Crop Situation Update

United Nations World Food Programme
Food Security Monitoring and Analysis System

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Summer paddy crop

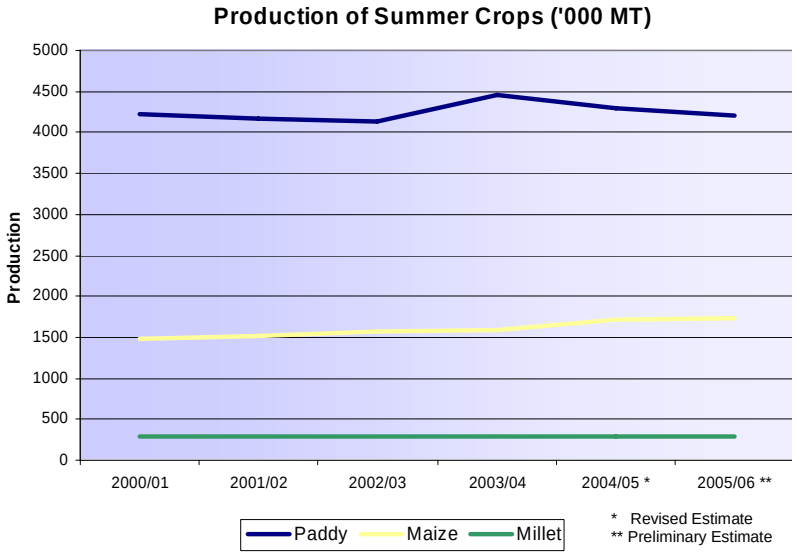
Paddy is the main cereal crop in Nepal, followed by wheat, maize, millet, and barley. 46% of the total of 3.35 million hectares of cultivated land, i.e. 1.54 million hectares, is covered by paddy.

The summer crop production figures during the past 6 years are presented in Chart 1. The estimated paddy production in 2005/06 is 4.29 million MT, which constitutes about 68% of the summer cereal crops (6.23 million Mt) and around 55% of the total annual cereal production of around 7.76 million MT.

Last year, national production of paddy decreased by 2% due to erratic monsoon rains, and snowfall (during the time of harvest) in some high hill and mountain areas.[1]

Based on preliminary field reports, the paddy crop situation is much worse than last year, particularly in the eastern *Terai* region, mainly due to unfavourable temporal and spatial pattern of the monsoon rains.

Chart 1 – Source: Economic Survey, 2005/06



RAINFALL SITUATION

Data from the Department of Hydrology and Meteorology collected at the main weather stations in the eastern *Terai* does not indicate a worsening drought situation compared to last year (see Charts 2). The monsoon was early, starting in April. However, planting in the eastern *Terai* normally starts in June when the eastern districts – Morang, Saptari, and Siraha - received less rainfall than last year. In addition, we should not forget that last year was not a normal monsoon year; the *Terai* districts of the Eastern and Central Development Regions were badly affected by a prolonged drought with an average of less than half of normal rainfall during the month of July.[2] The precipitation in Kankai (Jhapa) Biratnagar (Morang) and Rajbiraj (Saptari) weather stations were recorded as 56%, 46% and 43% respectively compared to normal, in the month of June. Last year the precipitation was recorded as 118%, and 86% in Biratnagar and Rajbiraj respectively for the same period.[3]

Table 1 shows the extent of irrigated paddy land in 4 eastern and central *Terai* districts – Saptari, Siraha, Dhanusha, and Parsa.

Irrigation coverage

District	Paddy cultivated land		
	Total (Ha.)	Irrigated (Ha.)	%
Saptari	70,475	27,447	39%
Siraha	72,300	21,003	29%
Dhanusha	60,000	27,500	46%
Parsa	46,700	25,242	54%

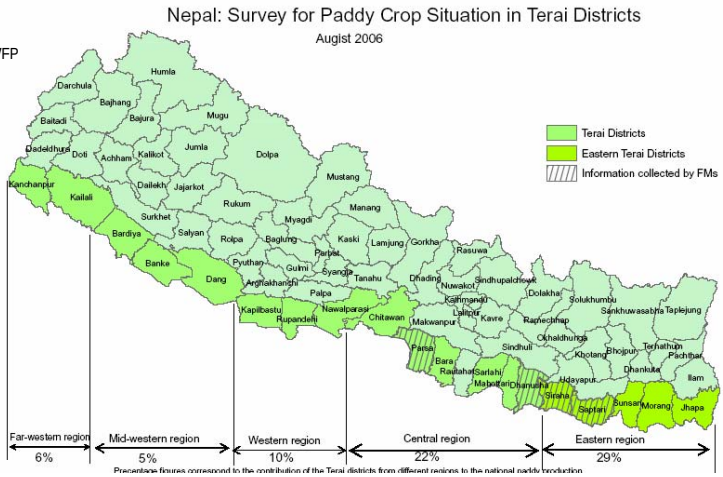
Table 1

Saptari and Siraha with comparable more area under cultivation and less area covered by irrigation are likely to suffer more from a continuing drought scenario than the districts of Dhanusha and Parsa.

PADDY PRODUCTION

The *Terai* contributes around 72% to the total national paddy production; the eastern *Terai* districts—Jhapa, Morang, Sunsari, Saptari, and Siraha—alone contribute approximately 29%. Likewise, central, western, mid-western, and far-western *Terai* districts contribute 22%, 10%, 5%, and 6% respectively (see map 1).

Map 1 – Source: WFP



[1] Ministry of agriculture and Cooperatives, August 2006
[2] Economic Survey, Fiscal Year 2005/2006, Government of Nepal, Ministry of Finance, July 2006
[3] Preliminary Weather Summary of Nepal, June 2005, and Preliminary Monthly Weather Data June 2006 (GoN, Department of Hydrology and Meteorology)

Paddy Area				
District	Paddy cultivated land			
	Irrigated (Ha)	Rainfed (Ha)	Barren land (Ha)	%
Saptari	68,598	40,000	12,000	30%
Siraha	30,085	15,000	5,250	35%
Dhanusha	25,697	32,303	12,921	40%
Mahottari	10,803	29,870	13,441	45%

Table 2 – Source: MoAC

According to current information from the Ministry of Agriculture and Cooperatives (MoAC), 4 districts in the eastern and central *Terai* – Saptari, Siraha, Danusha and Mahottari – are worst affected. In these districts less than 70% of the un-irrigated paddy land has been planted (Table 2).

The country-wide situation is presented in Map 2. The percentage of rainfed paddy land left fallow is based on the most recent information from MoAC, adjusted by information received from WFP field monitors.

Total area under paddy cultivation for this season is estimated at 151,0988 hectares, a 2.0 % decrease compared to the 2004/05 season (Table 3).

Area under Paddy Cultivation

Season	Area under Paddy cultivation (Ha)	
	Total (Ha.)	% change
2000/01	1,560,044	
2001/02	1,516,980	-2.8
2002/03	1,544,660	1.8
2003/04	1,559,436	1.0
2004/05	1,541,729	-1.1
2005/06	..	..
2006/07*	151,0988	-2.0**

Table 3 – Source MoAC and WFP estimates
.. not available
* estimate based on reported area left fallow
** % change compared to 2 years ago.

The reduction in total paddy area under cultivation, particularly in the eastern and central *Terai*, combined with productivity decline and irrevocable crop damage due to the drought (and recent flash floods in the Mid-western *Terai*) will have its impact on the national production level and food security status.

ESTIMATED DECLINE IN PADDY PRODUCTION

Given the above, 2 production scenarios for the summer paddy crop have been developed. The first is based on current figures from the MoAC. The second scenario assumes that rainfall will be sufficient in the coming 2 weeks, allowing for some recovery of the standing crop and makes use of the field information received from WFP field monitors regarding extent of fallow land in certain districts.

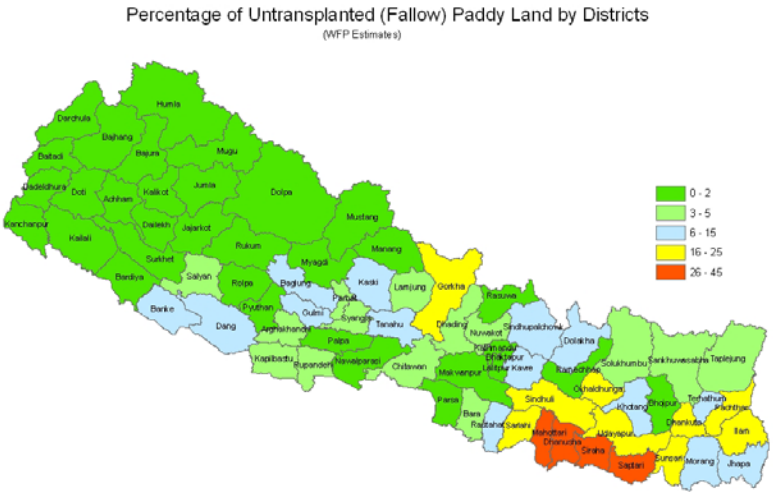
First scenario: The following assumptions are made:

- About 10% of rainfed paddy land remains fallow, i.e. 150,000 ha.
- Production loss of about 10% compared to normal year (assumed to be 4 million tons) due to late planting and irrecoverable crop damage.
- Average yield per hectare is 3 tons.
- Paddy to rice conversion ratio is 62%.

According to this scenario, the national rice supply will decline by 527,000 ton (see Table 4).

Second scenario: The following assumptions are made:

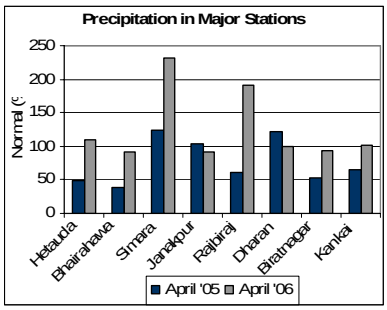
- Based on field observations, about 103,000 hectares[4] remain fallow.

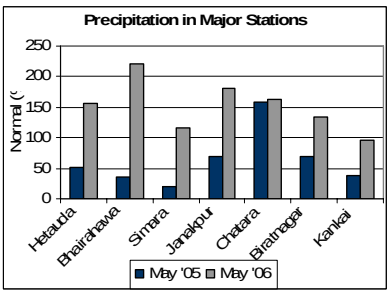


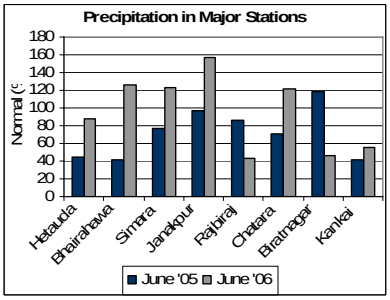
Map 2 – Source: MoAC and WFP estimates

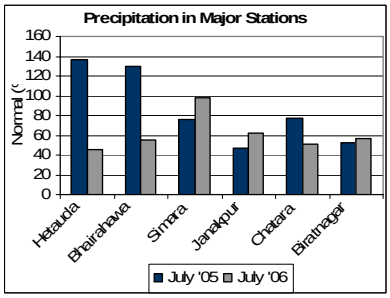
[4] This figure is a rough estimate based on field observations by WFP field staff in certain districts. Estimates are currently being verified by the MoAC.

Chart 2 – Source: Department of Hydrology and Meteorology









- As it is likely that less productive lands have remained fallow, the average yield per hectare is fixed at 2.5 tons.
- Production loss of about 8% compared to normal year for rainfed paddy, and loss of 2% for irrigated paddy. This assumes that favourable rains will continue for the coming 2 weeks (Production losses were calculated using the estimates for un-irrigated paddy area and irrigated crop area and a average total crop yield of 2.6 ton/ha).
- Paddy to rice conversion ratio is 62%.

According to this scenario, the national rice supply will decline by approximately 285,000 ton (see Table 4).

Estimated Decline in National Rice Production (MT)

	Scenario 1 (Mt)	Scenario 2 (Mt)
Area uncultivated	450,000	258,000
Productivity decline	400,000	201,000
Total loss in paddy production	850,000	459,000
Total loss in national rice production	527,000	285,000

Table 4 – Source: WFP calculations

IMPACT ON FOOD SECURITY

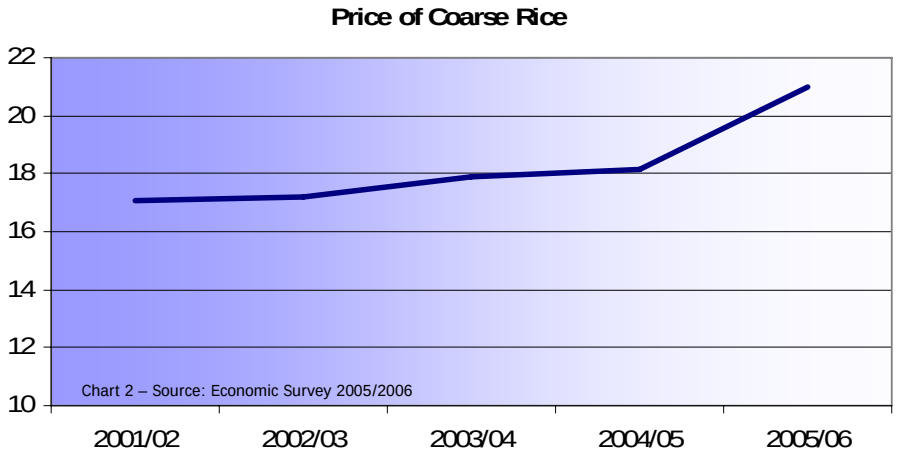
Notwithstanding the impact the drought will have on individual farmers, at the national level food security will depend on the status of other cereal crops, the way the market will react and the ability of the Government to mobilize external resources, such as food aid.

According to WFP field monitors, the maize summer crop production has not been affected by the drought and can be expected to be normal. In addition, the MoAC has increased its extension efforts to boost production of other cereal crops. As a result, the expectations are that the maize production will increase with 100,000 Mt and the production levels of the cereal winter crops (especially wheat) are expected to increase by a total of 150,000 Mt.

Given Scenario 1, this increment in production of other cereal crops will leave Nepal with a negative cereal balance of 377,000 Mt (which includes an estimated 100,000 Mt cereal shortage during a normal production year).

The increment in production in other cereal crops will almost completely offset the paddy summer crop losses, if Scenario 2 becomes true. However, increase in winter cereal crop production remains a huge challenge and requires favourable weather conditions. It is therefore most likely that a substantial shortage in national cereal supply will occur even in the case of Scenario 2.

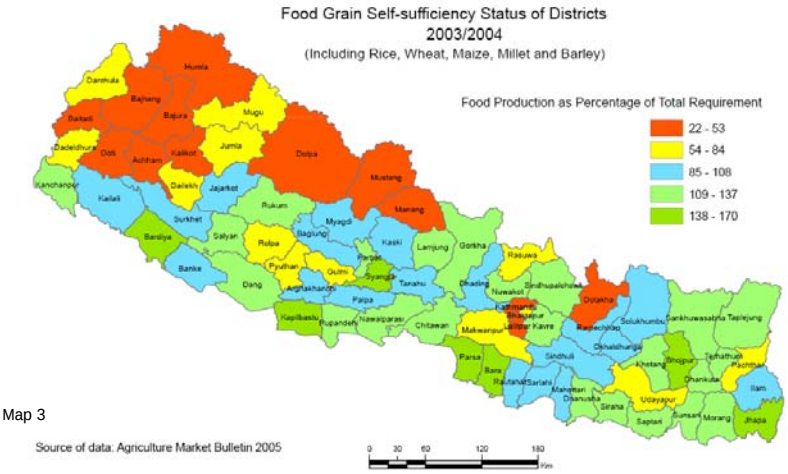
It is not clear at the moment to what extent the rice cultivation areas in northern India are affected by the drought. If there is no significant decrease in production on the other side of the border, an increase in formal and informal rice imports can be expected. This may have a stabilizing effect on the rice price. The average annual price of coarse rice is shown in Chart 2. There's a slight upward trend. The rapid increase during 2005/06 however was due to the upward revision of 36% in petroleum price in February 2005 and an increase in VAT from 10% to 13% and cannot be attributed to the 2% paddy production during that year.



If prices remain stable the effects of the reduced paddy crop production may remain localized, with marginal farmers and landless agricultural labourers in the eastern and central *Terai* being most affected. If no alternative livelihood options are available for these people, an increase in the level of out-migration to India may be expected in the months of October to December from these areas.

The eastern and central *Terai* is surplus in cereal production compared to requirement (see Map 3). Despite loss in paddy production, they will remain surplus in food production. Provided that the national rice price remains stable, the Hill and Mountain districts may not be affected too much by the reduction in the national paddy supply. Nonetheless, these areas remain extremely vulnerable to food insecurity due to localized crop failure, high variations in cost of transportation, and civil unrest.

Based on the recent assessments that have been conducted in the drought affected far and mid western hill and mountain region, the food security situation in these remote areas remains extremely critical due to the loss of winter crops and an estimated 50% decrease in the millet summer crop in various VDCs. External food support to these areas remains of the highest priority.



Map 3

Crop Situation Updates are produced by WFP Nepal as part of the Food Security Monitoring and Analysis System, supported by DfID and OFDA.

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