

Highlights :

- Drinking and irrigation water shortages cause distress migration, disrupt livelihoods and increase tensions within communities.
- Environmental degradation threatens water table levels, food security and livelihoods.
- Wheat prices remain stable except in Kabul, where prices increased slightly, and Bamyan, where prices decreased.
- Wage rate rises sharply in Bamyan in August. Highest wages in Bakhshyan over the past three months
- Diesel prices slightly increase, with sharper increases expected in/after September.



Source: FEWS NET Afghanistan, Kabul Khairkhan

Water Security

Food security is dependent on the achievement of water security, because food and water are highly interconnected in Afghanistan. More than 80% of Afghans live in rural areas, subsisting on natural resources such as land and water, although some would argue that the key income determinants are labor migration, wages and remittances.

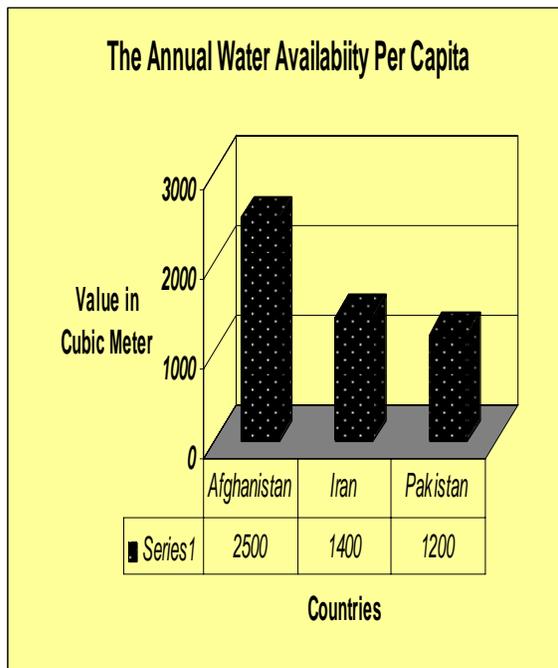
Twenty-five years of war and destruction, combined with 4-7 years of substantial drought and a growing demand for water, have created a significant challenge for the Afghan government and development agencies.

Over 80% of the country's water resources originate from the Hindu Kush Mountains at altitudes above the 2,000m (Qyreshi Asad, Water Resources Management in Afghanistan, Issues and Option, International Water Management Institution, June 2002). During winter, the Hindu Kush stores water in the form of snow. At the beginning of spring, snow starts melting. However, due to the prolonged drought, this year's accumulated snow (glacier) had been significantly reduced. Two decades ago, snow melt started at the beginning of April, gradually increased during summer (May - July) and then gradually

decreased in autumn (September - November). This pattern was well suited for domestic water requirements. In recent years, snow melt has started in late winter (February), increased considerably by the middle of the spring (April) - quite often resulting in floods - and then decreased by the middle of summer (June), when farmers need water to

irrigate the first, and more importantly, the second cropping seasons that take place in August, September and October. Nevertheless, areas with high elevations cultivate their first crop in the abovementioned months, which is the second cropping season for low altitude areas (the second season is the primary season in Afghanistan). Without proper water storage facilities, this climate shift can have significant adverse effects on Afghan livelihoods.

An International Water Management Institution's report estimates that Afghanistan has 57 billion cubic meters (BCM) of potential water resources, of which 55 BCM is surface water and 20 BCM is underground-water. The annual volume of water used is estimated to be 20 BCM. Total groundwater extraction is estimated to be 3BCM, which will likely to increase to 8 BCM in the next 10 years due to a growing demand for water.



Despite Afghanistan's more favorable position compared to its neighbors Iran and Pakistan (see chart), it faces a clear danger of a serious water shortages (Qureshi June 2002). The shortage of water is the result of war inflicted damages to irrigation systems (46% of irrigation structures are damaged) and traditional irrigation systems (canals). Traditional system losses are responsible for 40% of total water waste and losses, which are attributable to poor management of water resources (Qureshi June 2002). Traditional canal management practices have collapsed and many canals are completely silted and breached.

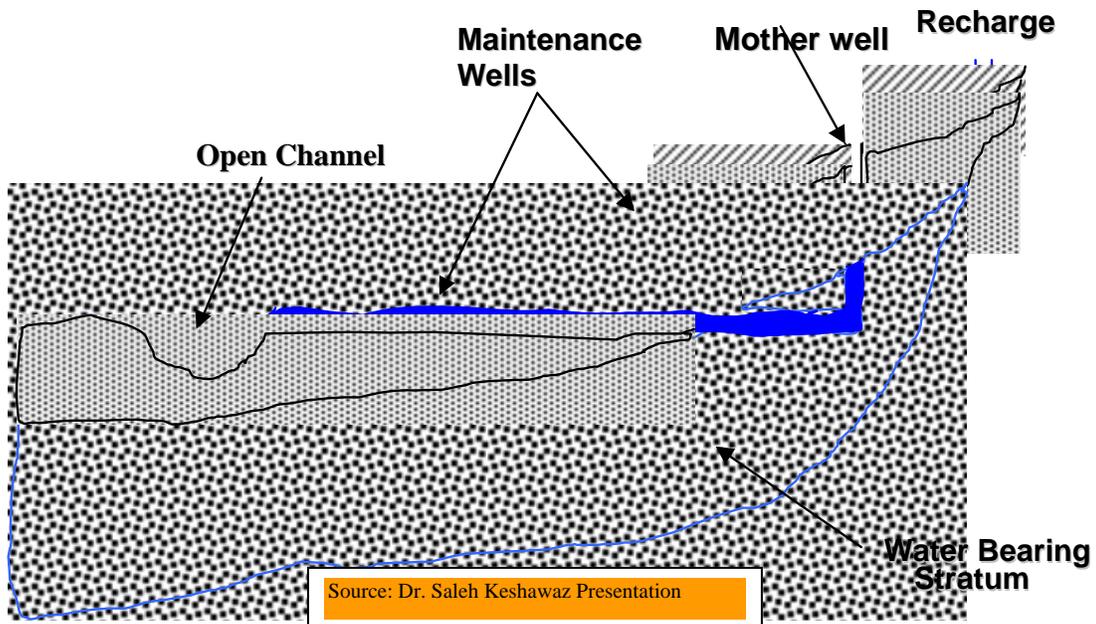
Afghanistan has only a few modern irrigation systems (intakes) that are seriously affected by war in comparison with traditional systems. Intakes are no

longer operational, machinery has been looted and there is a serious lack of qualified professional staff to maintain the systems (Qureshi June 2002).

A 2002 report of the International Water Management Institute reveals that surface water irrigation systems were able to support less than half of the 1980 area (2.8 million hectares). The good precipitation this year may have a positive affect in terms of the volume of water.

More than 15% of Afghanistan's irrigated land gets water from traditional underground systems such as karezes, springs and shallow wells. According to an International Water Management Institution estimate dated 2002, all traditional groundwater irrigation systems have shrunk or dried up completely. Sixty to 70% of the karezes are not in use and 85% of shallow wells have dried up (Qureshi June 2002). In 2004, various reports confirmed the severity of drought and water shortages, particularly in the southwest and south regions of the country. Precipitation last year had a positive impact only on those *karezes*, springs and shallow wells located in upper valleys close to the mountain slopes or upstream water points (FEWS NET observation).

Karez as a source of groundwater



Reports indicate that water is the major source of conflict in Afghanistan, especially between the upstream and downstream users. The relationship between users is more contentious where upstream users cultivate crops that require more water (e.g., rice). In the case of rice, some downstream users get no water at all, especially where these upstream users have political or military influence in the area.



Rich Afghans often cope at the expense of poor Afghans. In order to alleviate the impact of water shortages, rich Afghans can afford to drill deep wells, which can have an adverse effect on karezes, springs and shallow wells located within the vicinity of their deep wells. The main beneficiaries of shallow wells, springs and karezes are ordinary Afghans who cannot afford the cost of boring deep wells (Najimi, Food Security in Afghanistan 2001).

Source of Photo: UNEP, Post Conflict Environment Assessment

A shortage of drinking water is very critical in both urban and rural areas of Afghanistan. It can lead to distress migration and conflicts between and within communities. According to an inter-ministerial report dated June 2004, the nearest collection point for water can be located 12 km away from people's houses. According to the International Water Management Institute 2002 estimate, every month the water table can fall 0.5 to 3 m depending on its location. Fortunately, this year's precipitation prevented further deterioration in water table. Water table deterioration can have serious negative

consequences for Afghans, specifically for those who do not have the manpower or financial resources to dig their own deep wells. Security reports indicate that the major cause of tension among children is fighting over access to scarce water. These conflicts can evolve to include adults as well.

Environmental degradation:

Environmental degradation is one the main causes of natural disasters such as drought, floods, soil erosion and landslides. Natural disasters can be the result of man made disasters or human failures to act.

In 1977, forested areas of Afghanistan were estimated at 1.3 million ha, or 2% of the total land area of Afghanistan. In the last three decades, forested areas have significantly reduced due to a strong and increasing demand for fuelwood, construction material and illegal logging (Qureshi June 2002). Illegal logging is the main cause of deforestation – estimated at 30,000 hectares annually according to International Water Management Institute (Qureshi June 2002)

If this situation continues without proper conservation measures being put in place, desertification can become a major problem in Afghanistan in the near future (See the picture bellow).



Source of Photo: United Nation Environment Program, Post Conflict Environment Assessment

The potential for re-growth of forests and vegetation is seriously affected by heavy fuel wood collection, timber harvesting and overgrazing. Soil erosion due to the loss of protective vegetation cover is a serious threat. In addition, the United Nations Environment Program 2003 report notes that erosion and sedimentation is a critical issue. Due to a lack of stable water sources during drought periods, much of the natural vegetation of the Helmand basin has died. Much of the available tree resources have been collected for fuel as well. These trends have contributed to the soil erosion and the shifting of sand over roads, settlements and irrigated lands. Up to 100 villages have been submerged by wind blown dust and sands. This is true for the north of Afghanistan, as well, where sand dunes have been shifting towards agricultural land near the Amu Darya. In this particular area, dunes move up to one meter per year in the moderate winds (UNEP Afghanistan post conflict environment Assessment). Though moving sands

are a normal occurrence in the desert (Registan), during the more recent drought years, due to vegetation losses, moving sands have become a serious threat to agriculture and people livelihoods.

A United Nations Environment Program's report indicates that pistachio woodlands have suffered extensive deforestation from 1977 to 2002. According to government forestry officers interviewed by UNEP, 50-70% of pistachio trees have been lost. Pre-war estimates of the density of pistachio woodlands ranged from 40 to 100 trees per hectare, while in 2002, the density had decreased to the point where woodlands could no longer be detected by satellites. This situation suggests either complete pistachio deforestation or reduction in density to less than 40 trees per hectare (See the UNEP pictures below).

Khuskah Kunah region 1977



Khuskah Kunah Region 2002



Qala-i-Nau Region 1977



Qala-i-Nau Region 2002



Farkhar Region 1977



Farkhar Region 2002



Market Prices:

Wheat prices are regularly collected and reported in Afghani and dollars. In reporting dollar figures, different exchanges are applied for different regions or the country. FEWS NET Afghanistan reports market prices in Afghani to avoid this undesirable exchange rate variation and to provide a clearer, more direct comparison of local prices. Diesel prices are included because diesel makes a significant contribution to transportation costs that directly affects food market prices.

In comparison to June 2005 wheat prices, the price in August 2005 is stable except in Kabul and Maimana, where there have been slight increases. The increase in wheat price in Kabul is likely to be the result of traders and businessmen's fears of increasing insecurity in the southwest of the country associated with the September parliamentary elections. Kabul based businessmen tend to be more sensitive to political instability compared to those operating in other areas. In addition, the Bamyan market shows a slight decrease in the wheat price, which is likely the result of recent wheat harvests. Due to the high altitude of Bamyan, harvest took place later in the season - July and August.

Wage rates in August as compared to June are slightly higher in Kabul, Hirat, Mazar, and Maimana. Bamyan experienced a sharp increase, Afs 30. An increase in the daily wage rate in Bamyan is the result of an increase in the demand for labor employed in the harvesting of crops. In the past three months, Badakhshan and Maimana have experienced the highest wage rates compared to those of the other six locations regularly monitored (see table below). The main reason for such a high wage rate in Badakhshan is the additional demand for labor in poppy cultivation (poppy is labor intensive).

In comparison with diesel prices in June, diesel prices in August increased slightly in Kandahar, Nangarhar, Hirat, Mazar, Kabul, and Badakhshan. Bamyan diesel prices remained stable. Nevertheless, due to a global increase in the oil price, it is expected that the price of diesel in September will significantly increase. See the market price table below

Locations	Jun-05			Jul-05			Aug-05		
	Wheat/Kg	Diesel/L	Labor Wage/day	Wheat/Kg	Diesel/L	Labor Wage/day	Wheat/Kg	Diesel/L	Labor Wage/day
Kabul	12.4	25	170	12.9	24	178	13.3	26	180
Kandahar	11.2	23	150	10.3	24	150	10.8	25	150
Nangarhar	9.0	24.8	126.5	9.0	25.2	126.6	9.4	26.6	126.6
Hirat	10.8	23	151	10.1	24	159	10.0	25	160
Mazar	9.8	23	158	9.4	24	175	9.8	24	178
Faizabad	11.4	29	200	11.4	29	200	11.2	31	200
Bamian	12.1	28.2	150	12.1	27.5	180	10.8	28.3	185
Mainmana	10.5	24	200	10.0	25	200	11.4	26	220

The average exchange rate for July and August is Afs 49.90 to \$1.

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