



د افغانستان اسلامي جمهوريت  
د کرنې او خوراکي موادو وزارت

جمهوری اسلامی افغانستان  
وزارت زراعت و مواد غذایی



# راپور دور نما يا پيشيني وضع زراعت

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## **Agriculture Prospects Report**

**Ministry of Agriculture and Food  
Marketing, Economics and Statistics Division  
(FAAHM)  
Kabul, 12 April 2006**

## **Abbreviations**

|       |  |
|-------|--|
| DAP   | Diammonium Phosphate   |
| FAAHM | Food, Agriculture and Animal Husbandry Information Management Unit |
| FAO   | Food and Agriculture Organization of the United Nations            |
| MAF   | Ministry of Agriculture and Food                                   |
| USGS  | United States Geological Survey                                    |
| WFP   | World Food Programme   |

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**Ministry of Agriculture and Food (MAF)  
Marketing, Economics and Statistics Division  
(FAAHM)**

**Agriculture Prospects Report**

**1. Introduction**

The purpose of this report is to provide policy-analysts and policy-makers of Ministry of Agriculture and Food (MAF) with the most up-to-date information on cereal supply and demand prospects in 2006 in various provinces, and information on imminent pests and diseases, so that timely development efforts and interventions can be initiated or planned.

The main source of information for the report is provincial agriculture offices, which were contacted by MAF missions sent from Kabul. Communication-radio and telephone are a means used by MAF for more frequent and urgent contacts with the provincial offices. Frequent field visits made by the staff of the technical departments of MAF are also important source of information in this regard. A wealth of current information provided by the technical departments in MAF is unrivalled. Information and data on the present and past trends of weather, crop production and price provided by FAO, WFP, and USGS Agromet project plays an important role in the MAF assessment process.

The conduct of probability sample surveys is essential for bringing improvements in the reliability of official agricultural data. The government lays importance in having a coordination arrangement between Central Statistics Office (CSO) and the line agency in production of official data. Since July 2004 MAF and CSO have been closely working together in this direction for data pertaining to agriculture and its economy. However, even after sound statistical development, regular monitoring and assessment of agricultural situation and crop forecasting will carry importance to MAF.

This report provides the best data in the light of available information from provinces. Wheat was in early to middle stages of development when missions visited the provinces. The crop situation may improve or worsen very fast, especially during the flowering and grain filling stages. Much from now on would depend on the incidence or absence of adverse conditions in coming months. Hence, most of the data presented here should be considered as preliminary estimates and used with caution.

**2. MAF Missions to Provinces**

MAF sent missions to provinces for assessment of current agricultural situation in the current crop season. The missions returned in the last week of March. The mission collected information and data on

- On going-farming activities
- Rainfall status for the main crops
- Crop stages
- Area and estimated yield of various crops, emphasizing more on the relative figures than on the absolute ones
- Conditions that might adversely affect this year's crop production
- Adverse conditions affecting livestock production
- Planting progress of the irrigated (winter and spring) wheat, precipitation status, temperature conditions adversely affecting these crops
- List of the districts affected by adverse conditions like flood, drought, snow, frost, storm
- Availability of improved seeds, fertilizer, plant protection chemical; their quality and price

- Supply of irrigation water
- List of districts adversely affected by crop and livestock diseases by animal type
- Farmers' perception<sup>1</sup> of overall weather condition; area planted and estimated production for irrigated wheat, rainfed wheat, barley and spring wheat
- This year's cropping calendar for the field crops
- Updated prices of 33 agricultural commodities and services (January, February and March)
- Guesstimates of Area and production of fruit crops

The provincial missions collected both qualitative and quantitative data. Upon return they provided briefings to FAAHM on the crop and livestock conditions for some items not covered by the structured questionnaires. The items covered in such briefings included emerging cropping pattern and practices, quality of agricultural inputs and services, outbreak of new pests and diseases, farmers' views on agricultural development, and anything that is worthy of MAF's attention.

### **3. Weather Condition relevant to standing crops**

Generally, the rainfall amount recorded in the period October 2005 through March 2006 was lower compared to the Long-term Average<sup>2</sup> in most parts of the country. Temperature was also higher compared to the average in almost all parts of the country. The cumulative precipitation in October 2005 to February 2006 was above or near average in the north, north-eastern and south-western parts of the country. Other parts of the country received below average amounts in the said period. The cumulative rainfall amounts recorded in February were lesser compared to the average in all but the north, north eastern and eastern parts of the country. The amounts were lower than the last year in all but north, north eastern and eastern parts of the country. Temperature in February was much higher compared to February 2005, specifically in the south and the south-western regions. This season's snowfall amounts in most parts of the country were lower than the average in terms of depth, but much higher in terms of snow extent. Similar weather patterns like February have been observed for March.<sup>3</sup>

The year 2003 and 2005 were good years in terms of crop production. The Vegetation Index image derived from the data from the instrument onboard the SPOT-4 polar orbiting satellite are presented in Annex 4.<sup>4</sup> The image for "Second Dekad of March (MAF Mission's time) in 2006 "minus" Second Dekad of March 2005 gives good indication of better chlorophyll activity in 2006. Quite similar images exist for the 2006 "minus" 2003, and 2006 March 3 Dekad "minus" the average (1998-2004).

Qualitative information from most of the regions suggests that the planting progress of winter and spring crops (wheat and barley) was early or in time and that there was adequate water for irrigation. This indicates that slightly earlier harvesting of irrigated crops (by 2 weeks or so) is expected this year. Slight delays in planting of these crops were reported from the south-western (specifically Nimroz and Kandahar) and the west central regions. Temperature conditions in virtually all of the regions are reported to be higher but not harmful for the standing crops. As for rainfed crops much would depend on the normal rainfall pattern and the actual PET in the rest period. (Annex 5)

The interviewed farmers in the central, east, north, north-east and west central regions rated this year's weather condition and the water supply situation for irrigated wheat as excellent, or very good, or good, or normal. Only a few farmers in the west and south-west reported the supply of water to be somewhat insufficient. As regards serious dry spells for crops, none of the interviewed farmers in north, north-east, east and central regions reported a spell that would damage the irrigated wheat.

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<sup>1</sup> The MAF Mission interviewed over 340 farmers across the eight regions using a structured questionnaire.

<sup>2</sup> Called average, hereafter

<sup>3</sup> Source: Monthly Agro-meteorological Bulletin, MAF/USGS (the last issue is for March 2006)

<sup>4</sup> Source: FAO ARTEMIS

#### 4. Inputs Supply

The mission found that, compared to the last year the amounts of improved seed and fertilizer used by farmers have increased in all provinces. More farmers have now better access to fertilizer and improved seed. Inputs availability has also become easier day by day. This will have very positive impact on the yield increase. The constraints mentioned as regards the agricultural inputs were their high prices and substandard quality. Quality of supplied seed and fertilizer is reported to be satisfactory in the case of institutional supplies (e.g. FAO, IFDC, and NGO).

#### 5. Irrigation

This year's early-season rain (October-November) was followed by some hiccups of dry spell, reducing topsoil moisture during the winter for the vegetative winter grains. The above-normal temperatures in the higher elevations were associated by some with reduced snow accumulation and earlier melting of the snow pack. They wondered if this might result in ill-timed runoff and reduced irrigation supplies.

The ground truth is different so far. Although the snow melted earlier than the last year, the flow-rates in the streams have been much safer so far and are generally adequate for irrigation and dam reservoir storage. Higher rates of snow melt can increase the runoff and cause ultimately, uncontrolled floods (like the last year). Although the irrigation period is likely to be shorter this year, the snow melt is likely to be more beneficial for the surface irrigation systems, lower recharge-rate of groundwater notwithstanding.<sup>5</sup>



An irrigation channel in Balkh (Third Dekad of March 2006)

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<sup>5</sup> This paragraph has been contributed on 1 March by Emergency Irrigation Rehabilitation Project (EIRP)

## 6. Cereal Production Prospects

Wheat comprises above 80 percent of Afghanistan's total grain production. About 90% of wheat production comes from the crops shown in the winter season. Irrigated wheat in the winter and spring typically accounts for 64% of the total wheat production. Winter wheat needs 180 to 250 days to mature, whilst the spring wheat needs about 100 to 130 days. The harvest of the irrigated crop starts in the later part of April or early May. The harvesting of rainfed wheat is done as late as August/September, especially in the highlands.

**Afghanistan's wheat output this year is expected to reach 4.4 million tonnes**

Cereal production prospect for the upcoming winter grain harvest in Afghanistan is generally good. Information from the MAF provincial offices suggests a generally favorable condition exists for the irrigated wheat. Some senior officials of MAF who have recently paid official visits to various provinces observed that the 2006 irrigated wheat is growing in a very favorable condition so far. They mention various factors as regards this. Firstly, relatively small amount of precipitation is required for the germination and emergence of winter wheat crop. Secondly, soon after sowing there is a dormancy period of 75 to 90 days for the crop before it reinstates its growth. Thirdly, there is a marked increase in the use of agricultural inputs this year in all provinces. Lastly, based on qualitative information, the duration, the intensity and the distribution of the precipitation in the recent 4-6 weeks is conducive to achieving reasonable yields in both irrigated and rainfed crops.



**An Irrigated wheat field in Dihdadi, Balkh (March 3<sup>rd</sup> Dekad)**

Area under irrigated land has marginally declined this year, especially in north, north-east and the east, but for a good reason; it is a genuine sacrifice in favor of high value crops like fruits and cotton. Irrigation during the critical grain-fill period in the months of March and April is crucial for good production of wheat. Light to moderate showers in the recent weeks increased soil moisture for rainfed crops as well as winter wheat and vegetative spring crops. As adequate irrigation has been possible during the critical grain-filling period (March and April), quite good yield of wheat in irrigated fields is expected. It is gratifying to note that, the yield of irrigated wheat will be marginally increased this year by improved availability of seed, fertilizer, and fuel.

Rainfed wheat accounts for some 36 percent of the total wheat production. The area shown under rainfed wheat shows an increasing trend in almost all provinces, partly due to illegal land encroachment. Besides this, recent rains would boost production in rain-fed areas further, although yield prospect for these crops is not at its best.

The total production of cereal in 2006 is preliminarily estimated at 5.5 million tonnes. Wheat production is estimated at 4.4 million tonnes. Production of milled rice, maize and barley are estimated at 360,000 tonnes, 350,000 tonnes and 370,000 tonnes, respectively. In case of a spell of rains as favorable as the one that occurred in the recent weeks, the wheat production would cross the psychological 4.5 million tonnes mark.

This year's good harvest prospects can be attributed to the following:

- Winter irrigated wheat benefited from the good precipitation at the critical period (head in leaf sheath or grain filling) of their development.
- More area coverage has been reported in the case of rainfed wheat.
- Quality of the agricultural inputs supplied to the farmers is much better this year. Their increased access and use this year have shown tangible effects and impacts on yield (production/ha) prospects. Wheat yields in irrigated fields are expected to increase by 3-5%.
- Knowledge transfer made by MAF on better crop husbandry practices, crop intensification and diversification has shown very positive results.
- More farmers' communities know now how to make use of available water supply better for getting higher production.
- Both winter and spring wheat are very sensitive to spring frost. The incidence of spring frost damage to wheat is minimal this year.
- Campaign against Locust and Sunn pest is being implemented aggressively by MAF, in close collaboration with FAO.
- Crop loss due to the floods is at a minimum so far.

**Table 1: The 2006 Cereal Balance Sheet ('000 tonnes)<sup>6</sup>**  
(Preliminary estimates as of end-March 2006)

| Description                     | Wheat        | Rice<br>(milled) | Maize      | Barley     | Total        |
|---------------------------------|--------------|------------------|------------|------------|--------------|
| <b>A. Domestic availability</b> | <b>4,621</b> | <b>360</b>       | <b>350</b> | <b>370</b> | <b>5,701</b> |
| Food aid                        | 110          | --               | --         | --         | 110          |
| Domestic production             | 4,411        | 360              | 350        | 370        | 5,491        |
| Stock drawn-down                | 100          | --               | --         | --         | 100          |
| <b>B. Utilization</b>           | <b>4,919</b> | <b>453</b>       | <b>350</b> | <b>370</b> | <b>6,092</b> |
| Food                            | 3,857        | 410              | 48         | 24         | 4,339        |
| Seed                            | 300          | 18               | 16         | 28         | 362          |
| Feed                            | --           | --               | 233        | 262        | 495          |
| Losses                          | 662          | 25               | 53         | 56         | 796          |
| Stock carried-over              | 100          | --               | --         | --         | 100          |
| <b>Commercial Import (B-A)</b>  | <b>298</b>   | <b>93</b>        | <b>--</b>  | <b>--</b>  | <b>391</b>   |

Total cereal utilization in 2006 is estimated at 6.1 million tonnes, of which 4.9 million tonnes (81%) will be wheat. The total import requirement in 2006 is estimated at 501,000 tonnes. The uncovered cereal deficit (import requirement) includes wheat (408,000 tonnes) and milled rice (93,000 tonnes). This deficit should be met either by commercial import or by soliciting and acquiring food-aid. However, given the similar harvest prospects like the last year, the level of food aid is forecasted to be almost at par with the last year. The year ending stock-build-up of wheat is forecast at 100,000 tonnes, which means that the year-ending stock will be equal to the last year's level. (Table 1)

## 7. Plant protection, disease and pest

MAF accords priority to improving crop husbandry through Integrated Crop and Pest Management. Weed continues to be one of the main factors limiting good agricultural production.



**Weeding of wheat in an irrigated field in Herat (March 3<sup>rd</sup> Dekad)**

<sup>6</sup> Further details on these can be found in Annex 1-3.

One of the farming activities carried out by farmers in the visited provinces was weeding of their crops. Information on diseases and pests by crop was collected by the MAF Mission to make the interventions more timely and effective. Details on the crop pests and diseases by province and by district have been provided to the Plant Protection and Quarantine Department (PPQD) of MAF. Similarly information on the livestock diseases will be provided to Livestock Department.



**Moroccan locust in Dihdadi district in Balkh**

## 8. Price of Agricultural commodities <sup>7</sup>

### 8.1. Consumer Price Index

National Consumer Price Index<sup>8</sup> (CPI) rose by 10.3 percent points in February 2005 to March 2006 period.<sup>9</sup> The increases in the national food and non-food indexes in the said period were 10.3 and 14.8 percent points, respectively. The exchange-rate index rose only by 1.9 percent-point in the period.

The “Overall Index” was stable in January to February 2006, although there was an increase in the food index by 0.5 and decrease in the non-food index by 0.6 percent point in the period.

**Table 2: Annual and monthly increases in CPI**

| Description                 | Percent points increase in CPI in          |  |
|-----------------------------|--|--|
|                             | February 2006 index compared to March 2005 | February 2006 index compared to January 2005 |
| <b>OVERALL INDEX</b>        | <b>10.3</b>                                | <b>--</b>                                    |
| Food Index                  | 7.5  | 0.5  |
| Bread and cereals           | 9.1  | -0.1   |
| Meat                        | 6.2  | 2.7  |
| Milk, cheese and eggs       | 11.0                                       | --   |
| Oils and fats               | 0.9  | 0.7  |
| Fresh and dried fruits      | 3.3  | -0.5   |
| Vegetables including tubers | 8.7  | 0.8  |
| Sugar and sweets            | 19.7                                       | 6.6  |
| Spices                      | 9.0  | 1.2  |
| Non-alcoholic beverages     | 1.8  | --   |
| Cigarettes and tobacco      | 3.1  | 0.6  |
| <b>Non-food Index</b>       | <b>14.8</b>                                | <b>-0.6</b>                                  |
| <b>Exchange rate Index</b>  | <b>1.9</b>                                 | <b>-0.3</b>                                  |

The annual increase in the index among food items was substantial in the cases of “sugar and sweets” (index up by 19.7 percent points). The consumption indexes of “Bread and cereals”, “spices” and “vegetables and tubers” showed an increase of 9.0 percent points. The index increases were 6.2 percent points in the cases of meat and 11 percent point in the case of “milk, cheese and egg”. “Fresh and dry fruits” index exhibited a slightly increasing trend (index up by 3.3 percent points), whilst the index for “oil and fats” increased only by one percent points.

<sup>7</sup> From FAAHM’s Price Bulletin Year 2: Volume 4

<sup>8</sup> Consumer Price Index (CPI) is an index of the prices of consumer goods and services purchased by the consumers. It is generally used to measure the rate of inflation or the cost of living.

<sup>9</sup> Source: Central Statistics Office (CSO)

In March 2005 to February 2006 period, Kabul CPI increased by 12.4 percent points, with increases in the consumer prices of food and non-food items by 7.8 and 19.4 percent points, respectively. For Kabul the annual price increase was substantial in the case of spices (index up by almost 20 percent-points). The increase in the index prices of meat in the one-year period was 10.6 percent point. The sugar and sweets index prices increased by 20.6 percent points. The prices of oil and fats slightly decreased.

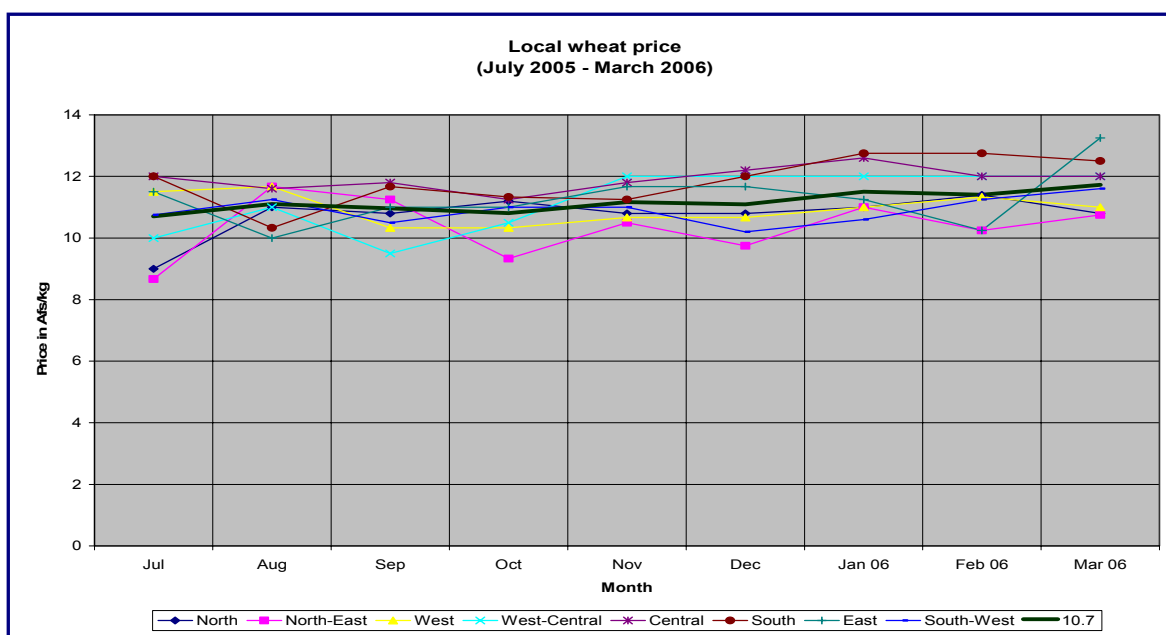
## 8.2. Prices of various agricultural commodities

### 8.2.1. Wheat price

In March 2006 the average price of local wheat was Afs 11.7 per kg, which was slightly higher than the 2005 January price. All but the east region experience not much price variations in the latest months. Even in the east the increase was insignificant in all provinces but Nuristan.

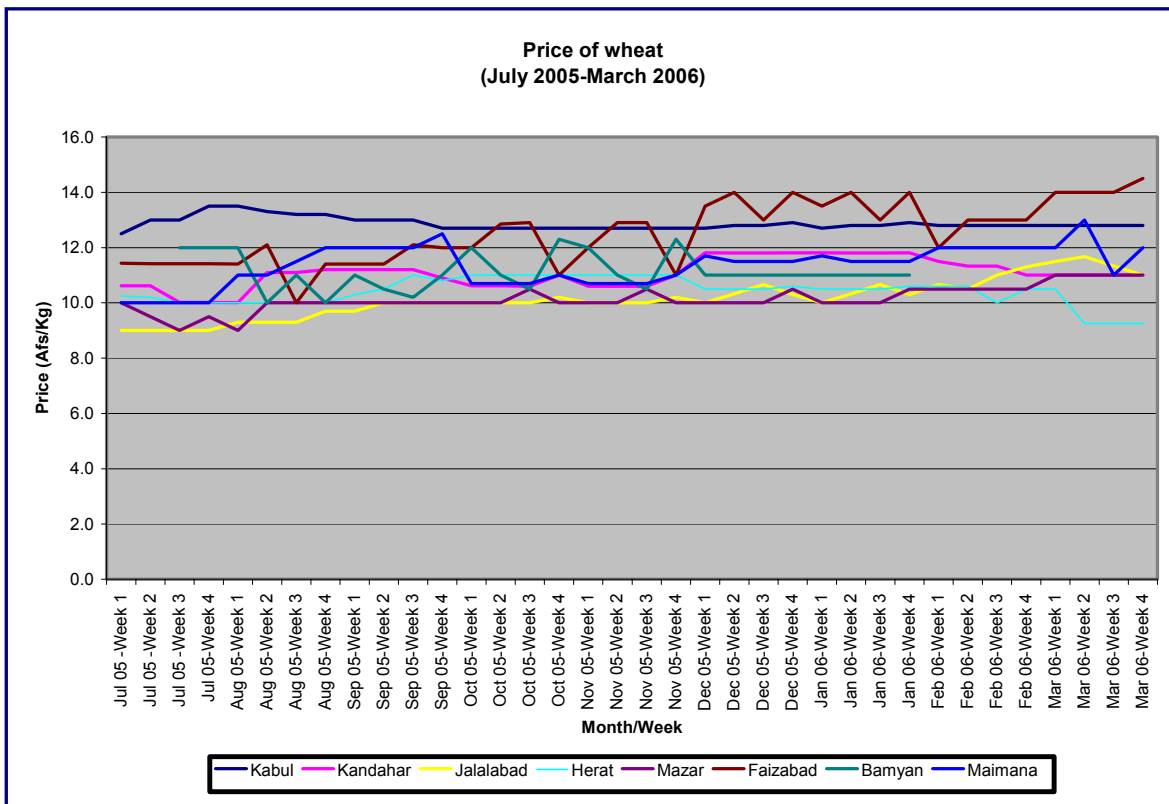
**Table 3: Average price of local wheat in various regions (Afs/kg)**

| Region         | January 2006 | February 2006 | March 2006  | % change compared To the last month |
|----------------|--------------|---------------|-------------|-------------------------------------|
| North          | 11.0         | 11.4          | 10.8        | -5                                  |
| North-East     | 11.0         | 10.0          | 10.8        | 8                                   |
| West           | 11.0         | 11.3          | 11.0        | -3                                  |
| West-Central   | 12.0         | 12.0          | 12.0        | --                                  |
| Central        | 12.6         | 12.0          | 12.0        | --                                  |
| South          | 13.0         | 12.3          | 12.5        | 4                                   |
| East           | 11.7         | 10.5          | 13.3        | 27                                  |
| South-West     | 10.6         | 11.3          | 11.6        | 3                                   |
| <b>Overall</b> | <b>11.5</b>  | <b>11.4</b>   | <b>11.7</b> | <b>3</b>                            |



The price of local wheat was slightly above Afs 11/kg in January-March 2005. The price showed a slightly increasing tendency from January through mid-May 2005. Thereafter, the price moderately decreased up to June, which can be satisfactorily explained by the good harvest prospects in 2005. The price variations across provinces considerably narrowed in December 2005 rallied up to February 2006. A price stabilization tendency has been observed from June/July 2005. Generally speaking the price in March is slightly higher than in February.<sup>10</sup>

Weekly wheat prices for July 2005-February 2006 in the seven markets reported by WFP are presented below.



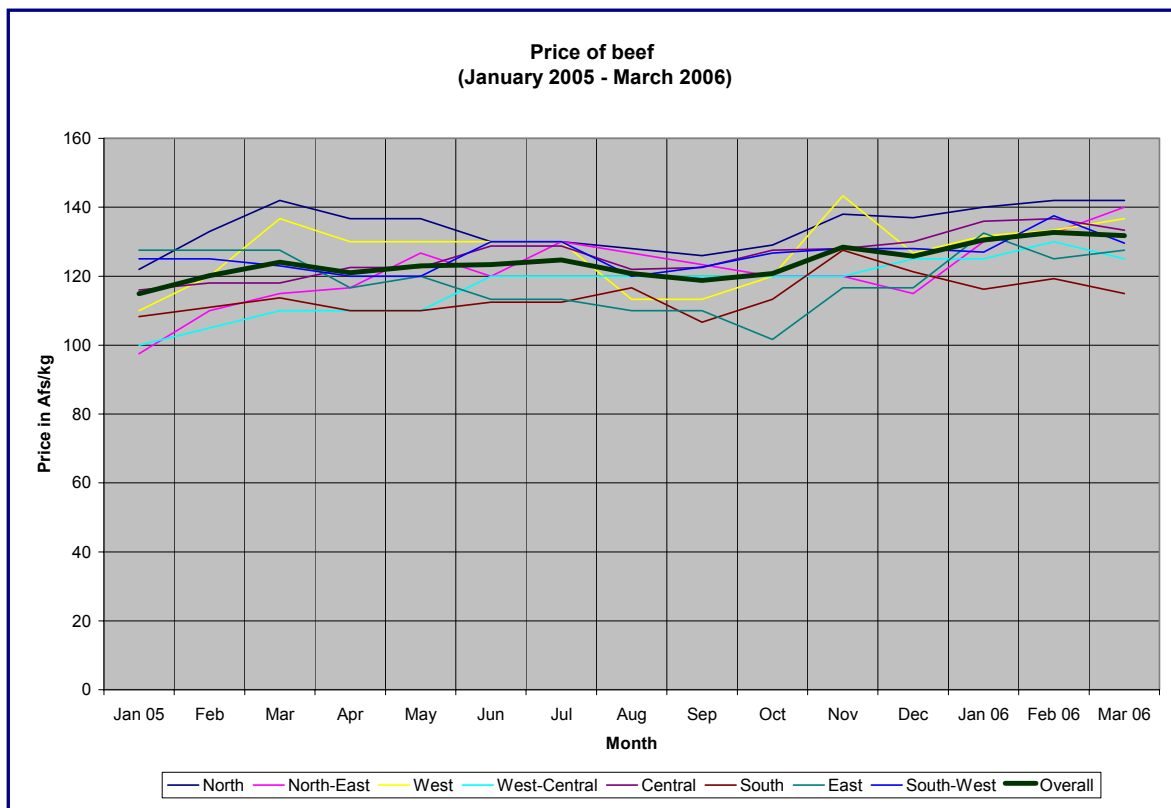
<sup>10</sup> Source: FAAHM

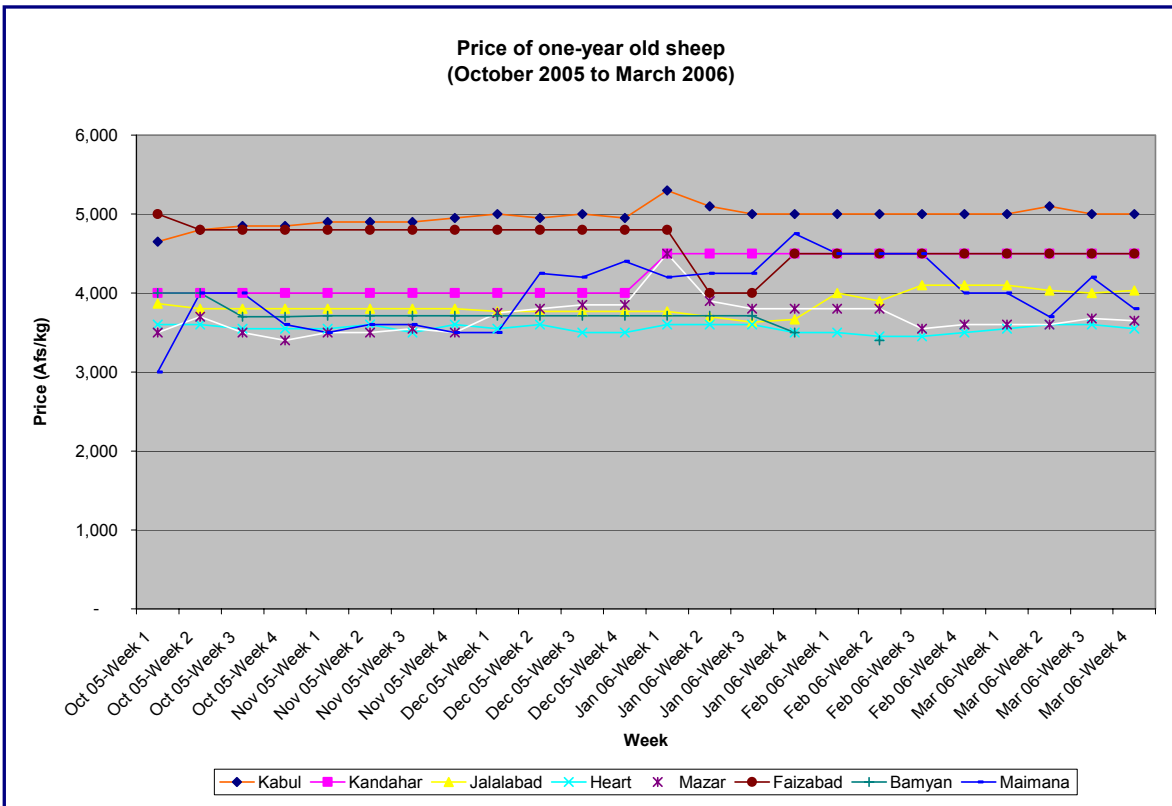
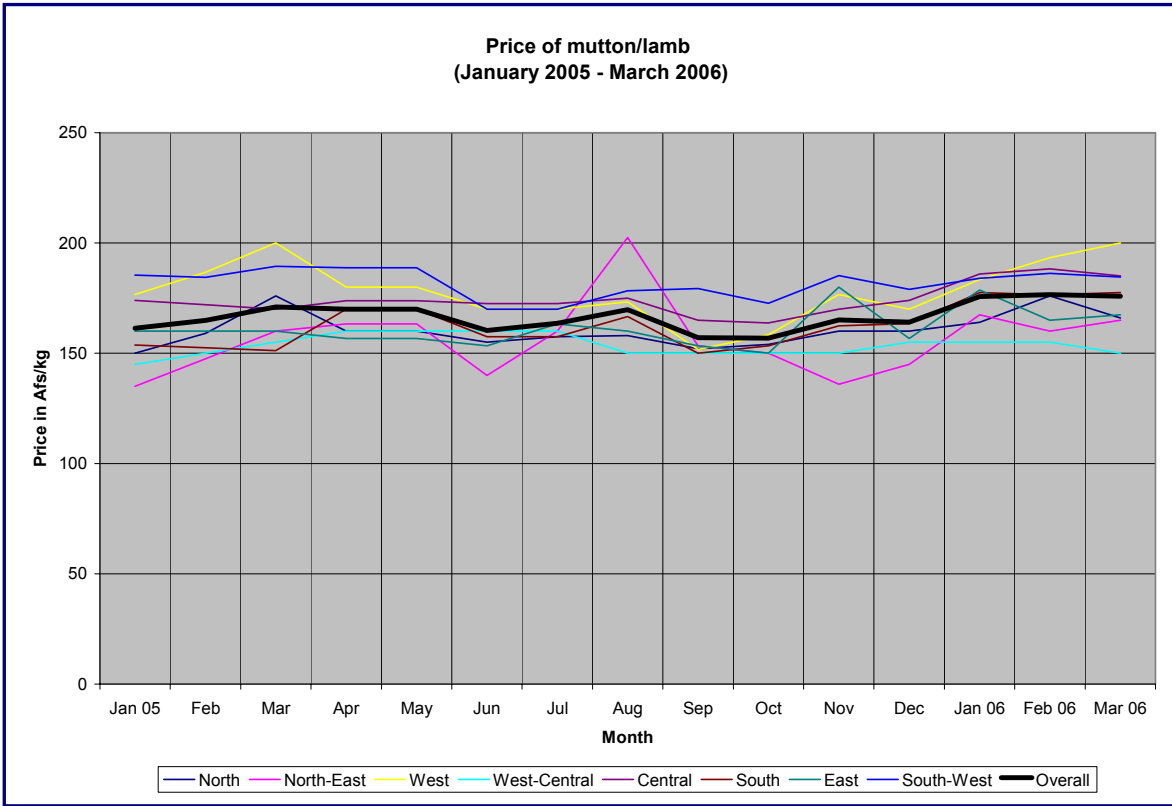
### 8.2.2. Livestock and livestock products prices

The average prices of beef and mutton in March 2006 were Afs 132/kg and 176/kg, respectively. In March 2006 the prices of beef and mutton are slightly lower than in February 2006. Latest price data from selected markets indicate that the prices of beef and mutton are expected to decrease further in April.

**Table 4: Average prices of beef and mutton**

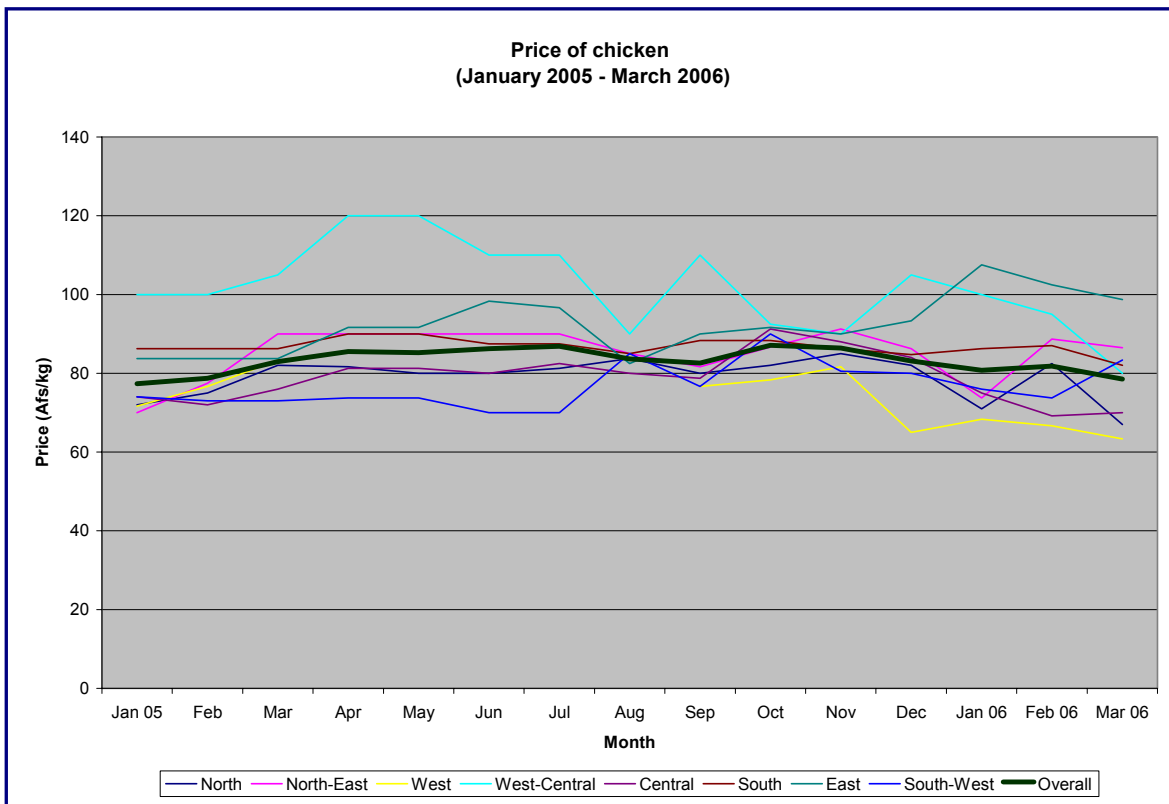
| Region | January 2006 | February 2006 | March 2006 | % increase/<br>decrease<br>Compared to<br>last month |
|--------|--------------|---------------|------------|--|
| Beef   | 131          | 134           | 132        | -2   |
| Mutton | 174          | 177           | 176        | -1   |





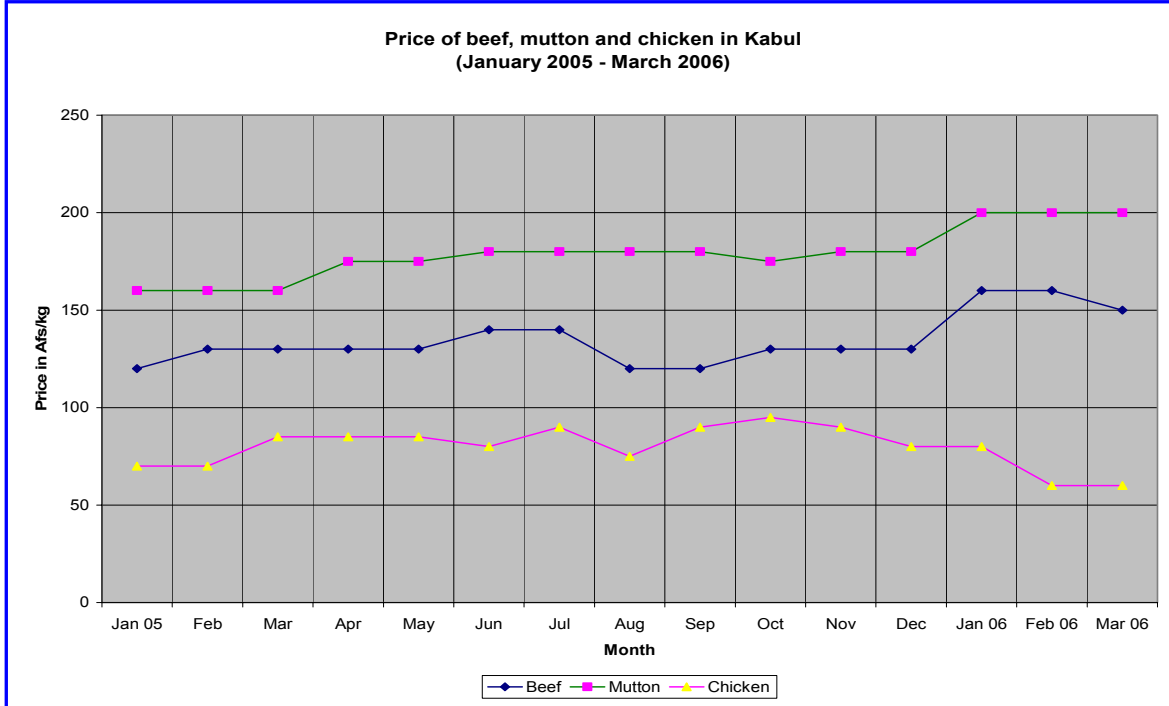
In March 2006 the average price of a one-year sheep ranged between Afs 3,400 to 5,000 in the seven reporting locations<sup>11</sup>. No abnormal changes in the price of one-year sheep have been observed in the recent months.

In March 2006 the price of chicken was Afs 79/kg, on average, which is 4% lower than in the earlier month. The price of chicken showed a decreasing trend from October to March. This decrease can be satisfactorily attributed to lower demand for chicken and the resulting substitution effect, which in turn increased the prices of beef and mutton. For two regions the price of chicken showed rising tendency already. (Graph below)



In Kabul the price of mutton has stabilized after reaching the highest level in the festive season. The price of beef has already shown a decreasing tendency in March. Beef and mutton prices are expected to decrease in April. The price of chicken showed resilience in March and stabilized. Latest market information suggests that the price of chicken has started rising, slowly but surely.

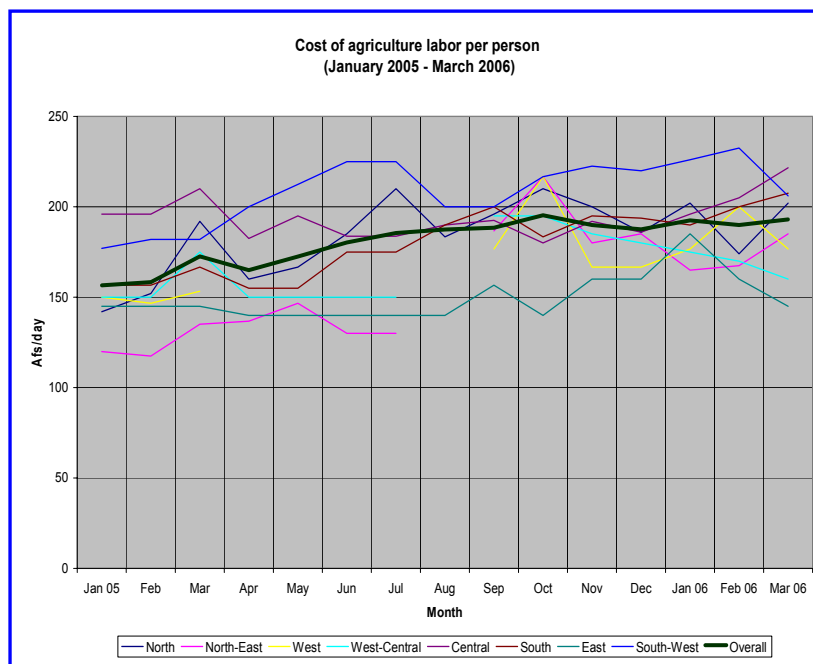
<sup>11</sup> Source: WFP



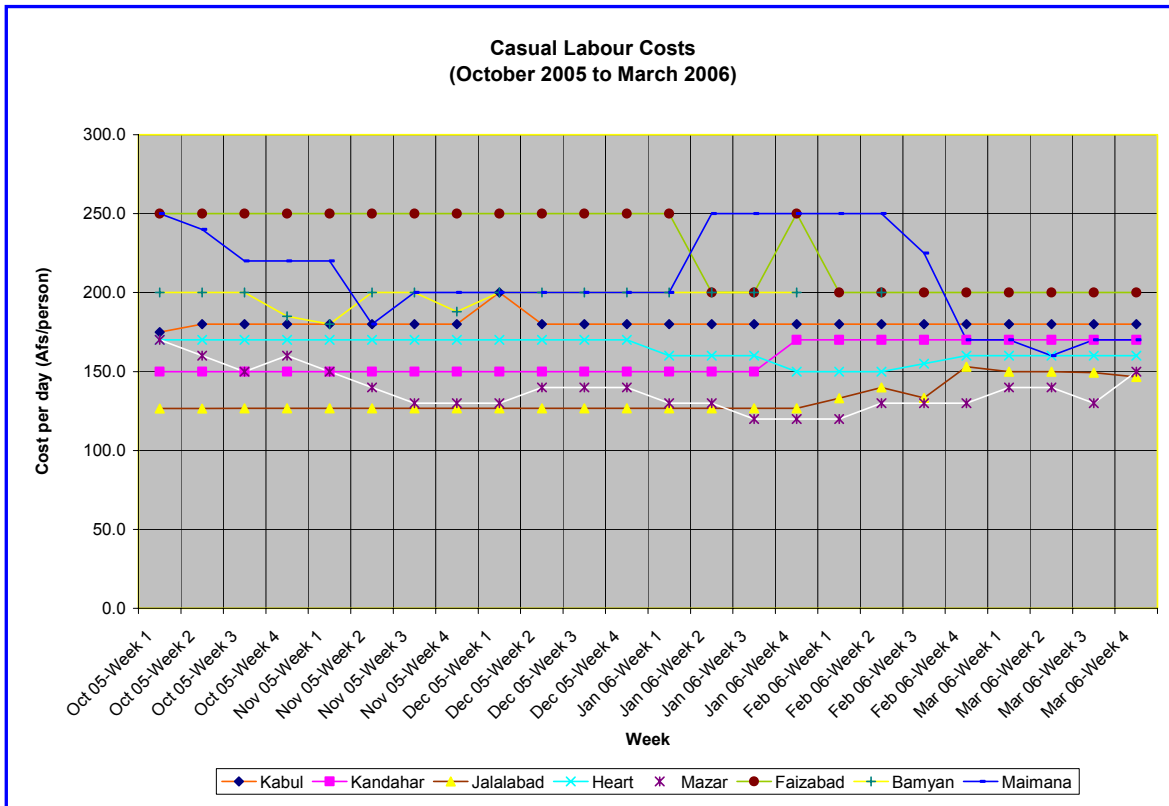
### 8.2.3. Labor costs

The average agriculture labor cost was around 193 Afs/person/day in March 2006. The cost shows a large variation across provinces. Seasonal variations within a province are also a salient feature of labor costs.

The cost of casual labor<sup>12</sup> ranged between 120-250 Afs/day in March 2006. The labor costs do not show much seasonal variations. These costs are comparatively lower in Jalalabad (East), Kandahar (South-west) and Herat (West). North and North-East are unstable market for the casual labor. The labor costs are stable, especially in Central, East, South-west, West-Central (partly) and West.



<sup>12</sup> Source: WFP



#### 8.2.4. Fertilizer prices<sup>13</sup>

The average price of best quality, imported urea was Afs 13/kg (US\$262/tonne) in March 2006, which was 4% lower than the price in February. From August to February the price showed a generally increasing trend across regions.

In March 2006 the average price of the best quality DAP was Afs 24/kg, which is only slightly higher than the price in February. DAP prices are highly variable in Afghanistan. The large variations in DAP prices across provinces can be attributed to: (i) the marked difference in the quality of DAP available in the markets and (ii) the transportation costs involved. DAP prices in north part of the country are more consistent with the international price.

<sup>13</sup> The price per bag expressed in Afs/kg

**Annex 1: Area and Production of Wheat in 2006 by province (Preliminary Estimates)**

| REGION/<br>Province | Irrigated Wheat |             |              | Rainfed Wheat |             |              | Total Wheat  |             |              |
|---------------------|-----------------|-------------|--------------|---------------|-------------|--------------|--------------|-------------|--------------|
|                     | Area            | Yield       | Production   | Area          | Yield       | Production   | Area         | Yield       | Production   |
|                     | ('000 ha)       | (t/ha)      | ('000 tons)  | ('000 ha)     | (t/ha)      | ('000 tons)  | ('000 ha)    | (t/ha)      | ('000 tons)  |
| <b>NORTH</b>        | <b>221</b>      | <b>2.62</b> | <b>580</b>   | <b>671</b>    | <b>1.16</b> | <b>777</b>   | <b>892</b>   | <b>1.52</b> | <b>1,357</b> |
| Faryab              | 43              | 2.62        | 113          | 180           | 1.33        | 239          | 223          | 1.58        | 352          |
| Juzjan              | 50              | 2.62        | 131          | 95            | 1.10        | 105          | 145          | 1.63        | 236          |
| Sar-i-Pul           | 25              | 2.62        | 66           | 115           | 1.20        | 138          | 140          | 1.46        | 204          |
| Balkh               | 87              | 2.62        | 228          | 154           | 1.05        | 162          | 241          | 1.62        | 390          |
| Samangan            | 16              | 2.62        | 42           | 127           | 1.05        | 133          | 143          | 1.22        | 175          |
| <b>NORTH-EAST</b>   | <b>220</b>      | <b>2.60</b> | <b>571</b>   | <b>329</b>    | <b>1.38</b> | <b>455</b>   | <b>549</b>   | <b>1.87</b> | <b>1,026</b> |
| Bughlan             | 54              | 2.62        | 141          | 74            | 1.50        | 111          | 128          | 1.97        | 252          |
| Kunduz              | 91              | 2.60        | 237          | 20            | 1.40        | 28           | 111          | 2.39        | 265          |
| Takhar              | 50              | 2.60        | 130          | 135           | 1.30        | 176          | 185          | 1.65        | 306          |
| Badakhshan          | 25              | 2.50        | 63           | 100           | 1.40        | 140          | 125          | 1.62        | 203          |
| <b>WEST</b>         | <b>144</b>      | <b>2.44</b> | <b>352</b>   | <b>240</b>    | <b>1.20</b> | <b>288</b>   | <b>384</b>   | <b>1.67</b> | <b>640</b>   |
| Heart               | 97              | 2.50        | 243          | 140           | 1.20        | 168          | 237          | 1.73        | 411          |
| Farah               | 24              | 2.40        | 58           |               |             |              | 24           | 2.42        | 58           |
| Badghis             | 23              | 2.20        | 51           | 100           | 1.20        | 120          | 123          | 1.39        | 171          |
| <b>WEST-CENTRAL</b> | <b>35</b>       | <b>2.09</b> | <b>73</b>    | <b>47</b>     | <b>0.89</b> | <b>42</b>    | <b>82</b>    | <b>1.40</b> | <b>115</b>   |
| Ghor                | 22              | 2.00        | 44           | 39            | 0.88        | 34           | 61           | 1.28        | 78           |
| Bamyan              | 13              | 2.20        | 29           | 8             | 1.05        | 8            | 21           | 1.76        | 37           |
| <b>CENTRAL</b>      | <b>113</b>      | <b>2.89</b> | <b>327</b>   | <b>14</b>     | <b>1.21</b> | <b>17</b>    | <b>127</b>   | <b>2.71</b> | <b>344</b>   |
| Kabul               | 21              | 2.80        | 59           | 1             | 1.05        | 1            | 22           | 2.73        | 60           |
| Parwan              | 23              | 2.60        | 60           | 3             | 1.33        | 4            | 26           | 2.46        | 64           |
| Panjsher            | 6               | 2.45        | 15           | 2             | 1.33        | 3            | 8            | 2.25        | 18           |
| Kapisa              | 10              | 3.00        | 30           |               |             |              | 10           | 3.00        | 30           |
| Logar               | 26              | 3.00        | 78           | 7             | 1.20        | 8            | 33           | 2.61        | 86           |
| Wardak              | 27              | 3.15        | 85           | 1             | 1.05        | 1            | 28           | 3.07        | 86           |
| <b>SOUTH</b>        | <b>102</b>      | <b>2.36</b> | <b>241</b>   | <b>5</b>      | <b>1.00</b> | <b>5</b>     | <b>107</b>   | <b>2.30</b> | <b>246</b>   |
| Paktya              | 18              | 3.00        | 54           | 1             | 1.05        | 1            | 19           | 2.89        | 55           |
| Paktika             | 16              | 2.50        | 40           | 2             | 1.05        | 2            | 18           | 2.33        | 42           |
| Khost               | 12              | 2.00        | 24           |               |             |              | 12           | 2.00        | 24           |
| Ghazni              | 56              | 2.20        | 123          | 2             | 1.05        | 2            | 58           | 2.16        | 125          |
| <b>EAST</b>         | <b>72</b>       | <b>2.07</b> | <b>149</b>   | <b>10</b>     | <b>0.90</b> | <b>9</b>     | <b>82</b>    | <b>1.93</b> | <b>158</b>   |
| Nangarhar           | 50              | 1.90        | 95           | 8             | 0.88        | 7            | 58           | 1.76        | 102          |
| Laghman             | 13              | 2.40        | 31           | 1             | 0.88        | 1            | 14           | 2.29        | 32           |
| Kunarha             | 8               | 2.62        | 21           |               |             |              | 8            | 2.63        | 21           |
| Nooristan           | 1               | 2.40        | 2            | 1             | 0.88        | 1            | 2            | 1.50        | 3            |
| <b>SOUTH-WEST</b>   | <b>179</b>      | <b>2.87</b> | <b>513</b>   | <b>13</b>     | <b>0.92</b> | <b>12</b>    | <b>192</b>   | <b>2.73</b> | <b>525</b>   |
| Kandahar            | 38              | 3.00        | 114          | 1             | 0.88        | 1            | 39           | 2.95        | 115          |
| Helmand             | 80              | 3.00        | 240          |               |             |              | 80           | 3.00        | 240          |
| Zabul               | 12              | 3.00        | 36           | 1             | 0.88        | 1            | 13           | 2.85        | 37           |
| Nimroz              | 14              | 2.50        | 35           | 1             | 0.88        | 1            | 15           | 2.40        | 36           |
| Uruzgan             | 29              | 2.50        | 73           | 2             | 1.05        | 2            | 31           | 2.42        | 75           |
| Daikunde            | 6               | 2.50        | 15           | 8             | 0.88        | 7            | 14           | 1.57        | 22           |
| <b>TOTAL</b>        | <b>1,086</b>    | <b>2.58</b> | <b>2,806</b> | <b>1,329</b>  | <b>1.21</b> | <b>1,605</b> | <b>2,415</b> | <b>1.83</b> | <b>4,411</b> |

Source: FAAHM/MAF

**Annex 2: Wheat Balance in 2006 by Province (Preliminary Estimates)**

| <b>REGION/<br/>Province</b> | <b>Settled<br/>population<br/>in 2006<br/>(Projected)<br/>(‘000)</b> | <b>Irrigated<br/>wheat<br/>(‘000 ha.)</b> | <b>Rainfed<br/>wheat<br/>(‘000 ha.)</b> | <b>Wheat<br/>Production<br/>(‘000 tonnes)</b> | <b>Required<br/>for human<br/>consumption<br/>(@160 kg/person)<br/>(‘000 tonnes)</b> | <b>Required for<br/>Seed<br/>(‘000 tonnes)</b> | <b>Post harvest<br/>losses<br/>(‘000 tonnes)</b> | <b>Wheat<br/>Surplus or<br/>Deficit<br/>(‘000 tonnes)</b> |
|-----------------------------|--|---|---|---|--|--|--|---|
| <b>NORTH</b>                | <b>3,226.0</b>   | <b>221</b>                                | <b>671</b>                              | <b>1,357</b>                                  | <b>516.1</b>   | <b>94.3</b>                                    | <b>203.6</b>                                     | <b>543.0</b>  |
| Faryab                      | 856.5  | 43  | 180                                     | 352   | 137.0  | 22.5   | 52.8   | 139.7   |
| Juzjan                      | 460.5  | 50  | 95                                      | 236   | 73.7   | 16.6   | 35.4   | 110.3   |
| Sar-i-Pul                   | 481.7  | 25  | 115                                     | 204   | 77.1   | 13.9   | 30.6   | 82.4  |
| Balkh                       | 1,093.3  | 87  | 154                                     | 390   | 174.9  | 28.0   | 58.5   | 128.6   |
| Samangan                    | 334.0  | 16  | 127                                     | 175   | 53.4   | 13.3   | 26.3   | 82.0  |
| <b>NORTH-EAST</b>           | <b>3,290.1</b>   | <b>220</b>                                | <b>329</b>                              | <b>1,026</b>                                  | <b>526.4</b>   | <b>65.9</b>                                    | <b>154.0</b>                                     | <b>279.7</b>  |
| Bughlan                     | 777.0  | 54  | 74                                      | 252   | 124.3  | 15.6   | 37.8   | 74.3  |
| Kunduz                      | 849.1  | 91  | 20                                      | 265   | 135.9  | 17.6   | 39.8   | 71.7  |
| Takhar                      | 843.2  | 50  | 135                                     | 306   | 134.9  | 20.0   | 45.9   | 105.2   |
| Badakhshan                  | 820.8  | 25  | 100                                     | 203   | 131.3  | 12.7   | 30.5   | 28.5  |
| <b>WEST</b>                 | <b>2,439.4</b>   | <b>144</b>                                | <b>240</b>                              | <b>640</b>                                    | <b>390.3</b>   | <b>45.1</b>                                    | <b>96.1</b>                                      | <b>108.5</b>  |
| Heart                       | 1,574.1  | 97  | 140                                     | 411   | 251.9  | 28.6   | 61.7   | 68.8  |
| Farah                       | 436.9  | 24  | 0                                       | 58  | 69.9   | 4.2  | 8.7  | -24.8   |
| Badghis                     | 428.4  | 23  | 100                                     | 171   | 68.5   | 12.3   | 25.7   | 64.5  |
| <b>WEST-CENTRAL</b>         | <b>983.4</b>   | <b>35</b>                                 | <b>47</b>                               | <b>115</b>                                    | <b>157.3</b>   | <b>10.0</b>                                    | <b>17.3</b>                                      | <b>-69.6</b>  |
| Ghor                        | 597.1  | 22  | 39                                      | 78  | 95.5   | 7.1  | 11.7   | -36.3   |
| Bamyan                      | 386.3  | 13  | 8                                       | 37  | 61.8   | 2.9  | 5.6  | -33.3   |
| <b>CENTRAL</b>              | <b>5,070.7</b>   | <b>113</b>                                | <b>14</b>                               | <b>344</b>                                    | <b>811.4</b>   | <b>21.0</b>                                    | <b>51.6</b>                                      | <b>-540.0</b>   |
| Kabul                       | 3,130.0  | 21  | 1                                       | 60  | 500.8  | 3.8  | 9.0  | -453.6  |
| Parwan                      | 571.5  | 23  | 3                                       | 64  | 91.4   | 4.3  | 9.6  | -41.3   |
| Panjsher                    | 132.9  | 6   | 2                                       | 18  | 21.3   | 1.2  | 2.7  | -7.2  |
| Kapisa                      | 381.6  | 10  | 0                                       | 30  | 61.1   | 1.8  | 4.5  | -37.4   |
| Logar                       | 338.7  | 26  | 7                                       | 86  | 54.2   | 5.1  | 12.9   | 13.8  |
| Wardak                      | 516.0  | 27  | 1                                       | 86  | 82.6   | 4.8  | 12.9   | -14.3   |
| <b>SOUTH</b>                | <b>2,409.0</b>   | <b>102</b>                                | <b>5</b>                                | <b>246</b>                                    | <b>385.5</b>   | <b>18.3</b>                                    | <b>37.0</b>                                      | <b>-194.8</b>   |
| Paktya                      | 476.3  | 18  | 1                                       | 55  | 76.2   | 3.2  | 8.3  | -32.7   |
| Paktika                     | 376.1  | 16  | 2                                       | 42  | 60.2   | 3.0  | 6.3  | -27.5   |
| Khost                       | 496.6  | 12  | 0                                       | 24  | 79.5   | 2.1  | 3.6  | -61.2   |
| Ghazni                      | 1,060.0  | 56  | 2                                       | 125   | 169.6  | 10.0   | 18.8   | -73.4   |
| <b>EAST</b>                 | <b>2,188.5</b>   | <b>72</b>                                 | <b>10</b>                               | <b>158</b>                                    | <b>350.2</b>   | <b>13.5</b>                                    | <b>23.8</b>                                      | <b>-229.5</b>   |
| Nangarhar                   | 1,285.8  | 50  | 8                                       | 102   | 205.7  | 9.4  | 15.3   | -128.4  |
| Laghman                     | 385.4  | 13  | 1                                       | 32  | 61.7   | 2.4  | 4.8  | -36.9   |
| Kunarha                     | 389.2  | 8   | 0                                       | 21  | 62.3   | 1.4  | 3.2  | -45.9   |
| Nooristan                   | 128.1  | 1   | 1                                       | 3   | 20.5   | 0.3  | 0.5  | -18.3   |
| <b>SOUTH-WEST</b>           | <b>2,911.1</b>   | <b>179</b>                                | <b>13</b>                               | <b>525</b>                                    | <b>465.8</b>   | <b>32.3</b>                                    | <b>78.9</b>                                      | <b>-52.0</b>  |
| Kandahar                    | 1,009.1  | 38  | 1                                       | 115   | 161.5  | 6.7  | 17.3   | -70.5   |
| Helmand                     | 797.0  | 80  | 0                                       | 240   | 127.5  | 14.0   | 36.0   | 62.5  |
| Zabul                       | 262.5  | 12  | 1                                       | 37  | 42.0   | 2.2  | 5.6  | -12.8   |
| Nimroz                      | 141.2  | 14  | 1                                       | 36  | 22.6   | 2.5  | 5.4  | 5.5   |
| Uruzgan                     | 302.8  | 29  | 2                                       | 75  | 48.4   | 5.2  | 11.3   | 10.1  |
| Daikonde                    | 398.5  | 6   | 8                                       | 22  | 63.8   | 1.7  | 3.3  | -46.8   |
| <b>Total for settled</b>    | <b>22,518.2</b>  | <b>1,086</b>                              | <b>1,329</b>                            | <b>4,411</b>                                  | <b>3,603.0</b>   | <b>300.4</b>                                   | <b>661.7</b>                                     | <b>-154.1</b>   |
| <b>Total for unsettled</b>  | <b>1,588.1</b>   | <b>0</b>                                  | <b>0</b>                                | <b>0</b>                                      | <b>254.1</b>   | <b>0</b>                                       | <b>0</b>   | <b>-254.1</b>   |
| <b>Overall</b>              | <b>24,106.3</b>  | <b>1,086.0</b>                            | <b>1,329.0</b>                          | <b>4,411.0</b>                                | <b>3,857.1</b>   | <b>300.4</b>                                   | <b>661.7</b>                                     | <b>-408.2</b>   |

Settled population in 2004: 21.678 million (Source: Central Statistics Office)

Nomads in 2003: 1,5 million (Source: Central Statistics Office)

Annual population growth-rate 1.92% (Source: Central Statitistes Office)

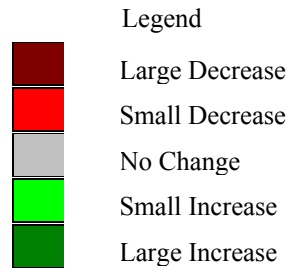
Crop area and production data (Source: FAAHM/MAF)

**Annex 3: Cereal balance by crop at the national level in 2006 (Preliminary estimates)**

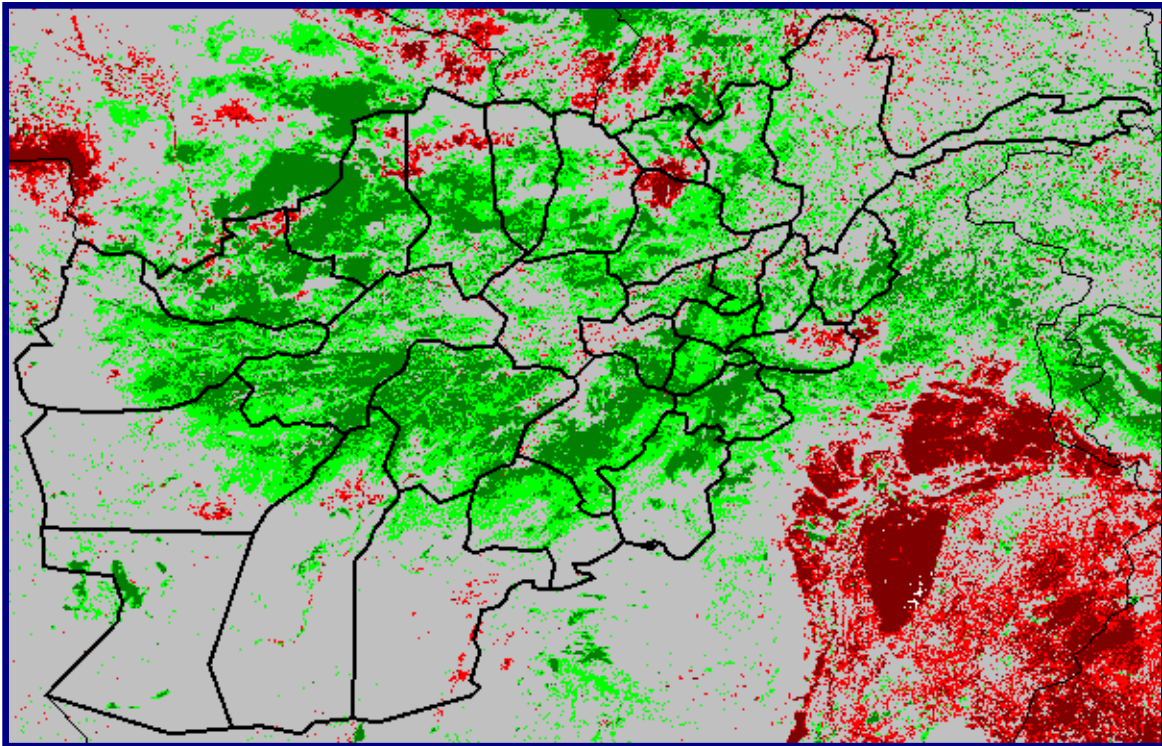
| Crop                | Area<br>( <sup>'000</sup> ha) | Seed-<br>rate<br>(kg/ha) | Production<br>( <sup>'000</sup> ) | Cereal<br>Requirement<br>(kg/person/yr) | Cereal<br>Requirement<br>( <sup>'000</sup> t) | Used for<br>Seed<br>( <sup>'000</sup> t) | Used for<br>Feed<br>( <sup>'000</sup> t) | Loss<br>( <sup>'000</sup> t) | Total<br>Use<br>( <sup>'000</sup> t) | Surplus/<br>Deficit<br>( <sup>'000</sup> t) |
|---------------------|-------------------------------|--------------------------|-----------------------------------|---|---|--|--|------------------------------|--------------------------------------|---|
| Irrigated wheat     | 1,086                         | 175                      | 2,806                             |   |   | 190                                      |  | 421                          |                                      |   |
| Rainfed wheat       | 1,329                         | 83                       | 1,605                             |   |   | 110                                      |  | 241                          |                                      |   |
| <b>All wheat</b>    | <b>2,415</b>                  |                          | <b>4,411</b>                      | <b>160</b>                              | <b>3,857</b>                                  | <b>300</b>                               |  | <b>662</b>                   | <b>4,819</b>                         | <b>-408</b>                                 |
| Paddy               | 170                           | 105                      | 360                               | 17                                      | 410   | 18                                       |  | 25                           | 453                                  | -93   |
| Maize               | 270                           | 60                       | 350                               | 2                                       | 48  | 16                                       | 233                                      | 53                           | 350                                  | 0   |
| Barley              | 250                           | 110                      | 370                               | 1                                       | 24  | 28                                       | 262                                      | 56                           | 370                                  | 0   |
| <b>Total cereal</b> | <b>3,105</b>                  |                          | <b>5,491</b>                      | <b>180</b>                              | <b>4,339</b>                                  | <b>362</b>                               | <b>495</b>                               | <b>796</b>                   | <b>5,992</b>                         | <b>-501</b>                                 |

## Annex 4

### Normalized Difference Vegetation Index (NDVI)



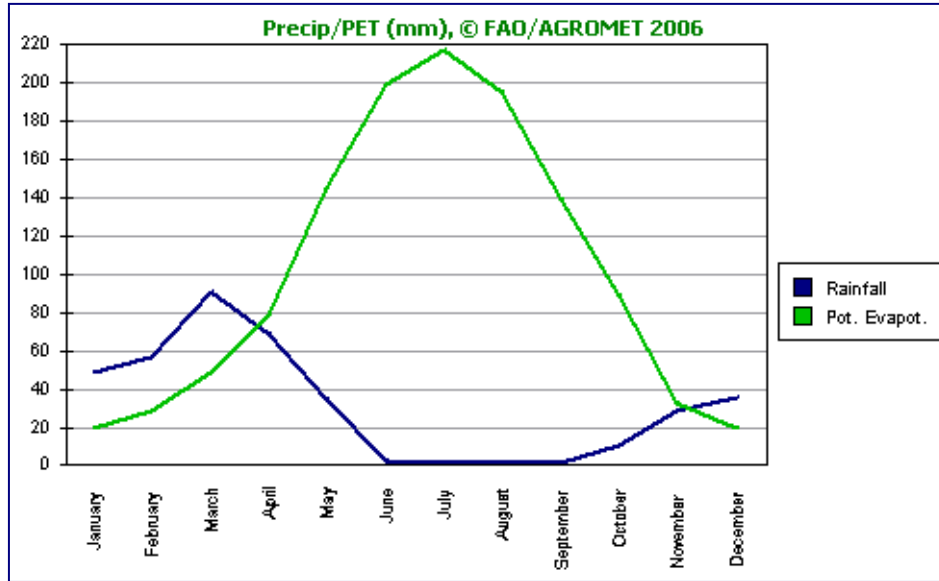
NDVI March 2<sup>nd</sup> Dekad 2006 minus March 2<sup>nd</sup> Dekad 2005



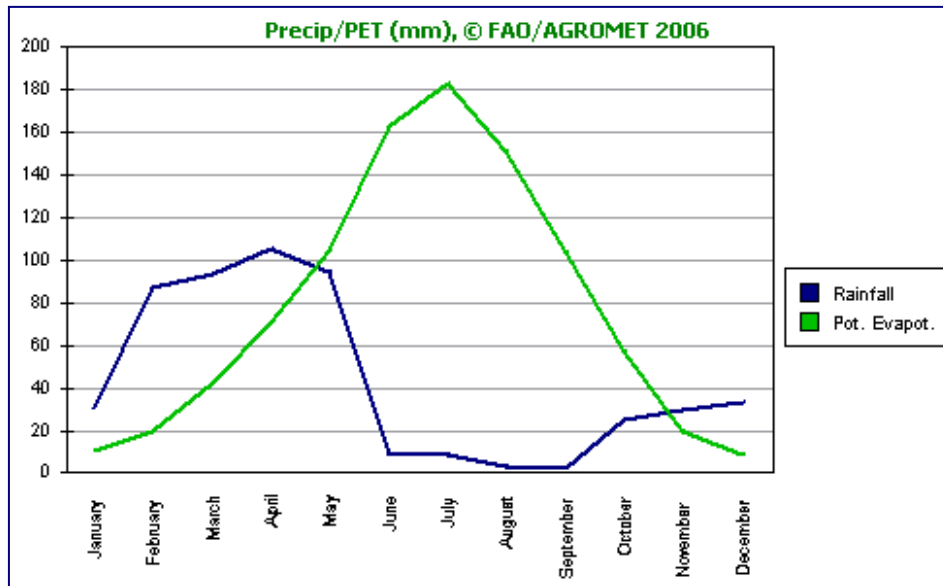
## Annex 5

### Potential Evapo-transpiration (PET) and Long-term Average of Precipitation

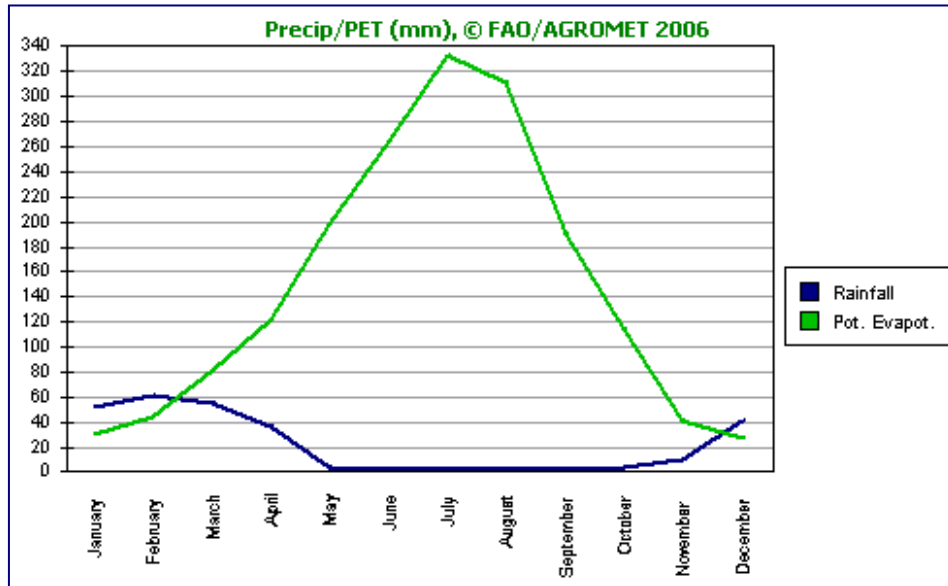
#### Maimana (Faryab; North)



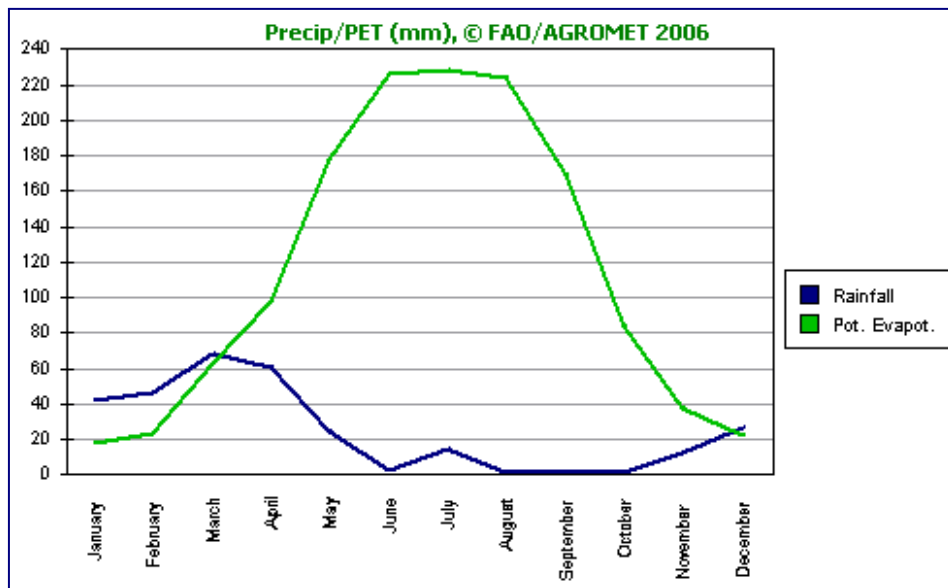
#### Faizabad (Badakshan; North-East)



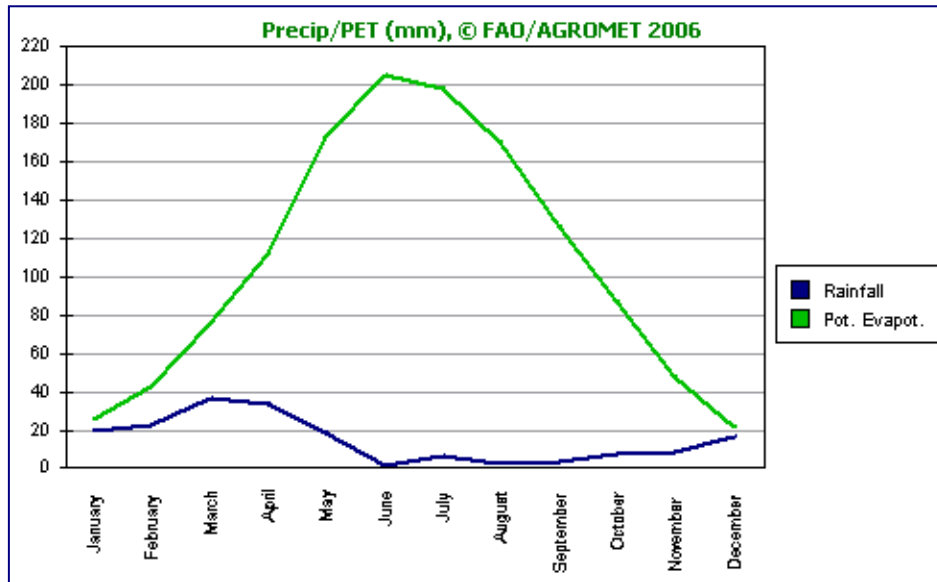
## Herat (Herat; West)



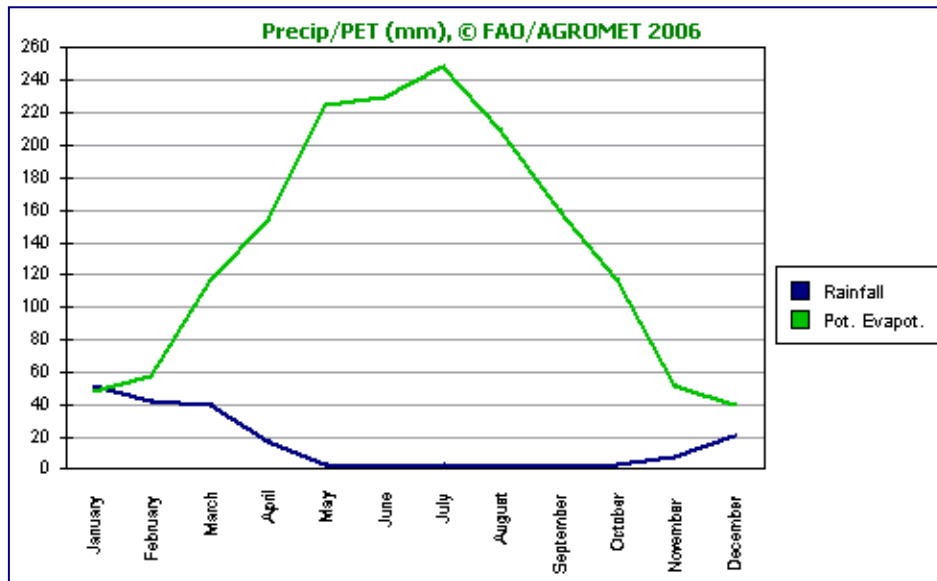
## Gazni (Gazni; South)



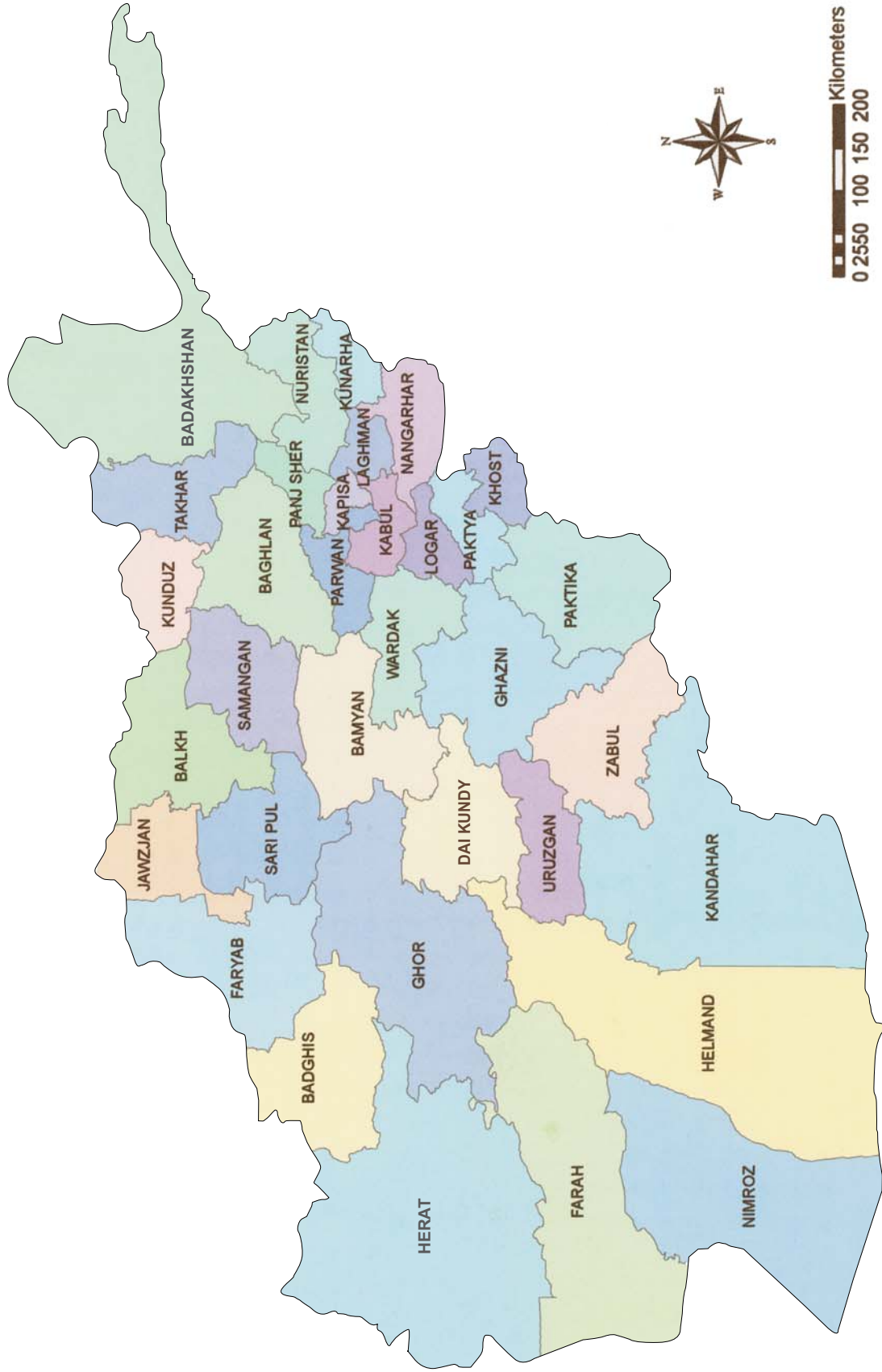
### Jalalabad (Nangarhar; East)



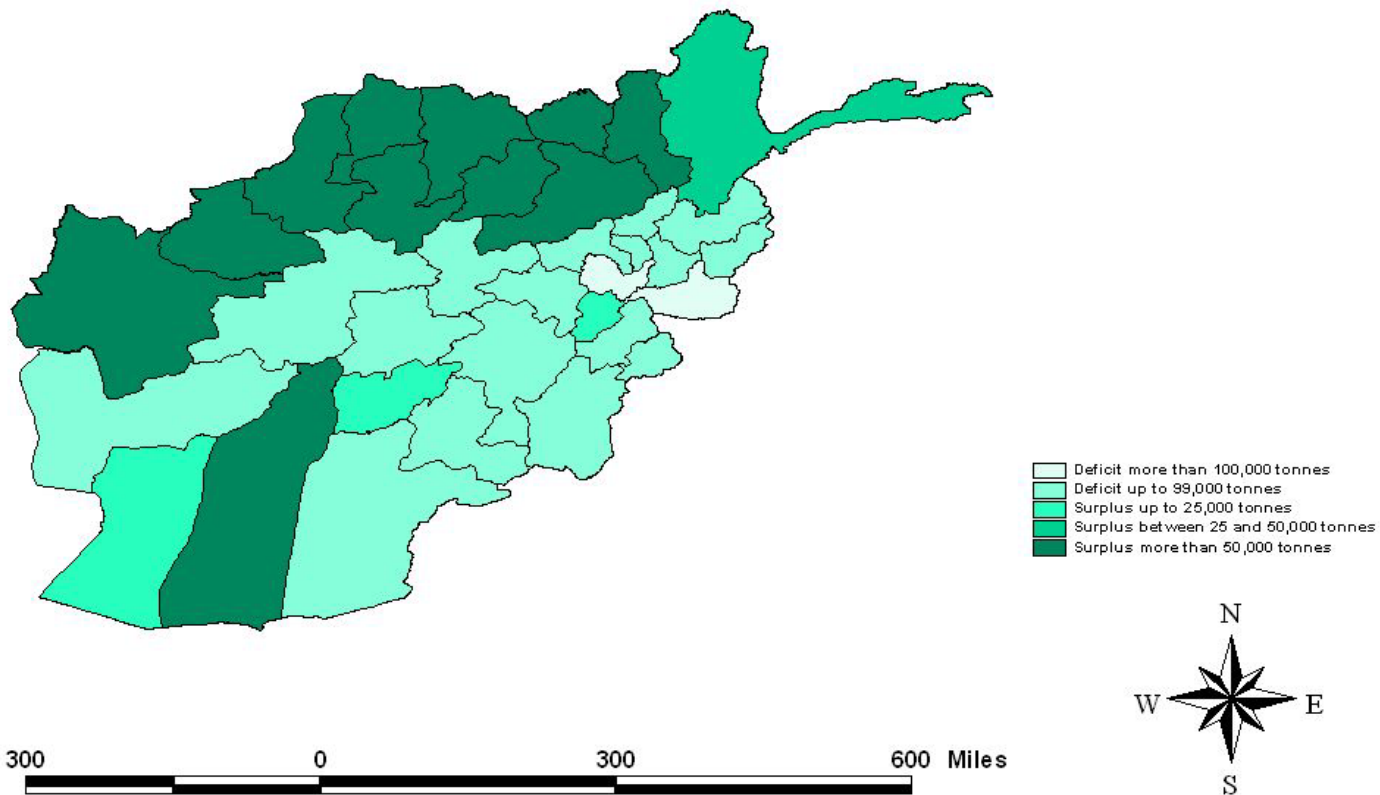
### Kandahar (Kandahar; South-West)



# MAP OF AFGHANISTAN



# Wheat supply status in province (Preliminary Estimates for 2006)





نشرية اول سال دوم  
حمل 1385

