of Takhar, Kunduz, Baghlan and the Hilmand River, most rural families do not meet their food needs through agricultural production alone. Food requirements throughout Afghanistan have always been supplemented with food purchases, and income generating and coping strategies have been mixed and diverse.

The recent drought has resulted in the loss of seeds, tools, and traction animals. In the northern rainfed belt, this has resulted in the 2002 cultivation of an estimated 10% to 30% of land compared to pre-drought years. Despite this reduction in cultivation and its associated lower harvests, production from the rainfed agricultural wheat lands of the west, north, northeast, and central highlands has improved, and brought some relief to rural farmers when compared to 2001. This harvest, albeit reduced, has still enabled many families to meet a part of their food needs through own farm production.

Underground aquifers across the country are still not replenished. Farmers relying on spring and *kariz* irrigation have been unable to cultivate their lands due to a lack of water. These farmers will continue to face drought conditions until water tables return to normal. It is believed that a number of normal rainfall and natural flooding seasons are needed before underground water sources become sufficiently replenished.

The drought continues in the arid southern regions of Afghanistan. Agriculture relying on rainfed, spring, and *kariz* irrigation has failed. Many rivers in the south have dried up to mere trickles, and loss of agricultural lands and orchards are commonplace. Farmers irrigating their fields from rivers that are still flowing have fared better. Those cultivating the banks of the Hilmand River, before it runs dry in the desert sands around Garmseer, have produced some surpluses.

In recent years, livestock numbers have greatly decreased across the country due to reductions of pasturelands and winter fodder, resulting in the loss of a major source of meat, dairy, and animal products for the handicraft trade. A modest improvement of pasturelands in the northern, western, and central parts of Afghanistan, together with a favourable increase in livestock market prices, will allow farmers to begin rebuilding their herds.

Labour opportunities in the rural areas centre predominantly on seasonal agricultural work, which has been severely affected by the drought. Furthermore, the closure and applied restrictions on border crossings have reduced the opportunities of migrant labourers to search for work in Iran and Pakistan to send back remittances to their families. Returnees and internally displaced populations place further stress on labour markets, increasing competition.

Livelihoods for many rural families have been shattered. High land sales and mortgages by desperate farmers in the last few years are propagating a cycle of indebtedness and reliance on larger land owners. Tools and farming equipment have been sold or traded. High livestock mortalities and distress sales in recent years has resulted in a depletion of dairy herds and farm traction animals. Desperate and irreversible coping strategies have been employed, including the early marriage of pre-pubescent daughters and the indenture of young boys for labour by families

that could not afford their upkeep. The selling of most household assets has occurred through most of Afghanistan. All this has, and is, leading to compromised future food security and livelihoods.

The recent conflicts and more than two decades of war have further aggravated people's livelihoods destruction. Minefields prevent free movement, assets have been plundered and looted by various militia factions, infrastructure including housing and irrigation systems have been destroyed, and mass movements of displaced populations has occurred. Recently, people have moved away from areas close to the bombing raids in the south and east, preventing the cultivation of their lands.

Rural infrastructure and facilities are extremely poor. There is a lack of sufficient and adequately stocked health facilities, schools, market structures and road networks. Depletion of underground water tables has greatly impacted people's ability to access potable water, with water levels in potable wells reported to have dropped between five and twelve meters across the country. People have become too impoverished to continue digging deeper wells, and resort to spending meagre incomes on water purchases, or abandoning their villages and migrating to the urban centres.

Nevertheless, some improvements across Afghanistan in the lives of rural populations have been noted. In the food security sector, other than the south where the drought continues, food through own production has increased in many Districts and will provide some relief to those families that were relying almost wholly on food purchases and food aid in the last year.

Although food shortages are still being experienced in many parts of Afghanistan, the country is on the way to recovery. A sense of hope and expectation prevails in many areas as a result of improvements in the political arenas, and with the Government's drive to reconstruct Afghanistan. The time is at hand where food aid, coupled with support to livelihood reconstruction through non-food aid and resource interventions, will begin to allow people to rebuild their shattered lives.

In most parts of the south, and in other smaller geographical areas across the country where most rural families are facing acute food insecurity, food assistance will be required to save lives. In other areas such as the north, west, central and east, a toolbox of other strategies could be implemented to save and reconstruct livelihoods. In these areas, food aid can relieve the pressure of hunger and uncertainty over food deficits faced by the rural poor, and allow them to re-focus their attentions on bettering their lives. Reducing the need to purchase food will free meagre incomes for the purchase of seeds and tools, the rebuilding of livestock herds, repairing of infrastructure, and will ultimately promote long-term food security.

The assessment found that an estimated 4.3 million people will be facing food deficits in the coming year until the next harvest. To address these deficits through food aid, a nutritionally sound food basket should be provided. Thus, 279,000 Mt's of wheat/wheat flour, 28,000 Mt's pulses, 21,000 Mt's vegetable oil, and 3,500 Mt's iodised salt would be required.

Given the complexity and diversity of livelihoods in Afghanistan, improvements to people's lives can only be reached through strong, coordinated, multi-disciplinary and joint intervention strategies as envisioned by the Government, supported by the entire aid community working in Afghanistan.

2 – RECOMMENDATIONS

Given the current context and complexity of the situation in Afghanistan, the findings and recommendations from this assessment should be viewed with a certain amount of flexibility to allow for more updated and appropriate responses if sudden situational changes occur, or additional information comes to light. With this in mind, WFP VAM Afghanistan recommends the following short and long-term actions and intervention strategies:

Short-term recommendations:

1. An estimated total of 4.3 million rural people will be facing varying levels of food insecurity over the next year. Assistance, to cover 80% of people's daily food requirements is recommended as follows⁵:
 - 385,000 people in the most acute food insecure areas for 10 months
 - 1,021,000 people in the very highly food insecure areas for 8 months
 - 1,825,000 people in the highly food insecure areas for 5 months
 - 1,055,000 people in the moderately food insecure areas for 2 months

2. If food aid to meet these deficits is to be used, a nutritionally sound and appropriate food basket needs to be provided, particularly over the cold winter months. Daily ration sizes per person per day, to cover 80% of people's daily energy requirements, are as follows⁶:
 - 400 grams wheat/wheat flour
 - 40 grams pulses
 - 30 grams vegetable oil
 - 5 grams iodised salt

3. This would translate into the following food aid requirements:

⁵ Vulnerable population estimates have been rounded to the nearest 1000 –more detailed estimates are found in Annex 5.

⁶ Ration sizes developed with guidance from the Ministry of Public Health and UNICEF. Although salt will not contribute towards people's nutritional status, it is recommended that it be included to combat goitre through iodisation.

PROVINCES	CSO 2002 Population Estimates	Estimated Beneficiaries	Cereals Mt	Pulses MT	Oil Mt	Salt Mt
Badakhshan	593,148	71,000	10,900	1,100	800	120
Badghis	301,483	80,000	4,200	400	300	50
Baghlan	758,242	98,000	7,800	800	600	100
Balkh	935,742	171,000	8,000	800	600	100
Bamyan	340,005	126,000	7,500	750	550	90
Farah	338,276	105,000	5,500	550	400	70
Faryab	698,897	258,000	15,000	1,500	1,200	190
Ghazni	1,865,769	485,000	21,500	2,200	1,600	300
Ghor	486,108	167,000	9,000	900	700	100
Hilmand	745,616	172,000	16,300	1,600	1,200	200
Hirat	1,178,096	100,000	3,900	400	300	50
Jawzjan	508,660	132,000	5,400	500	400	100
Kabul	2,974,808	186,000	12,000	1,200	910	150
Kandahar	826,870	296,000	30,400	3,000	2,300	400
Kapisa	360,292	82,000	2,500	300	200	30
Khost	300,619	55,000	2,500	250	200	30
Kunar	321,662	25,000	1,800	200	150	20
Kunduz	815,107	12,000	300	30	50	5
Laghman	308,260	30,000	1,500	150	50	10
Logar	291,880	85,000	4,000	400	300	50
Nangarhar	1,086,593	242,000	18,000	1,800	1,300	220
Nimroz	149,339	87,000	8,200	800	600	100
Nuristan	111,898	36,000	2,200	200	200	30
Paktika	352,629	83,000	6,700	700	500	80
Paktiya	415,109	84,000	4,600	500	350	60
Parwan	726,839	125,000	6,000	600	450	70
Samangan	304,073	62,000	2,000	200	150	25
Saripul	467,763	123,000	5,000	500	400	60
Takhar	697,601	20,000	2,000	200	150	20
Uruzgan	639,115	291,000	29,300	3,000	2,194	350
Wardak	413,596	150,000	10,200	1,000	800	130
Zabul	282,170	161,000	14,800	1,500	1,100	190
GRAND-TOTAL	20,596,265	4,300,000	279,000	28,030	21,004	3,500

4. The current WFP Emergency Operation – EMOP 10155.0 - is due to end in March 2003 after which the WFP PRRO begins in April 2003. Food aid requirements to cover the most vulnerable rural populations to food insecurity until March 2003 under the EMOP 10155.0 would be:

- 184,600 Mt's wheat/wheat flour
- 18,500 Mt's pulses
- 14,000 Mt's vegetable oil
- 2,300 Mt's iodised salt

5. Food aid requirements to cover the most vulnerable rural populations to food insecurity from April 2003 through June 2003 until the next harvest under the PRRO would be:
 - 94,400 Mt's wheat/wheat flour
 - 9,500 Mt's pulses
 - 7,000 Mt's vegetable oil
 - 1,200 Mt's iodised salt

6. Those people requiring two and five months of food aid assistance need to be targeted with a part, if not all, of their food aid allocation prior to the winter months. Priority must be given to those areas that become inaccessible during the winter⁷. Those people in the highly food insecure areas should be targeted with three months assistance, and those in the moderately food insecure areas should receive their two months assistance, under the EMOP. The balance of assistance should be targeted under the PRRO.

7. This will provide the additional food required by families to compensate for the bitterly cold conditions that will be experienced. The food security situation in these areas should be re-assessed in the spring.

8. WFP and its implementing partners should continue a strict regimen of targeting and implementing strategies, and post-distribution monitoring. These strategies must ensure that all areas where people are facing food insecurity at sub-District levels are reached. Flexibility needs to be tied into the system that will allow an immediate response to changes in food security situations, and/or the transfer of resources to higher priority areas and changes in populations.

9. A partnered multi-disciplinary and joint assessment strategy at a household level should be developed and conducted in the spring. This will provide a post-winter update to the current findings, and will allow for the flexibility of addressing and understanding food needs at a more localized level. A countrywide assessment in the same vein as this year's annual assessment is not required in the spring – areas of priority for assessment should include those in which food deficits are currently estimated to be between 0% and 50%, as well as areas reported to be of concern by the Government, Agencies, and NGO's operating throughout the country.

Longer-term recommendations:

⁷ Refer to the map in Annex 2 indicating inaccessible areas during the winter

10. Pending the completion of the Population Census for Afghanistan in 2004, population estimates need to be continuously updated and improved. This should be conducted through the provision of improved population figures, derived from all assessments, to the Central Statistics Office.
11. There is a serious need to improve basic services such as health and education, infrastructure and road networks, marketing, trade, and employment opportunities. Of extreme concern is the depletion of potable water from drinking wells across the entire country. Current initiatives by the Government, Agencies, and NGO's in addressing this critical issue must be continued.
12. The depletion and destruction of natural forests and land cover will lead to long-term environmental degradation. This will have major negative impacts on future food security and livelihoods. Sustainable forestry practices and alternative energy sources must be identified and implemented. Strong environmental policies to ensure the sustainable utilization of Afghanistan's natural resources are required.
13. Given the diversity of the rural people's livelihoods and current situations throughout Afghanistan, food security and livelihoods rebuilding needs to be approached in a holistic manner. To achieve this, specific and specialized visions with accompanying strategies need to be created at District and sub-District levels, through Governmental Provincial structures, community representation, and supported and facilitated by humanitarian operators in the areas.
14. To support this, assessment strategies for Afghanistan must become more multi-disciplinary, participatory, and consultative if the bigger picture of needs is to be captured. This will enable the provision of adequate information to allow for the creation of strategies at sub-District and District levels.
15. Within the creation of these strategies, frameworks need to be developed to guide humanitarian assistance in a manner that will ensure that the strategy for an area is met. Future interventions need to be more holistic in nature, and coordinated into a bigger strategic plan to ensure that all activities are complementary to each other and beneficial to rural communities, both in the short term and into the future.
16. The coordination efforts of the Ministry of Rural Rehabilitation and Development, the Ministry of Public Health, the Ministry of Agriculture and the Ministry of Urban Planning to expand food security and nutritional surveillance systems through the establishment of a National Livelihoods-based Food Security and Nutritional Surveillance System must be strongly supported by humanitarian operators in Afghanistan.

3 – AIMS AND OBJECTIVES

The aim of this assessment has been to determine the current levels of food needs being met by the rural settled population of Afghanistan at a District level, which will allow for the planning and allocation of food resources across the country.

WFP is currently finalizing the Afghanistan Protracted Relief and Recovery Operation (PRRO) strategy, to be implemented from April 2003 through March 2005⁸, to support the nation-building objectives of the National Development Framework through the use of targeted food aid. The PRRO has been designed to contribute to the protection and re-establishment of livelihoods and household food security, and to provide relief assistance where needed.

To achieve this, the PRRO will use food aid targeted through varying intervention strategies to differing vulnerable populations. The most vulnerable families to food insecurity in rural settled populations are one such group, and this assessment aims to provide the information, at District and sub-District levels, to achieve this goal.

This survey does not include internally displaced populations, nomadic communities, urban groups, or returnees, unless they were settled in the villages surveyed.

The objective of the assessment was to complement the FAO/WFP Crop and Food Supply Assessment Mission (CFSAM⁹) and the numerous household assessments that are conducted by Agencies and NGO's in Afghanistan. The CFSAM provides a national picture of food production shortfalls, and estimated food needs at Provincial levels. Household assessments define socio-economic profiles and detailed descriptions of vulnerability and food needs in localized areas, but do not allow for rapid countrywide comparisons that allow for planning and resource allocation across the country.

In order to ensure that the most vulnerable populations facing food shortfalls are targeted at the District level, information is needed that goes deeper than the national level surveys and yet broader than the detailed household assessments. Therefore, this survey provides an analysis of food needs that communities could expect to meet through their own production and coping strategies, in the different Districts of Afghanistan.

⁸ The proposal of the Afghanistan PRRO is to run for a period of 24 months – to March 2005. This is under discussion by the Cabinet and may be revised downwards to cover a period of 12 months. Refer to the PRRO Document for further details.

⁹ The CFSAM, conducted in July 2002, forecast national cereal production at 3.59 million tonnes – an improvement of 82% on 2001, yet still 4% below the 1998 crop. The same assessment estimated a countrywide cereal deficit of 1.38 million tonnes for 2002 – a reduction of approximately 38% of last year's cereal deficit. Of this cereal deficit, the report estimated that over 900,000 tonnes are expected to enter Afghanistan through commercial means.

4 - FINDINGS

The analysis of the assessment was conducted at two levels – the first level considered the average food requirements available at a District level, whilst the second level went deeper and looked at variations between differing farming practice / agro-ecological zones. This second analysis shows that although some Districts would, overall, be meeting their food requirements, there could be specific areas within these Districts where communities would still be facing food shortfalls. Conversely, some Districts showing high levels of food deficits would have specific areas where communities were found to have sufficient and/or surplus food resources.

It is recommended that the results of this report be used in conjunction with previous assessments done at national and community levels.

4.1 - National level

Overall, food availability from agriculture across the country has improved across the west and northern rainfed agricultural belt for many rural families. However, yields are still far below normal, and this year people are still not reaching the self food-sufficiency levels of the past. Throughout these areas, certain populations will be facing acute food insecurity, and coupled with fragile livelihoods, still require support.

Both the southern and eastern belt, which rely primarily on irrigated agriculture, have shown a marked deterioration in food availability through own production due to the continued drought and reduction of underground water tables. Furthermore, the families in these areas are entering their fifth year of drought with depleted assets and exhausted coping strategies. Border closures with Pakistan are preventing many people migrating to look for work and remit cash back to their families.

A comparison of the food needs being met at District levels between the VAM survey estimates of 2001 and the findings of 2002 was undertaken, and is presented as a map¹⁰ in Annex 3. The result of this comparison ties in with the agricultural improvement known to have occurred throughout western and northern Afghanistan, the continuation of the drought in the south, the disruption of the cultivation season by recent conflict, and the potential loss of income for cross-border migrant labourers through the tightening of borders.

The estimates of annual kilocalories met by rural settled populations have been aggregated at District and operational field-working units levels¹¹. They have been grouped into classes representing varying levels of food security, and represented as a thematic map in Annex 4. Areas, or pockets, with food security levels lower than the District averages have been indicated. Food security classes¹² have been colour coded: red indicates acute; pink indicates very high; orange indicates high; and yellow indicates moderate levels of food insecurity. Areas where more than 100% of annual kilocalories are likely to be met are indicated as green. This colour coding is a recurrent theme throughout the report, and will be found in all the Annexes related to food security.

4.2 – Situational descriptions of different areas

¹⁰ All maps in this report have been created using the 32 Province/329 District model. Thus, the WFP operational field-working units have not been indicated, though they are presented in the tables.

¹¹ Refer to the Methodology section: 5.1 – Units of analysis, for clarification

¹² Refer to the Methodology section: 5.5.1 – Food security classes, for descriptions

4.2.1 – The Northeast

The northeastern Provinces of Badakhshan and Takhar are bordered by Tajikistan in the north, and Pakistan to its south and east. The Wakhan corridor extends through the Pamir valley of the Hindu Kush to China. Badakhshan and southern Takhar straddle the Hindu Kush, an area which is characterized by soaring snow-covered mountain peaks, narrow gorges and deep open valleys through which tumultuous rivers roar or meander lazily into open pools and wetlands. The terrain from the forest clad mountains of central Takhar drops into the flatlands and marshes along the Darya Amu (the Oxus) River, which acts as the natural border with Tajikistan. The eastern areas of Badakhshan are not densely populated, and higher numbers of people live in the irrigated areas in the west.

Road networks throughout most of Badakhshan are narrow tracks that hug the mountainsides, and which cross the rivers over rickety stone and wooden bridges made of planks and logs. Road networks link Fayz Abad and Kabul in the south across the 5000-meter high Anjuman Pass into the Panjsher valley, and to the west the road connects Fayz Abad to Puli Khumri and the Salang tunnel through the Provincial towns of Taluqan and Kunduz. The main mode of transport throughout the area is by donkey, without which families are left stranded due to the remoteness of many of the rural villages. Conflict in recent years took its toll on the people in the area. Many families had their houses destroyed, livestock and assets were looted, blockades hampered labour and trade routes, and minefields have caused the loss of agricultural lands.

In eastern Badakhshan, agricultural activities centre primarily on irrigated farmlands from mountain springs, though small areas of rainfed land exist. Land holdings are small due to limited land in the mountains that can be cultivated, and bitterly cold extended winters limit agricultural seasons in most areas to one yearly harvest. Wheat and barley crops are planted in September and October before the winter, and again in March and April during spring the following year, for a simultaneous harvest in August and September.

The start of the northern rainfed agricultural belt begins in western Badakhshan and Takhar, and extends across the country to Hirat. Agricultural seasons are limited to one per year, both in the high (western and southern) and low (western and northern) rainfed lands of Badakhshan and Takhar respectively. Land preparation takes place in September and October after the rains, and seed is sown the following year during the spring months of March and April, for harvesting in June and July.

Spring irrigated lands are peppered throughout this region, and canal irrigation from mountain rivers and marshlands around the confluence of the Darya Amu and Kochka Rivers is found. In these irrigated lands, two cropping seasons can take place in a single year. Wheat is planted in September and October for harvesting the following year in June and July. The land is immediately replanted with rice and maize, which is harvested in August and September just prior to the land preparations for the wheat crops. Vineyards and apple, pear, apricot and peach orchards are found throughout the area, as well as wild pistachio forests in the high altitude rainfed lands. Poppies are mainly cultivated in the rainfed areas, mostly in parts of Fayz Abad and Jurm - though smaller areas are also found in Shahri Buzurg and Baharak Districts of Badakhshan. These high value crops have contributed to a significant part of people's income. Traders move throughout the area, purchasing the raw resin from the farmers to process into opium before exporting the drug north into Tajikistan.

Livestock ownership of sheep and cattle, although not very high compared to the rest of the northern parts of Afghanistan, plays an important role in people's livelihoods. Not only are they used for trade and barter, but people also rely on their dairy production for most of the year. A porridge of milk, bread, salt and sometimes walnuts, called *shorchai*, is made and generally eaten twice a day for breakfast and lunch. As a result of loss of pasturelands and fodder during the drought, conflict and looting of livestock, and distress sales over the last years, livestock losses across this area has been estimated to be somewhere between 60% and 80%.

Overall, agricultural production in the past provided around 60% of the rural population's food needs in Badakhshan. Food needs were supplemented with dairy products, wild foods¹³, and food purchases in neighbouring Takhar where surpluses were produced in the irrigated farmlands. Mulberries grown in the area are dried and ground into flour called *talkhan*, which is then rolled into a ball and eaten during the winter. Barley is also consumed, especially in the colder areas of the Province. Labour opportunities can be found in the wheat and rice fields of Takhar and Kunduz, and provide the biggest sources of income, together with the poppy trade, to many farmers.

This year, wheat production in Badakhshan has improved in some rainfed and irrigated areas in the north of the Province. Throughout the centre, the situation has remained more or less the same as 2001. High altitude rainfed agriculture in the western Districts, however, has not fared as well. Farmers reported that a lack of sufficient seed and the early onset of cold weather affected wheat yields during the harvests. The mountain spring irrigated lands to the south and east of Badakhshan produced lower yields this year - reportedly, crops were affected by rust, due to permanent cloudy conditions during the spring. In Takhar, improvements in wheat production both in the rainfed and irrigated lands were attributed to more land being cultivated as the security situation has stabilized, and fighting in the area has stopped. As in most of Afghanistan this year, livestock numbers are on the way to recovery, and market prices have increased benefiting many rural families. A ban on livestock sales and transfers out of the country by the Government is proving beneficial, as internal animal numbers are increasing, and livestock herds are beginning to be rebuilt.

An increase in agricultural activity in Takhar and eastern Kunduz is improving labour opportunities for the people. Due to improved security and stabilization across the northeast, marketing and trading routes now need to be expanded between Badakhshan and the western Provinces. In the last year, food aid was used by communities to re-construct 156 km's of road, 85 km's of pathways, and five bridges throughout Badakhshan in an effort to improve transportation and accessibility networks, though there is still much work to be done.

Many families in Badakhshan reported that fruit production from their orchards will be eaten by the household, as transporting these goods to the bazaars of the District and Provincial centres is not profitable. People in the northern-most Districts of Darwaz and Khawan take about a week to reach Fayz Abad city - with un-laden donkeys - for purchases in the markets. The return trip takes twice as long, with people carrying sacks of food and other commodities on their backs if they do not have donkeys. Such distances and the time it takes to carry commodities doubles the prices for most items, as transporters add the travel costs of food, time, and energy required to move goods. As an example, it was found that the average wheat price in May, June and July this year in Fayz Abad market was 5,760 Afghanis¹⁴ per kilogram, yet by the time it reached Darwaz District the

¹³ These wild foods are mostly seeds from naturally growing plants (*chagar*, *ash-e-baquli*, and *shoghal*, a kind of pulse that is used as animal food in other parts of Afghanistan, ground into flour and mixed with wheat into bread), roots and tubers (*reisha*, either cooked or eaten raw), and wild grasses (*shoraki*, *sahbunak*, and *seech*, amongst others, which are either cooked or mixed with wheat flour to make bread), and mushrooms (*samaruq*, which are cooked).

¹⁴ The local currency in Afghanistan is the Afghani. However, there are two currencies in use – the Kabul Afghani which is used throughout the country and also accepted in the north; and the Northern Afghani, which is used only in the north - from Faryab Province to the north of the Salang tunnel, and through to Badakhshan. The Northern Afghani is worth half of the Kabul Afghani. On 7 October, a new Afghani was launched by the Government to standardize currency. During

price was 12,850 Afghanis. The highest prices were found in May, where a kilogram of wheat in Darwaz was being sold for 14,000 Afghanis, while in Fayz Abad the price was 6,500 Afghanis.

Remittances from absent family members who either leave the country or search for work inside Afghanistan significantly contributes to people's cash sources, especially in the remoter areas. Work can be found in the salt and coal mines of Takhar, based on verbal agreements and commissions between labourers and traders. In the lapis lazuli mines of Badakhshan – from which the stones used to make the jewellery and adorn the tombs of Pharaohs in ancient Egypt originated – people either pay daily sums in cash or commissions to the authorities to mine for lapis.

High levels of poverty are found in Badakhshan, as people are forced to supplement their food balances through purchases on meagre incomes. It is estimated that the poorest households, typically small-land owners, landless, and female-headed families, account for almost 60% to 70% of the population, though it is believed that in the remoter areas of Badakhshan and Takhar, the number of poorer families will be even higher. It has been reported that some people in the Districts of Ishkashim, Zebak and Wakhan are becoming indebted to smugglers by purchasing opium for their own use – including women and children - against future yields. A *tol*¹⁵ of opium will be bought for 300,000 Afghani's, or borrowed against five *seer*¹⁶ of wheat from the next harvest.

Many houses have been destroyed or damaged throughout Takhar due to fighting in the area. Those families that have lost their homes live in makeshift shelters made of adobe or stone in the winter, and tents during the hot summer months. Despite the strong efforts of NGO's providing medical care to the people, health facilities have been reported as still being insufficient due to the difficulties for those living in remote areas in reaching these centres. It was reported that many people have to forego seeking medical attention, as the journey's required are long and arduous, particularly when one is ill. Villagers in Takhar have reported a need for safe potable water, as wells are drying up. More schools and education facilities are needed in the area, especially due to the remoteness of many villages. This year, communities working together with implementing partners have reconstructed two schools through food for work, and food for education has assisted an estimated 16,000 girls and 19,000 boys to attend school.

4.2.2 –Kabul

The areas covered by Kabul, in terms of WFP operations, extend from Kapisa in the north to Paktika in the south. Due to their diversity, the area will be described in two sub-sections, namely: north of Kabul, or the Shamali; and south of Kabul.

4.2.2.1 –North of Kabul – The Shamali

The Shamali comprises Kapisa, Parwan and Kabul Provinces, in the central eastern area of Afghanistan. Three major valley systems – the Panjsher in Parwan extending east to west, the Salang, running north to south, and the Ghorband (also in Parwan) – congregate to the north of Kabul. The rivers flowing through these valleys – the Panjsher, Salang, and the Ghorband – converge into the Panjsher River in the open plain of Charikar where these three valleys come

this study, only the Kabuli and Northern Afghani were in use. Thus, for this assessment, the value of the Kabuli Afghani was used, and all Northern Afghanis were converted to reflect this. At the time of the analysis, the US\$ to Kabuli Afghani exchange rate was US\$ 1: 40,000 Kabuli Afghanis.

¹⁵ It is unclear what the measure of a *tol* of opium is, but it has been estimated at 10 grams.

¹⁶ A *seer* is equivalent to 7 kg's.

together. The Panjsher River flows southwards across this plain, and at Sarobi the Kabul River, which flows eastwards from Kabul city, joins it. Due to the mountainous nature of the area and the high density of people living here, land for cultivation is limited so many families only have small agricultural plots. Wheat is the primary crop, and favourable climatic conditions allowed for large scale grape and fruit production, for which the area was renowned. Livestock ownership is limited to a few cows, sheep and goats for most families.

In normal years, local food production was not sufficient for the people here, and was supplemented through purchases. Income was derived from the sale of fresh and dried fruits, wage labour in agricultural fields, and work opportunities in Kabul city and Pakistan. The blue and white Istalif pottery made by the men of the Shamali plains was sold locally and in the bazaars of Kabul, before being transported and traded throughout the rest of the country. The Shamali has been the scene of raging conflict for many years, which led to the destruction of houses, irrigation systems, and orchards. Mass displacements of people have occurred throughout the area, and large tracts of agricultural land and orchards have been lost to heavy mining. Nonetheless, large numbers of returnees and displaced families have and continue to return to the area now that political stability and a cessation of fighting throughout the Shamali has occurred.

Most agricultural activity is conducted on small plots of river canal or *kariz* and spring irrigated farms. In the warmer climate of the Shamali plains, two cultivations on the same piece of land take place each year - the first is the main wheat crop planted in October and November for harvesting in July and August. As the wheat is harvested and land becomes available, maize is then planted in July for harvesting in August and September. In the colder areas in the valleys of Kapisa, cultivation of wheat follows the same seasonal patterns as in the plains, though maize has to be planted a month earlier if the crop is to survive the autumn frosts. This requires that maize be planted on land that is not under wheat, reducing the total overall food production from agricultural lands.

Reduction of rain and snowfall this year has decreased production. Yields from river canal irrigation systems have either marginally decreased or improved compared to last year, with improvements noted in those areas that were less affected by conflicts and fighting. The majority of the middle and lower reaches of canal and *kariz* irrigation systems were badly damaged during the conflicts, and land in the lower sections of the canals and *kariz* systems were not cultivated due to insufficient water. There is minimal rainfed land in the area, and no cultivation was found in any of these fields. It is estimated that own crop production could contribute between 30% and 50% to the food needs of people in the canal-irrigated area, and anywhere between 0% to 30% in the spring and *kariz* irrigated farmlands this year.

Maize and beans were grown as a second crop in some parts of Kapisa, though cultivation did not exceed an estimated 5% to 10% of the total irrigated land available, and yields were poor. Orchards have also been affected by both the conflict and droughts, with trees being destroyed or dying from lack of water, and orchards having been mined. Fruit production of grapes, apples, apricots mulberries and pomegranates is below normal, and farmers have reported that they will require between five to six years to rebuild their orchards and for the trees to reach maturity for viable commercial production levels. These reductions will also impact the production of *talkhan*, which is widely consumed throughout the area and in particular in the Panjsher. Although livestock ownership was never very high in the area, loss of pasturelands and fodder, looting, distress sales and displacements over the recent years have decreased livestock numbers considerably. Losses in the area are estimated at 80% to 90%, and people are slowly trying to rebuild their herds.

The majority of food requirements will need to be met through purchases. Agricultural labour opportunities in the area have decreased as a result of reduced agricultural activities and the destruction of farmlands and orchards. Most people will need to rely on cash income through daily

wage labour in Kabul city, or by leaving the country to search for work and to remit cash back to their families. Returnees from outside Afghanistan, and the return home of internally displaced families, are placing additional strain on the labour markets. Many people reported that sons are leaving their families to join the military for the wages being paid, in order to support their kin back home.

Many families continue to fall further into indebtedness through the borrowing of cash and loans, and land sales continue, though at very reduced prices as the drought continues to make the land unproductive, and irrigation systems have been destroyed. In the Panjsher valley, a lucrative trade in emeralds takes place - gems are sold to traders by those lucky enough to have found them, and although this trade will assist some families to meet their cash requirements for the coming year, overall this traffic in gemstones will not benefit the majority. The felling of trees from natural forests, and the uprooting of bushes on the mountainsides to sell in the markets as timber and firewood will bring cash incomes to some families, but such an activity is both unreliable and unsustainable.

Problems of safe drinking water were universally reported throughout the area. People cannot afford to continue digging deeper wells to reach safe potable water – villagers have stated that water levels have dropped by as much as five to ten meters in the last year. Many villagers also expressed a concern about insufficient health care facilities throughout the area. Indiscriminate felling of trees and bushes will lead to long-term environmental degradation. The loss of this vegetative cover will result in reduced water penetration through root systems that replenish underground aquifers, a loss of fertile topsoil, and accelerated soil erosion.

4.2.2.2 - South of Kabul

The Provinces of Logar, Paktia, Khost, Paktika, and the southern areas of Wardak and Ghazni, make up the area south of Kabul. Logar has a high mountain range in the east and a smaller range in the west. The Shinz Rud flows northwards between these ranges to meet the Kajao River from the valleys of Wardak, after which it becomes the Logar River that eventually merges with the Kabul. Canal river irrigation takes place in this area, with spring and *kariz* irrigated lands in the mountains. To the east, the Provinces of Paktia and Khost are mountainous and covered in natural forests of oak and pines. The Gardez River that flows south eastwards waters northern Paktia, and smaller watercourses in the valleys of Khost bring water to the area before flowing across the border into Pakistan. Paktika is also mountainous, and has two main river systems – the Gomal River that flows southwards into Pakistan, and the Jilga at the northern extremes of the Province. Southern Ghazni is watered by the Ghazni River, the Gardez in the east, and a series of tributaries that flow off the mountains in the north. Mountainous terrain, and dry arid regions in the south of Paktika limit agricultural land, resulting in high population densities and small land per capita ownership.

Canals, springs, and *kariz*'s are the main sources of water for irrigation of farmlands; high-altitude areas rely on springs for water. Rainfed land is mostly limited to the northern areas of Ghazni, southern Wardak and western Logar. People owned large herds of livestock, particularly in Paktika, Paktia and Ghazni, and the area was a traditional grazing ground and thoroughfare for migrating nomadic populations. Local food production in the area has never been sufficient for the people living here, and food balances were purchased. Income was mainly generated from agricultural and fruit production, livestock, seasonal wage labour in farmlands, forestry, timber sales, and out-migration to send remittances back to families left at home. Pine nuts – called *Jalghoza* - were collected from the forests, mixed with sand and roasted over an open fire after which the seeds were eaten or sold in the bazaars. In the recent past, fighting and conflict in Ghazni, Wardak, Paktia and Khost resulted in displacements of people, destruction of houses,

looting and plundering of livestock and assets, the laying of minefields, and the destruction of irrigation systems and orchards.

Throughout the area, one cultivation season per year takes place on the same plot of land. Planting of the winter wheat continues from September through to November, and crops are harvested in July and August. In the high altitude areas of Wardak, Paktia, and Ghazni spring wheat is planted in March and April and harvested at the same time as winter wheat. In other areas where no spring cultivation takes place, maize is planted in June and July and harvested in August and September. In Khost, the weather is warmer and two crops can be grown on the same piece of land. Wheat is sown in October and November, and harvested in June and July. As the harvest comes in, land is prepared for a maize and pulse crop, with planting taking place in July for harvests in September and October.

This year, insufficient rain, snowfall, and high temperatures resulted in poor yields or total crop failures in the spring, *kariz*'s, and rainfed areas. Farmlands in the lower reaches of *kariz* irrigation systems were not cultivated due to lack of water. Canal-irrigated areas from the rivers reported a similar cropping season as last year. Only an estimated 20% to 40% of irrigated land was cultivated due to insufficient seeds and water for irrigation. Destroyed irrigation systems contributed to less land being farmed, though communities together with NGO's have rehabilitated 151 km's of canal and 129 karez systems through food for work activities across the entire Kabul area. Bombing raids and fighting in Ghazni, Paktia and Khost have led to the displacement of people and subsequent loss of a cultivation season. Vineyards and orchards have also not fared well, and in many areas of Paktia and Khost, fruit trees and vines have withered and died. Pasturelands in the area have not improved in comparison to the rest of the country, and accumulated livestock losses are estimated to be between 50% and 60% of original herds.

The decrease in agricultural production will make people rely more on food purchases. Traditional labour opportunities on farmlands have decreased in line with the decrease in agricultural activity, and the return of internally displaced families and returnees from outside of the country places further strain on already limited labour markets. People are becoming increasingly reliant on out-migration in search of work to remit cash to families: it was reported that this income source will be the one on which most families will rely on in the coming year. The first ports of call for those in search of work are the main urban centres of Ghazni and Kabul, though these labour markets are already flooded with migrant labourers from the rest of the country. People are trying to cross the borders into Pakistan and Iran in search of work, and it was reported that many others are moving further afield to Dubai and the Arabian peninsula. Closure of the border with Pakistan at the crossings of Ghulam Khan and Khel Dand has reduced trade activities and labour opportunities related to import and export of goods. Some families reportedly have tried to sell their lands, though prices have reduced considerably due to the poor agricultural situation.

In Paktia and Paktika, income from the felling of trees in the pine and oak forests of the mountainsides to sell in the bazaars has reduced. Continued depletion of forests through over-exploitation is forcing people to move further up the mountains to fell trees. Together with implementing partners, women have used food aid to establish nine tree nurseries in a long-term bid to allow for re-forestation. In Logar, the Mis Ainak copper mine that has been closed for a number of years has reportedly been re-opened, and is providing labour opportunities for some of the men in the area. There were many reports of people borrowing money against future harvests. Loans have been accumulating over a number of years, and continued crop reductions and failures are preventing families from pulling themselves out of this cycle of indebtedness to richer families in the area.

Water depletion in potable wells has been reported all over the area. As with other parts of Afghanistan, people cannot afford the continued deepening of wells, and people are either being forced to purchase water or leave their villages. Reports of the lack of sufficient health care facilities, and the continued uncertainty and fear of the security situation in the area, were commonplace.

4.2.5 – The Central Highlands

Towering mountains and deep, narrow valleys characterize the Central Highlands of Afghanistan. This part of the country faces bitterly cold winters with high snowfalls for the better part of the year, and short summers with mild temperate conditions. In comparison to other parts of the country, the Highlands are not densely populated. The area of Hazarajat is extremely remote, with unpaved road networks snaking through numerous mountain passes and gorges, which are blocked or inaccessible to motorized transport during the winter months due to ice and snowfall. Villages are nestled in the valley floors or along mountain slopes, connected by narrow footpaths and donkey trails. Most of these villages cannot be reached even in the summer months by vehicles, due to the absence of roads. Agricultural activity centres around rainfed wheat cultivation on the mountain slopes, and *kariz* and spring irrigated farmland. An estimated 14% of the pastureland in Afghanistan is found in this area, and prior to the war it was utilized both by the inhabitants for their cattle, sheep and goat herds, as well as by migrating nomadic pastoralists, the Kuchis.

Due to the topography of the area, there is limited cultivable land, so agricultural land per capita is low. Almost half of the people are sharecroppers, owning an estimated half to one *jerib*¹⁷ of irrigated, and up to three *jeribs* of rainfed land. The cold climate limits agriculture to one season per year – irrigated wheat is sown in the autumn (September to October) and again in spring (March to mid-May), together with rain-fed wheat, which is only planted in the spring. Cereals are harvested in September and October. Other crops include barley, beans, and vegetables. Apricot, apple, and almond orchards are found in parts of Ghazni and Wardak Provinces, and in Shahrستان District of Uruzgan Province.

Even in normal years, local agricultural food production was insufficient for communities living in the highlands due to the limited availability of land. Food requirements were supplemented through purchases, with income traditionally coming from daily wage labour on farmlands, livestock and fruit production, and remittances for those families that sent a husband or a son in search of labour outside of the area. Handicrafts¹⁸ were made, mostly by the women in the area, for bartering and sale within the local bazaars and to traders passing through the Highlands.

The reduction of rain and snowfall has had a serious impact on both agricultural and animal husbandry activities in recent years, necessitating large-scale food aid interventions by aid operators in the area over the last winter to ensure people had sufficient food. This year, in spite of some rain and snowfall, it is estimated that only 30% of the total rain-fed land was cultivated due to a lack of adequate seeds (despite the much needed seed distributions conducted by various humanitarian organizations), tools, and a general uncertainty as to whether there would be sufficient water. Farmers reported that limited rains and snowfalls over the last few winters, coupled with the early melting of the snows, has not allowed for the replenishment of the underground aquifers. Thus, water from the *kariz*'s and springs, on which irrigated farming depends, has either been greatly reduced or dried up completely. An estimated 50% of irrigated

¹⁷ 0.2 hectares

¹⁸ *Hazaragi kilim* (mostly black and white *kilim*'s specific to the area), *Namad* (matted woollen carpets), *Satranji* (cotton carpets), *Barak* (woollen waistcoats), *Jowal* (woven woollen sacks to store wheat), and *Kilch* (woven saddle bags)

lands were planted in the last season, with the average seed to yield ratio being 1:5 for those farmers that managed to harvest a crop.

Lands at the tail end of *kariz*'s and canals have not been cultivated at all. Villagers reported that the price of land has decreased considerably. Orchards have also been affected by the drought, with many fruit trees withering away or dying. Pastureland and animal fodder has been severely impacted due to the lack of rain. Distress sales of livestock in the last few years has resulted in an estimated 70% to 80% reduction in herds across the Highlands, with many families having lost their last animals. In areas where the war raged, many families lost assets and livestock through looting by the militia, houses were damaged or destroyed, and in areas around Yakawlang the destruction of the irrigation systems occurred.

Such a decrease in agricultural activity has negatively impacted the traditional labour networks on farmlands for many rural families. To compound the problem further, the arrival of returnees and internally displaced people to their villages after the cultivation season has increased the number of inhabitants in the area, straining local food stocks and already reduced labour opportunities. This is forcing people to out-migrate to urban centres in search of work in ever increasing numbers. The high livestock losses of recent years have not only affected families access to dairy and meat production, but have also impacted the handicraft trade due to reduced wool resources in the area.

Many families have been forced to borrow money against future yields, but with the reduction of harvests they have been unable to pay back these loans, causing them to continue spiralling downwards into debt. Some villagers reported that interest rates of up to 10% per annum are also being accumulated. In some areas of Panjab and Waras Districts in Bamyan Province, natural poplar forests are being degraded through over-utilization. Trees are being felled at an alarming rate, to be used as fuel for cooking, heating, and sale in the bazaars.

All across the Central Highlands concerns over the lack of health care facilities was reported, even though Agencies and NGO's working throughout the area have dramatically improved people's access to medical services. As a result of the depletion of the underground water table, many wells for potable water have dried up. Villagers have reported that water levels in the wells have dropped by as much as six to twelve meters. Due to the shrinking economy in the area, people simply cannot afford to dig deeper wells and many are considering leaving the area to the cities of Ghazni and Kabul.

4.2.3 – The East

The eastern areas of Afghanistan are bounded by the pine-covered mountains of the Spinghar (White mountains) in the south and the Hindu Kush to the north. The land in between is a rolling plain extending from the foothills of the Spinghar in Nangarhar Province into Laghman Province, before merging into the deep valleys and mountain range of the Kohikamdesh at the base of the Hindu Kush in Nuristan and Kunar Provinces. This area is densely populated. Three major rivers water the area – the Kabul, flowing eastwards through the plains around Jalalabad city, and the Alishing/Alinghar and Kunar Rivers, which flow southwards from the mountains of Laghman/Nuristan and Kunar to join the Kabul River.

Farming practices are based on spring, *kariz*, and intermittently flooded irrigation (estimated at 60%), river and canal irrigation (approximately 30%), and on rainfed land on the mountain slopes of Kunar and Nuristan – estimated at 6% and 3% respectively. The primary crop is wheat, which is cultivated in two agricultural seasons. Secondary crops of rice (grown along irrigated riverbanks), maize, cotton and peanuts are cultivated. Due to the high population density in the east, people

have relatively small agricultural plots. In normal years, local food production covers approximately half of the annual food requirements for people in this area, necessitating a diverse mix of livelihood and coping strategies in order to meet food balances. In the forested valleys of Nuristan and Nangarhar people eat and sell *Jalghoza* in the bazaars. Although most livestock production is concentrated in Nuristan, many families keep small herds. Farmers grow poppy as a high value cash crop, and well-developed trade links and labour routes are established with Pakistan. Precious and semi-precious gemstones, such as emeralds and rubies, are collected in Nuristan and sold to traders passing through the area.

The east has been the scene of heavy fighting and conflict, with much infrastructure – including irrigation systems - destroyed, and large internal displacements and out-migrations of people occurring. Coupled with the drought, this has resulted in food production dropping to levels below those of normal years. Targeted food interventions in the area have resulted in the reconstruction of 330 km's of roads, 440 km's of canal systems, and the rehabilitation of 175 *karez*'s through the efforts of NGO's operating in the area in the last year. Traders in the markets have reported that locally produced wheat is only available in the bazaars at the onset of the harvest season, after which all grains and wheat flour are brought in from other parts of Afghanistan or imported from Pakistan.

Reduced snowfall during the last winter, and lower than normal rainfalls have led to a reduction in water for irrigation. Mostly upstream-irrigated croplands at the base of the mountains are watered. Underground water tables are reduced, negatively impacting agricultural production relying on springs, *kariz*'s, snowmelts and intermittent flooding. Villagers have estimated that water levels in wells have dropped by as much as five to eight meters compared to last year. Rainfed agriculture has failed, and most farmers reported that they were unable to harvest the equivalent seed sown. Wheat losses from irrigated areas have occurred in both lowland and highland areas, and yield reductions of 60% to 80 % from normal years are estimated. The exception is the canal-irrigated farmlands of Nangarhar Province, where surplus wheat production was recorded in upstream canal irrigated areas. Downstream canal, and all *kariz* and spring irrigated farmlands, have been badly affected by lack of water and own produced food has reduced considerably. Many farmers have not attempted a second crop, especially in the Spinghar areas of Nangarhar, and in many of the valleys of Kunar, Nuristan and Laghman. Those farmers who did plant a second crop opted for maize rather than wheat.

The fear of bombing raids and conflict in the region prevented many farmers from cultivating their fields, particularly those who live in the vicinity of Tora Bora between Nazyan and Hezarak Districts. It was reported that people left the area during the raids, and although some families left behind one of their kin to work the lands, the workloads were too great for this strategy to have been effective. Livestock losses through distress sales at lower prices have been high over the last few years. Traders mostly took the animals across the border to Pakistan. In a bid to stem this loss of livestock in the area, it was reported that the slaughtering of animals in the area has officially been stopped for two days of the week – on Saturdays and Wednesdays – in the main bazaars.

All this has led to an increased reliance on food purchases, while labour opportunities have decreased in the agricultural sector, and restrictions and closures of border crossings, such as Torkham with Pakistan, have effectively blocked this avenue for migrant labourers in search of income. The arrival of returnees in this densely populated area is straining the labour market. The opium ban of 2001 and the poppy eradication campaign in 2002 has significantly reduced income and work opportunities for many farmers and labourers. Thus, people continue to sell assets – agricultural lands, livestock, and household goods – as well as taking loans and mortgaging land. This seems to be the case particularly for those families living in the spring, *kariz* and intermittently flood-irrigated areas. The prices of irrigated land were found to have dropped by more than 50% compared to normal years.

To supplement income, the felling of pines trees from the natural forests on the mountain slopes for firewood and timber sales to traders, both within the country and to Pakistan, has greatly increased. This loss of ground cover will lead to long-term environmental degradation, with a reduction in the water absorption capacity of the land, soil erosion, and the future risk of landslides.

The need for more schools and education was heard throughout the area. Since March this year, aid interventions with local partners using take home food rations for school children, has relieved the need for many children to work. School attendance has increased, and there are now an estimated 63,000 children in rural schools, of which more than 22,000 are girls. It was reported in many villages, particularly in the spring and *kariz* irrigated areas that potable wells are drying up. In the last year, communities and implementing partners used for food for work and food for asset creation to support the digging of 528 wells in the area. Many villages, however still face serious problems in accessing safe drinking water, and people simply can no longer afford to dig deeper wells.

4.2.6 – The South

The southern Provinces of Nimroz, Kandahar, Uruzgan, and Zabul extend from the foothills of the central and southern mountains, into open plains dominated by rocky outcrops and desert sands. Four main rivers originating in the mountains to the north and east – the Khash, the Hilmand, the Arghandab, and the Arghistan – flow through the area, and around which most agricultural activities take place. Along these watercourses and in the urban centres, population densities are high. The rest of the area is relatively uninhabited due to the hostile natural environment, though small settlements can be found huddled around desert oases. The main cities in the south are connected to Hirat to the north and Kabul to the east by one main road – originally paved but now in desperate need of repair – and numerous tracks that criss-cross the desert, travelled by camel caravans and trucks. Southwards, the city of Kandahar is linked to the Pakistani settlement of Quetta, along a bustling trade route that runs through Spin Boldak and the bazaars of the frontier town of Wesh. In recent times, the south has experienced heavy fighting and conflict, with much infrastructure – including irrigation systems - being destroyed. The internal displacement of people and out-migrations of populations due to conflicts and drought have compounded the problems in this part of the country.

Low altitude rainfed lands are found in parts of Hilmand, Kandahar, Uruzgan and Zabul Provinces, though most agriculture is conducted in irrigated fields, through canal irrigation systems along the river courses. More than half of the agricultural systems in Urozgan (estimated at 60% of agricultural activity) rely on spring, *kariz*, and intermittent flood irrigation, closely followed by Zabul (estimated at 40%), Kandahar (estimated at 20%) and Hilmand (estimated at 15%). The main crops are wheat and, to a lesser extent, barley. There are two agricultural seasons: the first cultivation takes place in November to December, whilst the second is in June to July. Secondary crops include maize, cotton, beans and pulses, melons, watermelons, cumin, and poppy. Vineyards, pomegranate and almond orchards are found in the area.

The main livelihoods for Afghans in the south are based on agricultural and livestock production. Labour opportunities revolve around agricultural seasons, where work can be found in the fields of larger landowners – owning medium to large-sized agricultural plots that range between ten to 300 *jeribs* – as well as the urban centres and the frontier towns of Zaranj and Spin Boldak, where people could cross the border either into Iran or Pakistan. The majority of people, however, are sharecroppers and small-land owners, with typical sized plots ranging from one to ten *jeribs*. Animal husbandry also played a significant role in people's livelihoods, with herds of camels, cattle,

sheep and goats being owned. Handicrafts¹⁹ are typically made by women, and mostly for trade and sales in the area, although there is some export to Pakistan.

In normal years, local food production was insufficient to cover the annual food requirements for people in the south, with the exception of the irrigated farmlands along the banks of the Hilmand River, where surpluses were produced. Nevertheless, people in the south had well-developed coping strategies, through livestock ownership, the cultivation of poppy, and extended labour and trading networks with Pakistan and, to a lesser degree, Iran. However, the area is now entering its fifth year of continued drought, and people living here are facing the coming year with exhausted coping strategies, depleted livestock and assets, and a tightening of the border with Pakistan that prevents all but the most hardy – or desperate - to risk an illegal and dangerous crossing at the hands of smugglers.

A lack of snowfall during the last winter, and lower than normal rain, has decreased water availability for irrigation. Mostly the upstream-irrigated farmlands at the base of the mountains, and canal irrigated fields along the Hilmand River as far south as the town of Garmseer - after which the river runs dry - are watered. The rest of the rivers and watercourses are almost, if not completely, dry. Underground water tables continue to reduce, severely impacting agricultural production relying on springs and *kariz*'s – villagers have estimated that the water levels in their wells have dropped by as much as five to ten meters compared to 2001. In the last year, partners implemented food for work and food for asset creation projects to rehabilitate 1,600 Karez's in an effort to assist the communities in the south.

With the exception of the upstream canal irrigated Districts of Hilmand Province where surpluses have been recorded, wheat losses from irrigated areas have been severe. Downstream canal and all *kariz* irrigated farmlands in both highland and lowland areas have been acutely affected as a result of the drying up of water sources, and many fruit trees and vineyards have died. Yield reductions of up to 75% to 100% of normal harvests have been estimated in these areas. Rainfed agriculture has failed, and a vast expanse of dusty, dry farmlands dominates the countryside in parts of the south. Due to this lack of water, many farmers did not plant second crops in most areas outside of Hilmand Province. Farmers who did plant a secondary crop cultivated melons, watermelons, green beans and cotton.

Coping mechanisms for people in the south are nearing exhaustion. They have sold their belongings – agricultural lands, livestock, and household assets – as well as taking loans and mortgaging land, particularly by the families living in the spring, *kariz*, and downstream irrigated agricultural areas. Farmers have reported that the prices of irrigated land were found to have dropped by more than 50% compared to normal years, and are now battling with the double-edged sword of desperately trying to sell their land but at reduced prices. Labour opportunities are now almost wholly limited to the main Provincial cities as a result of agricultural failure and restrictions across the borders. This situation has been further aggravated by a fear of bombing raids and the conflict, which has caused some families to flee the area in search of safe havens in other parts of Afghanistan and Pakistan.

Safe potable water is a concern, as many wells have dried up completely. Communities keep deepening their wells, but they continue to run dry and people are becoming too impoverished to afford the continuous digging of deeper wells. In Zaranj District of Nimroz Province, people are forced to buy potable water for 250 Afghanis per litre from water suppliers. The dependency on wood and roots for fuel by many families who have lost their livestock is leading to the degradation of natural forests and pastures in the area.

¹⁹ *Kola Kandahari* (made from embroidered cloth) and *Yakhan Dozi* (embroidered clothes)

4.2.7 – The West

The western areas of the country extend from the rolling hills and pistachio forests of northern Badghis to Hirat Province, to the rocky arid lands of western Hirat and Farah Provinces, and eastward where the ground climbs steeply into the lofty mountain regions of Ghor and southern Badghis. People are mainly concentrated in the Provincial cities and urban centres scattered throughout the Provinces. The city of Hirat, one of the outposts along the ancient Silk Route of the east, is the main urban hub of the area. In comparison to other parts of Afghanistan, the rural areas are not overly populated, with villages concentrated along watercourses flowing westwards from the mountains. Two main rivers flow through the area – the Harirud and Farahrud - where irrigated agriculture and horticulture takes place along the banks.

In the arid lands of central and southern Hirat and Farah Provinces, farming relies on *kariz* irrigation – estimated at 40% and 90% respectively - while in the mountainous areas agriculture centres predominantly on rainfed (approximately 65%) and mountain spring irrigated (estimated at 35%) wheat. In eastern Badghis and into western Hirat, there is an extensive belt of primarily rainfed land on which most agricultural activity takes place, estimated at 90% and 60% respectively for the two Provinces. A few large-land owners, for whom most of the rural population will sharecrop or work, are found in the area. However, the majority of rural families are small-land holders. The main crop is wheat, with secondary production of barley, peas, corn, and cumin. In normal years many farmers cultivated second crops of rice, corn and lentil's, though this has decreased due to water shortages, with the exception of the irrigated lands along the Murghab River in Badghis Province. In some districts of Hirat and Farah Provinces, vineyards and peach, apricot, plum and walnut orchards are watered from the rivers. Fruits and vegetables – melons, watermelon, eggplants, tomatoes and okra – are grown in the area.

Livelihoods and coping strategies for people living in the west – with the exception of Badghis and Ghor - are traditionally very diverse and better developed than in the northern areas. In addition to agriculturally based activities, livestock ownership played a large role in people's livelihoods – cattle, donkeys and camels were owned, and large herds of sheep and goats were used for dairy production, sale, trade, and transport. Wool and hides were a major export for Badghis Province, within the country but predominantly to Pakistan. Work opportunities are based on agricultural activities, and there are well-established labour networks into Iran.

The road that runs from Iran through Hirat city, south to Kandahar and Pakistan and east to Kabul, is the main artery for the movement of goods, and provides both labour and trade opportunities for people in the area. Outside of the main urban centres, however, market networks are poorly developed - farmers in Farah Province reported their inability to sell produce due to a lack of markets. Agricultural goods and carpets, woven by the women and children of the area, were sold and traded along this route. Road networks in the mountainous areas of Ghor and Badghis Provinces are underdeveloped. One road runs from Hirat to Kabul along the spine of the Safed Koh Mountains across Ghor Province and the central Highlands, though the snows and ice of the winter block this route in the critically cold months. Remaining roads in these areas are mainly foot and donkey trails due to the rugged terrain, which leaves many villages remote and completely isolated to each other and the rest of the area. An estimated 126 km's of roads have been constructed or rehabilitated by communities throughout the area using food for work. The trading post of the Afghan/Iranian frontier town of Islam Qala, as well as Torghundi on the Turkmenistan border, also provide significant trade and labour opportunities for the people in Hirat Province. They also act as a springboard for many Afghans crossing the border in search of work in these neighbouring countries.

Rains across parts of the west earlier this year provided some relief to many farmers, though mostly rainfed production has benefited from this precipitation. Despite this rainfall, the lack of sufficient seeds, the loss of traction animals and tools through distress sales over the last few years, and the out-migration of able-bodied men across the border to Iran in search of work have all resulted in below normal cultivation and harvests. Families relying on spring and *kariz* irrigation continue to suffer from the effects of the drought, as underground water tables have not been sufficiently replenished.

This year farmers have reported an improvement in livestock-related activities compared to last year. Although livestock numbers have been greatly reduced over the last few years, in 2002 animal births have been said to be greater due to an improvement of the pasturelands. Livestock sales are reducing as people not only begin to think about the rebuilding of their herds, but also due to a favourable increase in the market prices of animals, which can allow people to sell fewer animals at a greater profit. This means that it will be difficult for people to purchase live animals to restock herds, but the situation is generally regarded as being favourable to most farmers.

Currently, the main sources of income for many people in the west are agricultural seasonal labour, the sale of livestock and other household assets, the sales of agricultural production - fruits, vegetables, pistachio, and cumin – remittances from Iran, and loans and mortgaging of land. It has been estimated that 20% to 30% of people work within the Districts during the cultivation and harvesting seasons, or as sharecroppers and shepherds. An estimated 30% to 40% of male labourers seasonally migrate to the city centres of Hirat and Farah, while up to 40% to 50% cross the border into Iran in the hope of finding work and sending back remittances to their families.

In many areas people are facing shortages of safe potable water due to the decrease of the underground aquifers. In Sange Atash district of Badghis Province, drinking water is salty and unpalatable, forcing people to spend meagre incomes on purchasing drinking water. Some people in this area dig holes to depths of as much as twenty meters – called *cha* - in which they store snow collected throughout the winter. During the spring and summer, the water in these *cha* is sold to other villagers. In spite of the efforts of the aid community operating in the west to provide health care to the people, health facilities are still reported to be insufficient, particularly in the extremely remote areas of Ghor and Badghis Provinces.

4.2.8 – The North

Northern Afghanistan is bounded by the Darya Amu River, behind which the hot, dusty, plains of central Asia extend northwards into Turkmenistan and Uzbekistan. This part of the country is differentiated between two main agricultural belts: the irrigated farms of the flatlands estimated at 30% to 40% of agricultural land between the Darya Amu and the foothills of a series of mountain ranges; and the rainfed agricultural areas (estimated at 60% to 70% of agricultural land) of the Band-I-Turkestan mountains of Faryab Province, the Koh-I-Hisar mountains of Saripul Province, the Band-I-Kinrak mountain range of Samangan Province, and the Hindu Kush of Baghlan Province. A series of rivers – the Ab Qaisar, Sari-I-Pul Ab, Balkhab, Aibak, and Kunduz – flow from the mountain ranges in the south and spread into delta systems in the flatland agricultural areas of Faryab, Jawzjan, Balkh, Samangan and Kunduz Provinces respectively. Water for irrigation is drawn through a series of canals from these rivers. Villages along the Darya Amu also rely on canals for irrigating their fields. Across the entire area, spring and *kariz* irrigated agriculture is also taking place.

Although the area is fairly well connected by roads, particularly in the flatlands which are linked to Kabul through Baghlan and the Salang tunnel, roads deteriorate the further they extend into the

mountainous areas to the south. To a great extent these mountain areas are completely inaccessible during the winter, and most transport routes are, at best, mere donkey trails leaving villages to the south extremely remote to the rest of the area.

Approximately 80% to 85% of people living in northern Afghanistan are involved in agricultural and animal husbandry activities. In normal years the area was regarded as the granary of the country, as surplus cereals were produced from both the rainfed and irrigated farmlands. The main crops grown were wheat, barley, corn, rice, sesame, pulses, grapes, melons, watermelons and cotton. In addition, people had relatively large herds of sheep, goats and cattle, which they would graze in the pasturelands of the mountains, and use as trade commodities. The area is world-renowned for the carpets woven by the women from natural wools sheared from their flocks. In short, the people in the north were self-sufficient, producing agricultural surpluses and having a thriving livestock trade. Labour opportunities were linked to agricultural seasons, with people either working in the fields of larger landowners, or migrating to the wheat and rice fields of Takhar and Kunduz. The larger urban centres of Mazari Sharif and Kunduz also provided work opportunities, and trade links were predominantly internal to the area. There was a well-established carpet trade to Kabul, across the border to Turkmenistan, and exports to Pakistan.

As a result, livelihoods were based on this self-sufficiency and reliance on own production, and coping strategies were not as well developed as in other parts of the country. The recent drought in Afghanistan began in 1998/1999 across most of the country, though it only reached the northern areas one year later in 1999/2000. When it struck the north, the effects were felt immediately. Due to poorly developed labour and trade networks outside of the area to the rest of Afghanistan and with neighbouring countries, people living here were unprepared to deal with the situation and initially looked internally to the area for coping mechanisms.

These were not available, as agricultural production had failed and livestock was dying due to lack of pasture, fodder, and water. Immediate coping strategies for these people were severe, desperate, and irreversible – land was sold or mortgaged, mass sale of livestock and traction animals resulted in a collapse of the market prices, loans were taken to buy food and to send men in search of work in Iran and Pakistan, fruit trees and orchards were felled and sold as firewood in the bazaars, household assets and tools were sold, pre-pubescent daughters were married off, and young sons were indentured as labourers as families could not afford their upkeep. To add to this despair, conflict and political instability in the north - particularly in the mountainous regions - resulted in mass displacements, minefields, and blockades that hampered free movement of people. Thus, an underground trade flourished, led by smugglers slipping and bribing their way through these blockades to bring in food and other commodities to the desperate rural population. Through the exploitation of the people and due to the incredible risks associated with smuggling, prices were exorbitantly high.

As a result of two years of drought, any self-sufficiency through own production was lost, and many families sunk into suffocating levels of indebtedness, poverty and destitution. The area has seen an increase in small-land owning and landless families, as land was sold and mortgaged to the few better-off large-land owners that could afford the purchase of these plots. In some villages, for example, it was found that all arable land now belongs to three or four families, for whom the remainder of the village will have to labour.

Rainfall earlier this year, however, has brought some relief to northern families. Farmers relying on the mountainous rainfed agricultural lands have been able to harvest some crops, and could now be meeting as much as 20% to 40% of their food requirements through their own agricultural production. In spite of the distribution of seeds by Agencies and NGO's in the area, it was reported that there was still a lack of sufficient seeds, as well as tools and traction animals, which resulted in an estimated 10% to 30% of the land being cultivated when compared to pre-drought times. In

addition, some wheat fields suffered from rust and smut, with an estimated loss of 15% to 25% of the harvests. In some Districts of Balkh, Samangan and Baghlan, locust infestations in the wheat fields damaged parts of the crop. Nonetheless, this is a major improvement considering that last year harvests were minimal.

Farmland areas relying on canal irrigation systems from rivers flowing down the mountains have either remained the same or are deteriorating, due to reduced spring water that feeds the river systems and the location of the farmland along the river – either upper or downstream. Villages closer to the start of the river systems are faring better, as they have access to water, and yields were generally found to be good. Some areas of Balkh, Baghlan, and Kunduz managed to harvest second crops, and some surpluses were recorded. Cultivated land in these areas is estimated to have been between 50% and 70%. Communities have restored an estimated 760 km's of canal irrigation systems with food aid, through targeted food for work and food for asset creation activities. Similarly, over 200 water reservoirs were rehabilitated in the last year.

Locust damage was reported in parts of Samangan in the irrigated lands. Those villages that are located at the lower reaches of the river systems are deteriorating, as they cannot get sufficient water, particularly if they are situated below main urban centres such as Shibergan and Mazari Sharif cities, as the cities draw off the bulk of the water for residential and urban use. In some areas, villages were found to have access to water only two days in a week, as rivers are controlled through a series of weirs, which divert water flow to different regions in the deltas. No second cultivation was recorded in the down-river irrigated areas. *Kariz* and spring irrigation has not shown much improvement – indeed, the situation could be deteriorating, as water tables remain depleted.

It is estimated that these farmers could be meeting between 10% and 30% of their food requirements through own agricultural production. For all of the rural population, food balances will need to be purchased. Cereals in the main urban markets are imported from Pakistan and the countries north of Afghanistan, due to limited and insufficient surpluses from the area. As cereals are transported further south into the main District centres of the mountainous regions, prices increase to cover the costs of transportation.

It was reported that 60% to 80% of the livestock has been lost as a result of the drought and the conflict that raged in the area. This year's rainfall has led to an improvement in pasturelands, and farmers are beginning to rebuild their herds. Thus, fewer animals are being sold in the market, so prices have increased. Although this will make it difficult for restocking through purchases, it benefits the majority of farmers who will now need to sell fewer animals in order to raise cash for other purchases.

As most labour opportunities centre on agricultural activities, the drought resulted in a reduction in daily wage opportunities throughout most of the north. People streamed into the urban areas, flooding the labour markets and increasing competition. However, due to the improvements in the agricultural sector this year, labour opportunities are expected to pick up again, with people from the rural areas possibly finding work closer to home, and relieving some of the pressure from the competitiveness of the labour markets in the urban centres.

The carpet trade has been severely impacted due to the provincial livestock losses and subsequent reductions in raw materials for weaving. In addition, many looms have been sold or traded from desperation in the last few years, and marketing routes for carpets to Turkmenistan have been closed. This has led to the movement of traders throughout the area, providing looms and resources to both men and women who will weave carpets as hired labour. Although this is providing a source of income to some families and removes the fear of being unable to sell a completed carpet, women are receiving lower returns for their work. NGO's have reported that the

provision of food aid in the north has reduced, if not halted, the early marriage of pre-pubescent girls. Through the establishment of women’s bakeries and Parent / Teacher committees in the north together with partners, an estimated 94,200 pupils are now attending school – 33,000 of which are girls – and receiving food to take home to assist their families.

As with the rest of the rural areas throughout Afghanistan, the drying up of wells has been reported in the north, forcing people to travel long distances through the mountains and gorges in search of water. In the area, NGO’s have assisted communities in digging wells through food for work and food for asset creation activities. Health facilities and medical stocks are often insufficient to cover the needs of the rural population due to the remoteness of many villages, and the inability of people to travel these distances in search of health care, particularly during the critical winter months.

4.3 – Food deficits

Food deficits have been found throughout most of the country at differing levels and for various lengths of times. In summary, rural populations that will not be meeting their annual food requirements are estimated at 4.3 million people, in the following table²⁰:

Food insecurity class	Months food gap	North east	East	Central Highlands	South	West	North
Acute	10	-	-	-	385,000	-	-
Very high	8	131,000	148,000	230,000	481,000	24,000	28,000
High	5	113,000	132,000	723,000	133,000	280,000	444,000
Moderate	2	54,000	53,000	501,000	28,000	146,000	272,000
Total		298,000	333,000	1,454,000	1,027,000	450,000	744,000

Detailed findings are presented in a set of tables in the Annexes. Aggregated District findings are listed in Annex 5, estimating the food security class, number of vulnerable people to food insecurity, and months of food deficits for which assistance would be required.

Findings at the sub-District level are given in Annex 6, together with the estimated food contributions from agriculture, livestock, and income as collected throughout the assessment.

4.4 – Livelihoods

A further component on livelihoods was added to the survey this year, in an attempt to provide an additional data set on possible livelihood status to the Government and the broader aid community for project implementation and intervention decision-making.

Broadly, findings show that the west, north, northeast, and the Central Highlands would have the lowest cash per capita if available fixed and tradable assets (land and livestock) were converted into a cash value. This could be attributed to small irrigated land sizes the lower value of rainfed land, and the high livestock losses in these areas. In the irrigated lands of the east and south, land is worth more due to the irrigation systems and the potential to grow high value crops.

²⁰ Estimates have been rounded to the nearest 1000 – for more detailed figures, refer to the aggregated District and Provincial findings in Annexes 5 and 6.

When comparing debt to asset ratios, a similar pattern emerges, with higher levels of debt noted in the Central Highlands, the northeast, and parts of the north and west. This could also be attributed to the lower cost of land, and families subsequently having received less when selling or mortgaging their lands. In the south and east, lower debt levels are noted. This could be a result of the greater opportunities for cross-border seasonal labour migrations that people in this area have relied on in the past, and the prevalence of high value crops in these areas that would have contributed to rural farmer's incomes thus reducing the need to enter into debt. Given the fact that cross-border movements are now restricted, and the current drive to eradicate the cultivation of poppies, the coming year may show a change in these debt to asset levels if alternative sources of income are not identified.

The map in Annex 7 shows the levels of resources (land and livestock) converted to cash per capita values, grouped into classes, and given as a base thematic layer. Debt to asset ratios, also grouped into classes, have been overlaid onto this map to present an overview of potential resources and debt levels in the various Districts. Given that this data is based on village assets converted into per capita values, this map should be interpreted with caution, as the real situation at the household level is likely to be different. Nevertheless, what is important to note is that the overall trend correlates with people's food security situations and implemented coping strategies in the recent past.

The data used to reach these findings are given in Annex 8 (aggregated at District levels) and Annex 9 (disaggregated at sub-Districts levels), given either as cash values or percentages.

Using this data, a broad livelihoods matrix²¹ was created through which Districts were compared. By assigning a score to various livelihood erosion indicators, these Districts were ranked in ascending order from worst to best and are presented in Annex 10.

The same livelihoods matrix was applied to the Districts within the differing food security classes. This enabled the comparison of Districts in the same food security class, yet ranked from worst to best according to the livelihood matrix. The findings are presented in a series of maps in Annexes 11 to 15, onto which were overlaid resources as cash values and estimated classes of debt to asset ratios, per capita. Class values shown in the legend of these maps are listed in the livelihoods map of Annex 7.

4.5 – Scurvy and Goitre²²

4.5.1 - Scurvy

The characteristic lack of dietary diversity in Afghanistan, which has been exacerbated by the prolonged drought conditions over the last four years, as well as the severe winter conditions affecting access and production for a large proportion of the population, are obvious risk factors for micronutrient deficiency diseases, especially scurvy (Vitamin C deficiency).

The extent and severity of the problem of scurvy is difficult to define accurately for several reasons, namely the unfamiliarity of the disease and the non-specific clinical signs of the disease. Therefore, these survey findings need to be interpreted with some caution.

According to the WFP VAM / Partners findings, shown in Annex 16, cases of scurvy (locally known as *seialangia*) occurred in all regions of Afghanistan during the last winter. Large-scale outbreaks of the disease were also confirmed in western regions (ACF, Feb 2002) and in the northern regions

²¹ Refer to the Methodology section: 5.6 – Livelihoods, for clarification

²² Findings in this section have been provided by the MoPH and UNICEF

(SC-US, March 2001). While there have been recurrent small-scale outbreaks in specific areas in the past, the recent widespread scale and distribution, as shown by this survey, is unusual and extremely concerning. Lack of access to vegetables and fruits, over-reliance on carbohydrate based diets (e.g. *naan* and tea), the lack of diversity in the food aid basket, and the loss of access to animal products - specifically milk - have resulted in almost all areas of Afghanistan becoming affected. In areas with better access to markets (such as Hirat and Kabul) and in areas of irrigated food production (such as northern Hilmand), no cases were reported.

4.5.2 - Goitre

It is well known that Iodine Deficiency Diseases (IDD's) including goitre are highly prevalent and widespread in Afghanistan. However the extent, severity and geographical distribution of the diseases are not well documented. IDD's including goitre are usually found in highland mountainous areas, specifically in areas where the soils are deficient in iodine. These VAM survey findings, based on reported clinical cases (visible swelling of the thyroid), confirm that the disease is widespread throughout Afghanistan with predominance in the high altitude areas (see Annex 17, and Annex 2 showing winter inaccessible areas). These findings reinforce earlier surveys conducted in Parwan and Kapisa Provinces (ACF, August 2002), Kunar District in Nangarhar (IbnSina, 1999) and Wardak (RACA/UNICEF, 1995), which showed prevalence's of goitre between 50% and 70%. This map (Annex 17) only shows the distribution of visible goitre, however IDD's include a diverse range of outcomes and malfunctions, including mental retardation, stillbirths and cretinism, which are not included in this assessment. Underlying deficiencies, such as poor mental development, lack of energy and motivation, which are not necessarily indicated by visible clinical symptoms, are likely to be even more widespread in Afghanistan.

5 - METHODOLOGY

The assessment instrument looked at availability and access of food resources for communities at a sub-District, or farming practice / agro-ecological zones (henceforth referred to as FP/AEZ's) levels. The main contributions to own produced food sources were measured through agricultural and livestock production/sales, and food that could be purchased from income derived through labour and remittances.

The survey was conducted at a village level, and findings were aggregated to determine levels of food needs being met at the sub-District and District levels. This would allow for the geographical planning of resources and targeting of food aid, if and when required.

The main steps in the survey were to:

- define the indicators of medium term capacity to meet food needs;
- measure those indicators in each unit of analysis;
- rank the Districts according to their food insecurity level;
- highlight pockets of high food insecurity in better-off Districts; and to
- recommend adequate levels of aid to meet food needs.

5.1 – Units of analysis

The smallest administrative unit in Afghanistan is the District, the boundaries of which were updated, defined and gazetted in 1984 – known as the 32 Province/329 District (32P/329D) model. Population figures used for the analysis²³ are the 2002 Central Statistics Office (CSO) of Afghanistan estimates, based on extrapolations from the last population census conducted in 1979 and updated in 1991. These estimates are based on a standard growth rate of 1.92% per annum, and do not account for population in/out-migrations. The 2002 CSO population estimates are linked to the 32P/329D model.

Although there has been the creation of 'new' Districts since 1991, each having local administrative structures, these new administrative areas are as yet not defined and no clear geographical boundaries are available. For the purpose of this assessment and for WFP planning, these 'new Districts' are called 'operational field working units'.

During 2000 and 2001, WFP VAM attempted to map out the boundaries and collect population estimates of the operational field-working units through consultation with local authorities and partner Agencies. This exercise provided crude boundary divisions and percentages of original District populations that were estimated to fall in these operational field-working units.

This assessment has been conducted and findings aggregated at District level and, where there has been a sub-division in the District, to the operational field-working units. A population estimate based on the percentage of the District population falling into the operational field-working unit has been applied²⁴.

²³ At a meeting held in October 2002 between WFP, the MRRD, and AIMS, it was agreed that the official 2002 CSO population estimates for Afghanistan would be used for this analysis. It was also agreed that as new population estimates from detailed household surveys conducted by Agencies and NGO's emerge, both the CSO estimates and the findings from this survey would be updated.

²⁴ It must be stated that these figures are merely estimates on unclear boundaries, and will be updated as new and improved information becomes available.

5.2 - Medium-term indicators

To determine the levels of food needs being met, medium-term indicators were identified and surveyed. These indicators centre on own food production, income, and assets that could be exchanged or sold to purchase food. The following indicators were surveyed and calculated to determine the levels of food needs being met:

- rainfed and irrigated wheat production;
- secondary crop production;
- horticultural production;
- livestock;
- income from labour, remittances, handicraft or any other income generating activity.

The access to and availability of these resources will determine whether or not people will be able to meet their own food needs between primary crop harvest periods. FAO defines the cultivation year in Afghanistan as starting in July and ending in June. Thus, VAM has chosen this period as the timeframe for the survey, and this report will refer to the expected food availability conditions in this twelve-month period, starting from July 2002 and ending in June 2003.

Additional information to support and interpret the results of this assessment has been collected, such as data on social structure, land ownership, coping mechanisms, and nutrition.

A limitation of this assessment is that information was collected exclusively from men by male surveyors, and so does not capture a gender perspective. This resulted from the absence of sufficient female surveyors who could travel freely across the country. It is recognized that the voice of women has not been heard in this study, and is one of the improvements to this assessment that is envisioned for the coming year.

Market prices of food and livestock, as well as daily wage-labour rates, have been collected over a three-month period – May, June, and July – in the District centres to allow the analysis to be closer to locally prevailing conditions in different parts of the country. The average prices from these three months have been used for the analytical calculations.

5.3 - Data collection

5.3.1 - Zoning and Sampling

In Afghanistan, two main factors determine the types of farming systems: altitude, which determines whether the system is dominated by livestock or agriculture; and water, which determines and limits the type of agricultural activity. Farming systems will therefore be dominated by rangeland, rainfed or irrigated agricultural farming practices.

The provincial land-cover atlas of the Islamic State of Afghanistan (FAO-UNDP, 1999) maps out agro-ecological zones throughout the country, onto which Provincial and District boundaries are overlaid. Using this as the basis for area selection, and with the localized knowledge of the WFP VAM field teams, Agencies, and NGO's working in these Districts, WFP VAM identified the dominant farming practice areas. This zoning allowed for the characterisation of farming diversity within a District, and formed the first basis on which villages were selected.

Village selection for the assessment was based on a stratified / proportional sampling frame, and the number of villages surveyed were weighed according to the comparative coverage of FP/AEZ's

in each District. For example, Districts with a higher ratio of rainfed to irrigated agricultural land had more villages surveyed in the rainfed areas. A sample of two to six villages, inhabited by 80 to 100 Households, were selected in the differing FP/AEZ's in each District or operational field working units. Where geo-coded references for these villages were available, they were included in the database²⁵.

Villages selected for the survey needed to reflect the average situation, and not an extreme – the best or the worst. The initial village selection was based on: choosing at least 60% of the villages surveyed in the 2001 WFP VAM / Partners Countrywide Assessment of Rural Settled Populations to enable a certain degree of continuity of data; updates from the Rapid Emergency Needs Assessments conducted by WFP VAM / Partner Agencies and NGO's throughout the country during February to June 2002; and consultation with partners operating in the area.

5.3.1 - Questionnaire

Data was collected using a questionnaire, translated into Dari, through focus group interviews at a village level. Survey teams, of male national agronomists from WFP VAM and the twenty-one participating Agencies and NGO's collected the information, after having received training from the WFP VAM team on the completion of the questionnaire. Data collection was crosschecked and supplemented with field observations, localized knowledge, and consultation with partners operating in the area.

The raw data was downloaded onto Excel worksheets, screened for errors, and analysed through a pre-programmed series of calculations.

5.4 - Data analysis

In order to determine the food resources available within a community, data were collected that reflected any food produced through own agricultural activities – primary, secondary, and horticulture – and dairy production from livestock. Sources of income were investigated – expected sales of livestock, daily wage labour, remittances, and any other main sources of income. From this, only the expected percentage of income to be spent on food purchases was considered.

In order to conduct the analysis, a common denominator was required, and this survey chose the Kilocalorie energy requirement needed by people – an average 2100²⁶ Kilocalories per person per day. In order to convert cash crops and income into a food source that could be measured as a Kilocalorie value, a second common denominator was needed. As wheat is the main cereal consumed in Afghanistan and represents at least 80% of the diet of the rural poor, all food sources – with the exception of dairy production – were converted into a cereal equivalent using locally prevailing wheat prices collected from each village. The total cereal value was then converted into a per capita Kilocalorie equivalent for the analysis. Dairy production was automatically converted into a Kilocalorie equivalent.

As not all food sources would be captured in the assessment – such as food contributions through tertiary crops, secondary sources of income, remittances, charity, inter-household food transfers, kinship meals and support - an assumption was made that people would be meeting at least 20% of their food requirements. Thus, the analysis used 80% of the total 2,100 Kilocalorie minimum

²⁵ Teams did not travel with Global Positioning Systems (GPS) hardware, so many villages will not be geo-referenced.

²⁶ Although it is recognized that during winter months an additional 100 Kilocalorie allowance per 5°C below 20°C should be added, this was not considered during the assessment as seasonality of food sources and deficits was not captured.

requirements to determine food needs that would be met in a community – this translated into 1,680 kilocalories per person per day, or 613,200 Kilocalories for 12 months.

Two levels of analysis were conducted with the data, in order to answer two different programming needs at two different scales:

- The first analysis aggregated the data at District and operational field working unit levels. This has allowed for the comparison of the levels of food requirements estimated to be met in different Districts throughout Afghanistan. Such an analysis reflects the average food deficits that could be faced in each District, and will guide programme planning and resource allocation at a national level.
- The second analysis disaggregated the data according to the different FP/AEZ's within the Districts and operational field working units. This analysis highlights variations within the District, and indicates where to target food aid, especially if the District as a whole does not seem to be very food insecure. At this level, areas of high un-met food needs appear in Districts that are defined as being relatively better off at the first level of analysis. This additional information will guide programme planning and resource allocation at a local level.

5.5 – Vulnerability and assistance modelling

5.5.1 – Food security classes

Findings were classified into five levels of food security: four decreasing food insecurity classes, and one food secure class. Each class has been colour coded, and results are presented using these codes in both tabular and map form throughout the report. Food security classes and colour coding are as follows:

Food security class	% of Kilocalories met per person per annum	Description
Acute food insecurity	0% - 25%	People in these areas can cover up to a quarter of their annual basic food needs. Their average food resources will cover a maximum of three months.
Very high food insecurity	26% - 50%	People in this class can cover between a quarter and half of their annual food requirements. They have enough food to cover three to six months.
High food insecurity	51% - 75%	People in these areas can cover between half and three quarters of their annual food needs. Their food resources will cover six and nine months.
Moderate food insecurity	76% - 100%	People in this category can cover between three quarters to all of their annual food needs. They have enough food to cover nine to twelve months.
Food secure	>100%	People in this class can cover all of their food needs for the year. Some will have surpluses that will allow for expenditures other than basic food needs.

5.5.2 – Vulnerable population figures and months of food modelling

A model to determine the number of vulnerable people to be targeted with food aid assistance was developed²⁷. A standard targeting of 80% of a District population for food aid was applied to a sliding scale based on the food security classes. It was assumed that the larger the food gap, the less food resources would be available and circulating throughout the District, and the more people would be at serious risk of employing critical coping strategies for longer periods of time.

Determining vulnerable population figures for assistance were modeled as follows:

- In the acute food insecurity class where people would only meet 0% to 25% of their annual Kilocalorie requirements, 80% of 100% of the population would be targeted. This translated into 80% of the District population.
- In the very high food insecure class where people would only meet 26% to 50% of their annual Kilocalorie requirements, 80% of 75% of the population would be targeted. This translated into 60% of the District population.
- In the high food insecure class where people would only meet 51% to 75% of their annual Kilocalorie requirements, 80% of 50% of the population would be targeted. This translated into 40% of the District population.
- In the moderate food insecure class where people would only meet 76% to 100% of their annual Kilocalorie requirements, 80% of 25% of the population would be targeted. This translated into 20% of the District population.

When determining the months of food assistance that would be required for populations in the various food insecurity classes, the food gap was converted into a monthly equivalent, and the mid-point – skewed to favour the higher end of the food gap scale - was adopted²⁸. For example, the moderate food insecure areas that would be facing a food gap of one to three months would be targeted with two months of assistance. The exception to this model is found in the acute food insecurity class, whereby ten rather than eleven months of assistance are proposed. This is due to the timeline of the assessment which would only allow for a ten month intervention period, assuming that retro-active assistance would not be considered. A summary of the model is shown below:

Food security class	% of District population to be assisted	Months of assistance
Acute food insecurity	80%	10
Very high food insecurity	60%	8
High food insecurity	40%	5
Moderate food insecurity	20%	2
Food secure	0	0

²⁷ Development of the model by FOCUS

²⁸ Suggested by SC-US

5.6 – Livelihoods

The second section of the survey attempted to define varying levels of livelihoods through potential community resources. This was done through three analyses, namely:

- Resources – land and livestock – recorded at the village level were converted as a cash value per capita, and mapped out across the country. This indicated where higher and lower levels of resources, as a cash value, could be found.
- A debt to asset comparison, using land mortgages, cash, and food debts against land and livestock holdings²⁹. These values were converted into cash per capita, and a percentage of debt was calculated at a District level.
- A simple matrix was developed, and applied to all the Districts in order to rank them according to possible livelihood erosions. The following eight criteria, and values assigned to each category, were determined as follows:

Criteria used for the matrix	Class breakdown	Values assigned
1. % Estimated debt per Capita	0% - ≤5% >5% - ≤10% >10% - ≤15% >15% - ≤20% > 20%	5 4 3 2 1
2. % Estimated resources converted into cash values per Capita (in Afghanis)	> 20 Million >10 – ≤20 Million >5 – ≤10 Million >1 – ≤5 Million ≤ 1 Million	5 4 3 2 1
3. % Landless families in the community 4. % Families in the community that have mortgaged land 5. % Families in the community that have borrowed money 6. % Families in the community that are borrowing wheat	0% - ≤10% >10% - ≤20% >20% - ≤30% >30% - ≤40% > 40%	5 4 3 2 1
7. Cost of rainfed land per <i>jerib</i> (in Afghanis)	> 20 Million >10 – ≤20 Million >5 – ≤10 Million >1 – ≤5 Million ≤ 1 Million No rainfed land	5 4 3 2 1 No value
8. Cost of irrigated land per <i>jerib</i> (in Afghanis)	> 40 Million >30 – ≤40 Million >20 – ≤30 Million >10 – ≤20 Million ≤ 10 Million No irrigated land	5 4 3 2 1 No value

- When running the Districts through this matrix, the total of the values assigned to each class was used to rank Districts from best to worst, with the highest values used to show the best, and the lowest values indicating the worst. Thus, the ranges would run

²⁹ The original analytical instrument also included the value of housing as part of the assets. However, after conducting the analysis, it was felt that this is a fixed asset that is unlikely to be sold, and was subsequently removed so as not to skew the findings.

from a minimum score of 7 (with the absence of either rainfed or irrigated land) as the worst, and a maximum score of 40 as the best.

5.7 – Nutritional data

In partnership with UNICEF, the survey collected nutritional indicators to measure dietary changes, food preparation practices, and prevalence of scurvy and goitre³⁰. For this report, thematic map layers only show the areas, at a District level, where scurvy and goitre were recorded in the villages surveyed.

³⁰ The analysis of nutritional data is beyond the scope of the WFP VAM Afghanistan Unit, and will be conducted by UNICEF as per prior agreements. WFP VAM and UNICEF will release the findings of the nutritional component jointly, as a supplement to this report at a later date once the analysis has been completed.

6 - ANNEXES

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- 17 Map: Distribution of goiter (visible swelling of the thyroid gland) based on reported cases in 2002

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IMC – International Mercy Corps
IRC – International Rescue Committee
JDA
MADERA – Mission Aide Development Economique Rural Afghanistan
NAC – Norwegian Afghan Committee
NPO/RRAA – Norwegian Project Office/Rural rehabilitation for Afghanistan
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