

## Tajikistan Monthly Risk Monitoring & Warning Report February 2010



### RISK TRENDS

**NATURAL DISASTERS:** Increased precipitation levels has already been triggering numerous avalanches in mountain areas such as Anzob, Shahrstan, Shughnan, Rushan, Vanj, Ishkashim and Rasht, and flash floods in Khovaling, Muminabad, Ayni and Sangiston. Further risk of avalanches for early spring, as well as flash floods and mudflows for March, April and May remains high.

**ENERGY:** Increased precipitation, as well as warming weather, threat of energy crisis is ruled out.

**FOOD SECURITY:** Food prices still remain much higher than before the food crisis in 2007, while the purchasing power of households remains similar to 2007. In the coming months, due to the higher electricity tariffs and massive purchase of shares to finance the construction of the HEPS "Roghun", food insecure households will have to revise their expenditures accordingly.

**EMPLOYMENT:** The highest rates of unemployment remains in Sughd (36%) and Khatlon (32%) provinces, where 65% of the country's population lives.

**MACROECONOMIC TRENDS:** Tajikistan continues to have a negative trade balance, which in January was USD 70 million. As a result, in January import coverage from export incomes remained low, at around 59%. The volume of remittances received by Tajikistan in January 2010 was USD 102,400 million, which is a 7% increase compared to January 2009, but a decrease of 16% compared to 2008.

# Tajikistan Monthly Risk Monitoring & Warning Report

## Table of Contents

	<i>Page</i>
I. NATURAL DISASTER.....	3
1.1 Weather Forecast for February 2010.....	3
1.2 Shelter issues of earthquake-affected households in Vanj District remain problematic.....	3
II. ENERGY.....	4
2.1 Electricity.....	4
<i>Gas supply</i> .....	5
<i>Electricity tariffs</i> .....	6
2.2 Cuts and Restrictions.....	6
2.5 Energy outlook.....	7
III. FOOD SECURITY.....	7
3.1 Food and Fuel prices.....	7
3.3 Migration and Unemployment.....	10
IV. MACROECONOMIC TRENDS .....	11
4.1 Remittances.....	12
4.2 Exchange Rates.....	13
4.3 Inflation.....	13
<u>Annex A</u> : Localized Meteorological Forecast for February 2010.....	15

### I. NATURAL DISASTER

#### 1.1 Weather Forecast for February 2010

For March 2010, the State Hydro-meteorological Agency of Tajikistan forecasts that average monthly temperature will be 1 to 2 °C above the climatic norm. At low elevations temperatures are expected to be 10 to 13 °C and 5 to 8°C at higher elevations.

The amount of monthly precipitation in most regions of the country is expected to exceed the norm by 100-250%.<sup>1</sup>

**An increased level of precipitation may trigger avalanches in mountain areas such as Anzob, Shahrستان, Shughnan, Rushan, Vanj, Ishkashim and Rasht, and flash floods in Khovaling, Muminabad, Vose, Ayni and Sangiston.**

During the first two weeks of February precipitation was two times higher than normal. The first week of the month was warm with temperatures of 2 degrees above the climatic norm, whereas the second week of the month was cold with a significant amount of precipitation. The registered snow-pack was also above the norm: in Anzob passage (Varzob river basin) by 230%, in Lyakhsh by 30%, in Bustonobod (Vakhsh river basin) by 10%, in Dehvaz by 517%, Iskandarkul (Zeravshan river basin) by 280% and in Gunt (Pyanj river basin) by 160%.

According to the weather forecast for the next month, precipitation in March is going to be 1.5 to 2 times above the norm. If the forecast is accurate, the probability of flash floods in rivers such as Yakhsu and Kizilsu in March and April is very high.

*(Further localized details on expected weather in March 2010 can be found in [Annex A.](#))*

#### 1.2 Shelter issues of earthquake-affected households in Vanj District remain problematic

On 2 January 2010 the Committee of Emergency Situations and Civil Defense (CoES) reported about an earthquake in Vanj district, GBAO, Tajikistan. It affected some 23 villages destroying 28 houses and making another 134 houses uninhabitable. CoES assessed 106 houses as under threat of collapse and another 130 as partially damaged.

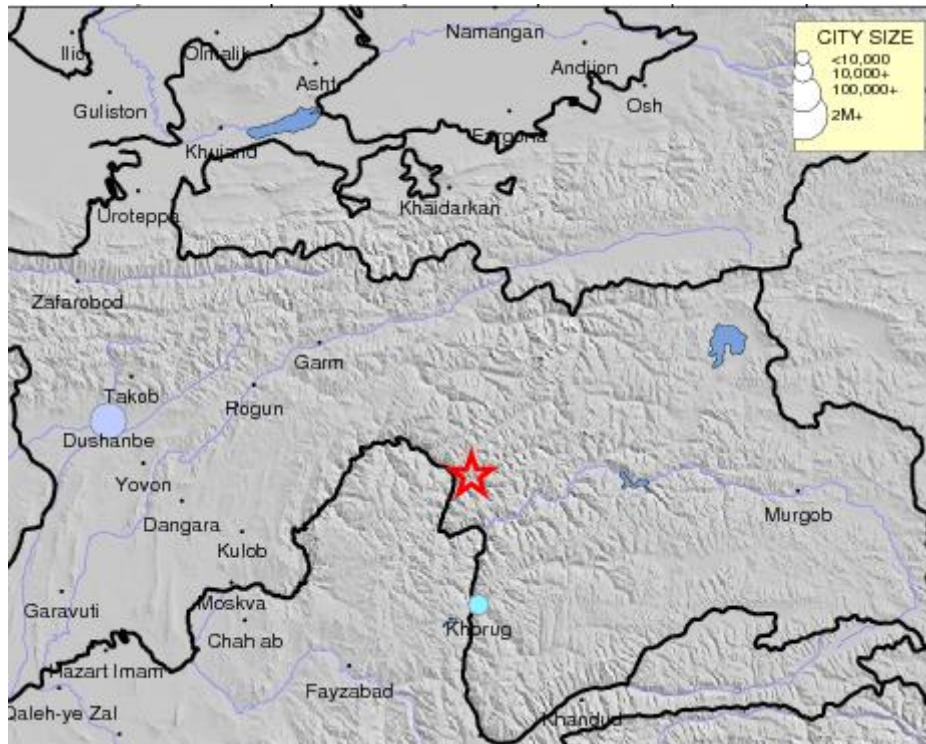
On 28 -31 January 2010 REACT members, such as CoES, the Mountain Societies Development Support Programme (MSDSP), Focus Humanitarian Assistance, and the Red Crescent Society in Tajikistan (RCST) conducted a socio-economic vulnerability assessment of 250 affected households in 23 villages of Vanj district.

The assessment found that 167 of the surveyed households were reluctant to resettle to Surkhsangob (the site identified for the new settlement by the Government of Tajikistan) for several reasons. One of the main concerns of these households was that the newly allocated area is prone to risk of floods, mudflows or other disasters since it is located along the rivers Vanj and Pyanj and in between mountains. The elderly members of these households remembered cases of landslides and flash floods caused by the release of glacial water in 1960s.

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<sup>1</sup> Source: State Hydro-Meteorological Agency of Tajikistan.

## Tajikistan Monthly Risk Monitoring & Warning Report



On 2 March 2010 specialists of the Geological Department, Institute of Earthquake Engineering and Seismology, head of Information Management and Analytical Center (IMAC) of CoES, specialists from Agency on Land Management, Geodesy and Cartography convened a meeting and after analytical discussions and close examination of maps, it was concluded that the households had grounds for their concerns. It was decided that field assessment should be conducted to determine the level of risks of mudflows and landslides and examine other resettlement alternatives.

The findings of the risk assessment will be posted in March edition of Risk Monitoring and Warning report.

## II. ENERGY

### 2.1 Electricity

During the last week of January and the first week of February the water inflow to Nurek reservoir was 10 to 14% above the norm, which brought the water volume up to 1.5% more than predicted. Owing to these favorable weather conditions and water availability in January 2010, Tajikistan produced 1.4 billion kWh of electricity, which exceeds the 2009 January figure by 8%. During the first two weeks of February, Nurek has produced 691 million kWh of electricity, which exceeds last year's figures by 71%. (!) This positive trend in electricity production also reflected good precipitation and water storage at the Nurek HEPS, which was 20 meters higher than in 2009. Also, as a result of improved management and payment discipline technical and commercial losses of electrical energy were significantly reduced.

In January, Nurek produced 27 million kWh on a daily basis. During the first two weeks of February, it generated 49 million kWh of electricity compared to the daily average of 29 kWh during the same period of 2009. Sangtuda - 1 and Baypaza HEPS have been producing about 5.8-5.9 million kWh on average during the same period.

## Tajikistan Monthly Risk Monitoring & Warning Report

Table# 1 Electricity production by each Hydro Electric Power Station in Tajikistan in January 2010

Main HEPS of Tajikistan	Monthly average in million kWh	% of total generation	Total generation capacity (in MW)
<b>Nurek</b>	27,152	60	3,000
<b>Baypaza</b>	5,882	13	600
<b>Sangtuda-1</b>	5,906	13	670
<b>Golovnaya</b>	2,477	6	210
<b>Perepadnaya</b>	376	1	30
<b>Central</b>	244	1	18
<b>Kayrakkum</b>	2,934	7	126
<b>Varzob Cascade</b>	99	0	25
<b>Total</b>	<b>45</b>	<b>100</b>	<b>4,679</b>

In spite of continuing political tensions and Uzbekistan's withdrawal from Central Asia's integrated electricity transmission network, in January Tajikistan imported some 34 million kWh of electricity from Uzbekistan and Kyrgyzstan for consumption in the Zeravshan Valley (Penjikent and Ayni) in northern Tajikistan..

Although the import of electricity dropped 85% in year-on-year terms, a corresponding 94% reduction in electricity exports helped support domestic electricity consumption in January. The launch of the Sangtuda-1 HEPS (670 MW generation capacity) and increased generation capacity at the Kayrakkum HEPS (127 MW) also helped in this regard.

In 2009, 55 small and medium sized Hydro Power Stations (HEPS) were built with a capacity generation of 5 to 400 kWh. A further 21 mini/medium HEPS are also being constructed with a total capacity generation of 9,989 kWh.

As the weather warmed up in mid-February, the Dushanbe CHPP (Combined Heat and Power Plant) discontinued operating. From the beginning of the heating season, the CHPP produced 52 Gcal of heat and 30,000 kWh of electricity on an hourly basis. Due to the limited amount of residual fuel (mazut) and gas, CHPP provided only two streets of Dushanbe (I. Somoni and Shohmansur streets) with heat.

From the beginning of its operation until 1 February, CHPP produced 41,911 thousand kWh of electricity and 72,411 Gcal of heat.

### **Gas supply**

On 3 February, residents of Dushanbe stopped receiving gas as a result of long standing arrears in payments to "Dushanbegas", the gas distributing company in the capital. Now due to the fact that the state-owned "Tajiktransgas" company has to pay USD 700-800,000 every 10 days against future consumption, the company is not in a position to cover residents' arrears in payments. Arrears of the "Dushanbegas" has reached 2.7 million TJS (USD 0.6 million).

In January 2010, the import of gas was reduced by 30%, as Tajiktransgas lacks the financing means to make advance payments. This will negatively affect the biggest commercial consumers, such as TALCO, "Tajikcement" and Dushanbe CHPP as they will receive less gas and may not be able to operate at full capacity.

### *Electricity tariffs*

In January 2010, along with the major power distributing company Barqi Tojik, the private company “Pamir energy” also raised tariffs on its electricity by 12%. Now the residents of GBAO pay 0.12 TJS (USD 0.02) per each kWh of electricity. For administrative and commercial customers each kWh of electricity now costs 0.22 TJS (USD 0.05). Tariffs were raised in accordance with the concession signed between the Government of Tajikistan and the “Pamir Energy” company, which stipulates that until 2010 tariffs should be increased twice a year by 15%. However, considering the negative impacts of the global financial crisis, tariffs in January 2010 were increased only by some 12% on average. As the concession period came to an end, these tariff increases took place for the last time. In the future, tariffs may increase only in response to the inflation rate and the exchange rate vis-à-vis the US Dollar. Other than that, “Pamir Energy” is not planning to raise tariffs in the near future.<sup>2</sup>

### **2.2 Cuts and Restrictions**

Despite increased generation capacity, reduced technical losses, and more efficient distribution, rural districts have been receiving electricity for only 12 hours a day and at times even less. Such restrictions were introduced individually by local electric departments of each region.

In Khatlon province, only major administrative cities, such as Kurgan-Tyube, Kulyab, Danghara and the district of Nosiri Khusrav receive electricity 24/7, whereas other districts receive 10 hours of electricity per day.

During the first two weeks of February, when temperature fell below zero for several consecutive days, the local electricity departments of Sughd introduced 3 hours electricity cuts to main urban centres, such as Khujand, Kayrakkum and Chkalovsk. These measures were undertaken to avoid overloading electricity transformers. As the weather gets warmer towards the end of February and March, electricity limits will be cancelled and the above-mentioned cities will receive electricity 24/7.

Villages and rural areas during this reporting period received electricity for 10 hours per day. Key administrative and socially vital buildings, such as hospitals, buildings of local authorities and banks, receive electricity uninterruptedly.

In Gorno Badakhshan, Pamir Energy supplies electricity 24/7 even in remote areas such as Shughnan, Rushan, Roshtkala and Ishkashim.<sup>3</sup>

In January 2010, 1.49 billion kWh of electricity were consumed, which was 9% more than it was consumed in January 2009 and 1% more than January 2008. Despite significant reductions in imports, this shows an improvement in the electricity supply system of Tajikistan over the past two years. As the below chart shows, Southern Tajikistan in January was responsible for 85% of national daily electricity consumption. The share of Tajikistan's electricity that was consumed by the Tajik Aluminum Company (TALCO) dropped to 38%;<sup>4</sup> the DRS and Khatlon regions together accounted for 25%, while Dushanbe consumed 21% of the total. Northern Tajikistan's share was 15% of the total.

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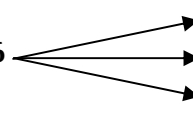
<sup>2</sup> Asia plus “ Ministry of Economic Development and Trade set new tariffs for electricity of electric company “Pamir Energy”, link: <http://www2.asiaplus.tj/news/31/61604.html>

<sup>3</sup> 86% of the population of GBAO is served by electricity produced by Pamir Energy

<sup>4</sup> At full capacity, TALCO consumes 19-20 million kWh of electricity per day, which is more than 50% of the total consumption of Southern Tajikistan. However, due to reduced production, TALCO's electricity consumption also has decreased.

## Tajikistan Monthly Risk Monitoring & Warning Report

### Average daily electricity consumption in January (in million kWh)

<i>By Region</i>		<i>Daily distribution</i>	<i>Shortfall %</i>	
South	39.6	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  </div> <div> <p>TALCO</p> <p>Dushanbe</p> <p>Khatlon and DRS</p> </div> </div>	<p>17.7 (45%)</p> <p>10 (25%)</p> <p>11.9 (30%)</p>	<p>1</p> <p>9.8</p> <p>2.8</p>
North	7.1		4.4	
Total	46.7		3.5	

The state-owned Barqi Tojik electricity company reached an agreement with HEPS Sangtuda-1 to pay its USD 98 million of arrears in several installments. In January Barqi Tojik paid 15.5 million TJS (USD 3.5 million); another 14 million TJS (USD 3.2 million) was paid in February, and another 15.5 million TJS (USD 3.5 million) in March. Some 26.3 million of these arrears are in turn owed to Barqi Tojik by households; TALCO has paid down USD 1.7 million out of its USD 23 million of its arrears. These arrears result from the failure to collect bills from residential consumers in time, low tariffs, and poor financial management.

### 2.5 Energy outlook

As Hydromet forecasts warm weather for March, it is safe to say that the threat of an energy crisis has passed.

On 1st of February the water level in Nurek reservoir was 25.38 meters above the norm, which means that the HEPS will have stable electricity generation up to the beginning of the vegetation period in April 2010. Additionally, despite fears about possibly depleting the Kayrakkum reservoir by launching all 6 Kayrakkum HEPS turbines for electricity generation, the reservoir is currently at maximum water storage level, which should be sufficient for the irrigation period.

## III. FOOD SECURITY

### 3.1 Food and Fuel prices<sup>5</sup>

As Table #2 suggests, in January 2010, only markets of Gharm district faced price increase for main staple foods, such as: rice by 36%, vegetable oil by 17%, and cotton oil by 45% and potatoes by 42% and milk by 25% compared to December 2009. According to WFP, food prices in Gharm markets increased owing to limited transportation services as snow blocked the roads between Dushanbe and Gharm. This also led to an increase in transportation costs.

In Dushanbe markets, on the other hand, prices decreased for most food items, such as cotton oil (by 19%), potatoes (by 22%) and beef (by 6%). Price for potatoes have also decreased in Kurgan Tyube by 17%, owing to increased supply of potatoes from Pakistan.

In Gharm, Khujand and Kurgan-Tyube markets the price for petrol decreased by 5-9% and the price for diesel decreased by 4-7% in Dushanbe and Khujand markets compared to previous month.

<sup>5</sup> Food and Fuel prices were obtained from WFP Food Security Weekly Market Monitoring, Tajikistan

## Tajikistan Monthly Risk Monitoring & Warning Report

Following on from a continuous decrease in wheat prices in 2009, in January 2010 the price for wheat flour in local markets remained stable. Despite the 2% drop in price for importing wheat compared to December 2009 (a 35% decrease in year-to-year terms), in January Tajikistan consumers imported 50% less than in December 2009.

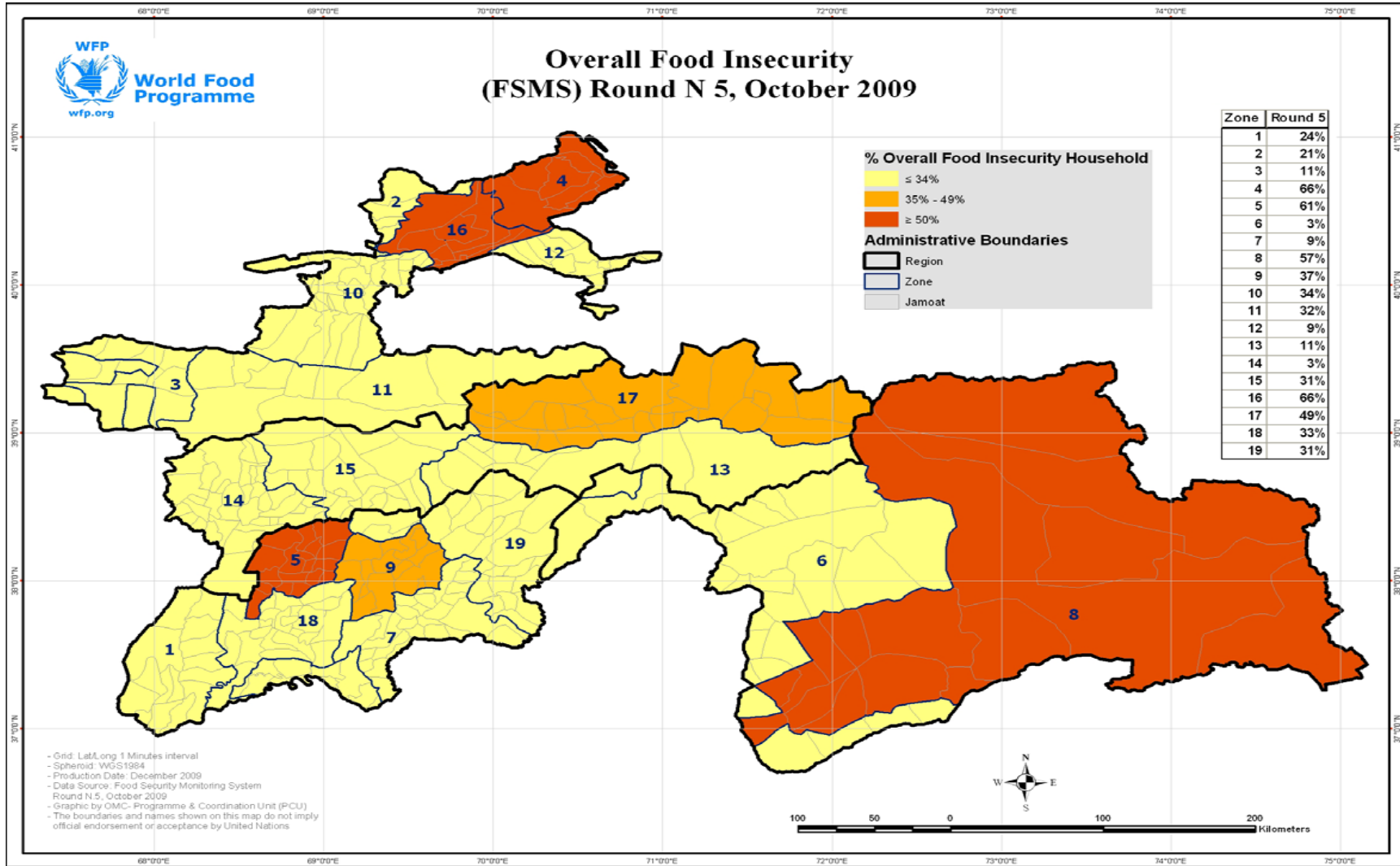
*Table #2 Percent Change in Food and Fuel Prices in January 2010*

Month on month percent change in food and fuel prices, January 2010					
Commodity	Dushanbe	Gharm	Khorog	Khujand	Kurgan-Tyube
Rice	16.67	36.36	0.00	0.00	0.00
Wheat Flour 1st grade	0.00	0.00	0.00	-5.56	0.00
Vegetable Oil	0.00	16.67	0.00	0.00	0.00
Cotton oil	-19.35	45.45	0.00	0.00	0.00
Beef	-5.56	0.00	0.00	0.00	0.00
Potato	-22.22	41.67	0.00	0.00	-16.67
Pulses	0.00	-11.11	0.00	0.00	0.00
Milk	-5.71	25.00	0.00	0.00	0.00
Egg	0.00	0.00	0.00	0.00	0.00
Petrol	8.60	-5.00	0.00	-8.80	-5.70
Diesel	-6.70	0.00	0.00	-3.80	0.00

The increased availability of food in local markets should help stabilize prices until the next harvest. However, food prices still remain much higher than before the food crisis in 2007, while household purchasing power remains similar to 2007. In the coming months, due to the higher electricity tariffs and massive purchase of shares issues to finance the construction of HEPS "Roghun", food insecure households may have to revise their expenditures accordingly.



## Overall Food Insecurity (FSMS) Round N 5, October 2009



According to the WFP Food Security map developed in October 2009 as a result of Food Security Monitoring Survey (FSMS) for the period of August to October, food insecurity is mainly concentrated in the B. Gafurov and Asht districts of the Sughd region, in the Murghab district of the GBAO, and in the Yavan district of Khatlon.

The FSMS also showed that although fewer households blame the financial crisis for changes in their expenditures, rural families are still facing several shocks: 42% of interviewed households in October 2009 reported high food prices as the main reason. Limited access to drinking water and reduced salaries are also reported as main shocks.

### 3.3 Migration and Unemployment

By the end of January 2010, 29.2 thousand Tajik citizens migrated, whereas almost same numbers of people returned to Tajikistan. As the table below shows, the biggest percentage of migrating Tajiks (45%) is registered in DRS. (Separate data on migration from/to GBAO is missing as those migrants were registered to be leaving/returning to Dushanbe. Therefore, data for DRS also contains data for migrants from GBAO).

*Table #3 Migration in January 2010*

Region	Emigrated	Returned	% of share of emigration among regions	% of share returnees among regions
DRS	13,180	11,576	45.0	40.0
Sughd	8,787	9,260	30.0	32.0
Khatlon	7,323	8,103	25.0	28.0
<b>Total</b>	<b>29,290</b>	<b>28,939</b>	100	100

In Sughd and Khatlon, data show that more people are returning than leaving. In Khatlon, for example, almost 11%, and in Sughd 5.3% more people returned than left.

Migration is reducing unemployment and certainly boosts Tajikistan's economy through remittances. As such, the returning migrants with no work offer immediately available, may exacerbate labor market tensions in the country. In January 2010 the number of officially registered unemployed has increased slightly by 1.5% in month to month comparison. The highest unemployment rates remain in Sughd (36%) and Khatlon (32%) provinces, where 65% of the country's population lives.

Pensions and government salaries play a central role in the total income of rural households and in their ability to afford the basic food basket. The Ministry of Labor and Social Protection reports that the total public sector arrears for wages and pensions in January 2010 decreased by 20% compared to the previous month, dropping to 60 million TJS (USD 14 million).<sup>6</sup> Of this total 23 million TJS (USD 5.2 million) was for wages and 37 million TJS (USD 8.4 million) was for pensions. The problem seems particularly acute in Khatlon and Sughd, mostly among the elderly, where pensions accounted for 71% of total arrears. This increase is mainly due to the global financial crisis. The demand for Tajikistan's industrial output on the world market has decreased, thus decreasing the volume of industrial output and tax revenues, which includes social taxes.

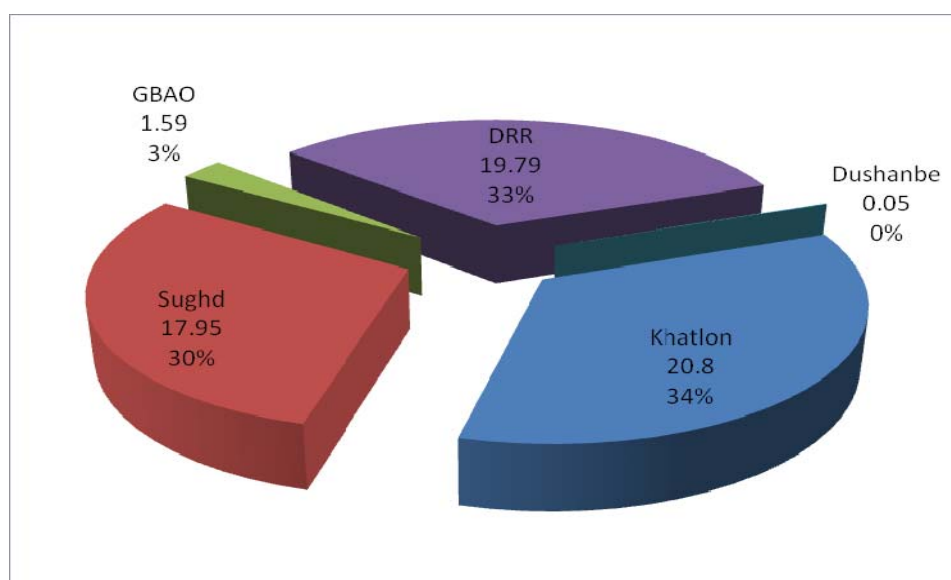
<sup>6</sup> Source: State Statistical Committee of Tajikistan.

## Tajikistan Monthly Risk Monitoring & Warning Report

*Table #3 Government arrears to households for pensions and wages at the end of December 2009 (in million TJS)*

	Khatlon	Sughd	GBAO	DRS	Dushanbe	Total
<b>Wages</b>	6.9	4.45	0.08	11.61	0.05	<b>23.09</b>
<b>Pension</b>	13.9	13.5	1.51	8.18	0	<b>37.09</b>
<b>Total</b>	20.8	17.95	1.59	19.79	0.05	<b>60.18</b>

*Graph #1 Governmental arrears to households for pensions and wages by region*



As Khatlon and Sughd provinces also report the highest unemployment rates, household incomes and purchasing power in these regions seems likely to remain depressed this winter, contributing to food and health insecurities.

The State Statistical Committee reports that the lowest monthly wages are found among farmers (around 144 – 211 TJS = USD33-48) , whereas the average wages in 2009 was around 360 TJS (USD 83), which is 17% increase compared to 2008.

Household expenditures have shown some changes mainly due to seasonal factors, but also to the effects of global financial crisis. In the coming months, due to the higher electricity tariffs, food insecure households, who spend most of their income on food, will have to revise their expenditures accordingly.<sup>7</sup> Although the Government is planning to spend 808 million TJS (185 million US dollars or 13% of 2010 state budget, an increase of 14.3% compared to 2009) on social protection and social insurance, direct impacts of these social protection policies remain in question.

#### **IV. MACROECONOMIC TRENDS <sup>8</sup>**

The State Statistical Committee of Tajikistan reports that in January 2010 the GDP of the country was around 1.1 billion USD, a 4.2% increase compared to January 2009. Industrial output has decreased by 2.7% and services by 7.4%, but the volume of taxes paid rose by some 10%<sup>9</sup> The growth in taxes has been mainly due to firm tax discipline,

<sup>7</sup> Electricity rates in Tajikistan are usually increased twice a year – on 01 January and on 01 May. The last increase occurred in January 2009 (25% for all consumers except for TALCO). In May 2009, tariffs were to be increased by another 15%. However, due to the impact of the global financial crisis, the authorities decided to postpone this increase.

<sup>8</sup> Source: State Statistical Committee of Tajikistan

<sup>9</sup> Social-economic situation of Tajikistan for January 2010, Dushanbe, Tajikistan

## Tajikistan Monthly Risk Monitoring & Warning Report

in order to fund construction of HEPS “Roghun. (Such policies may lead to a growth in the “shadow economy” in the country.)

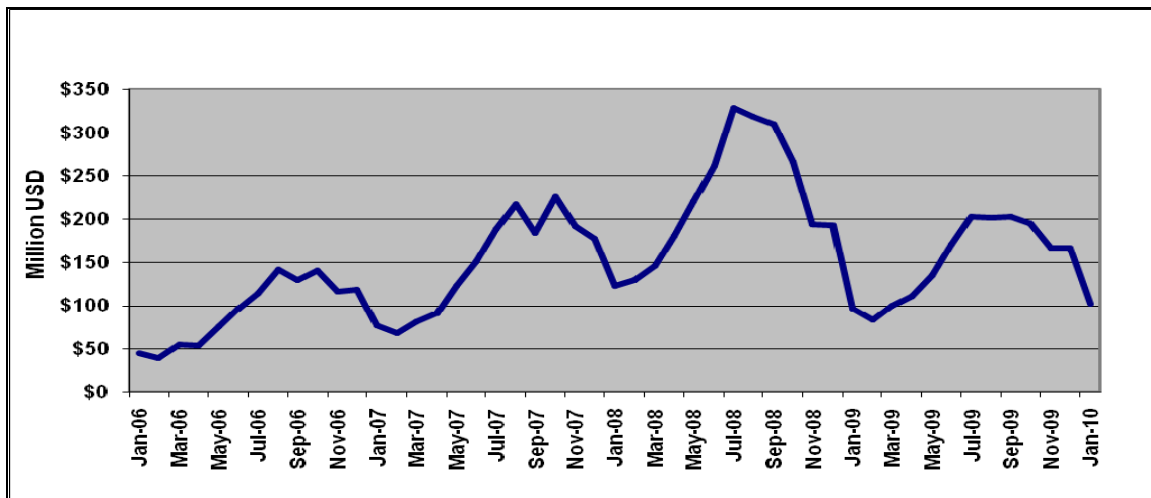
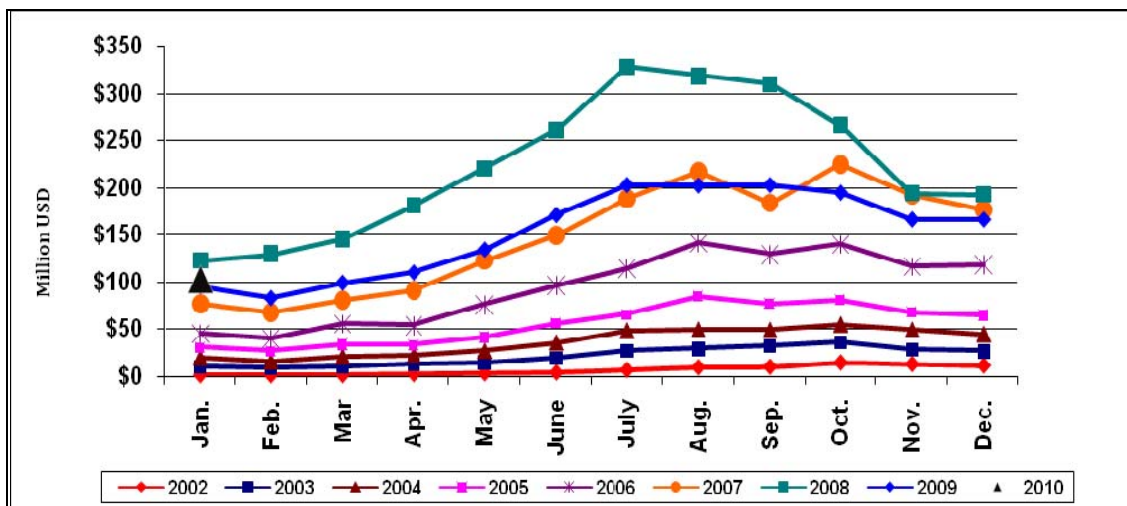
Tajikistan continues to have a negative trade balance, which in January was USD 70 million. As a result, in January import coverage from export incomes remained low, at around 59%. Foreign trade turnover totaled USD 266 million (down by some 16% compared to January 2009), mainly due to a 33% reduction in imports. However, exports increased by 51% year-on-year, thanks to a 61% increase in aluminium exports and a 109% increase in cotton exports. Income from aluminum and cotton made 84% of total income from export.

It is expected that the decreasing tendency of income from imports may continue for the next couple of months, which will significantly worsen the situation in private trade sector.

### 4.1 Remittances

Tajikistan in January 2010 received USD 102,400 million in remittances—a 7% increase compared to January 2009, but a 16% decrease compared to January 2008, and a 38% decrease in comparison with December 2009.

Graph #2 Remittances to Tajikistan for the Period 2002 – 2010 (in million USD)



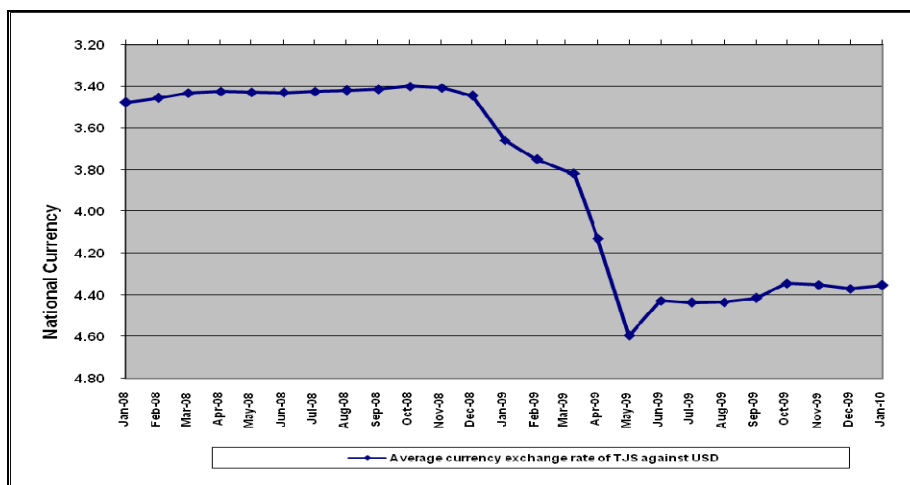
An increase in remittances in year-on-year terms can be explained by increased purchase of shares for construction of Roghun HEPS by migrants.

**4.2 Exchange Rates<sup>10</sup>**

On 5-6 January, the exchange rate per American dollar rose by around 0.5-0.7% (4.39-4.40TJS per 1 USD). However, interventions by the National Bank helped the Somoni to strengthen toward the end of January the national currency, to 4.37-4.39 TJS per 1 USD.

The appreciation of the national currency in Tajikistan can also be explained by household purchases of Roghun HEPS shares, which reduced the liquidity for foreign exchange purchases. On the other hand, as most of the construction materials and services needed for Roghun construction are to be purchased abroad, the Government will soon need to buy USD to finance these purchases, which will put downward pressures on the exchange rate. This could further reduce import coverage of the country.

Graph # 3 Exchange rate against USD for Jan.2008-Jan.2010



The energy sector in Tajikistan is becoming the State’s main priority; both budget funds and household savings are expected to be increasingly directed towards the construction of hydro power stations. The IMF mission estimates that the equity campaign of HEPS Roghun may temporarily dampen growth in 2010 by up to 1%, with households reducing consumption and corporate investment in order to purchase Roghun shares. The Fund argues that the main challenge facing the Government is identifying external financing sources to pay for the imports needed for the construction.<sup>11</sup>

**4.3 Inflation<sup>12</sup>**

In January 2010 food prices increased by 0.1%, prices for non-food items increased by 0.7% and prices for services by 3%—mainly due to increased tariffs for electricity (20%), gas (4%), and communal services (12)%. Water tariffs are also expected to increase in the months to come. The consumer price index in January rose 5.3% in year-on-year term, and by 0.7% compared to December 2009.

Rail transport tariffs likewise increased 21% in January, reducing the volume of rail freight by some 32% compared to both January 2009 and December 2009. Higher rail tariffs are likely to increase the price of imported goods later this year.

<sup>10</sup> Source: National Bank of Tajikistan

<sup>11</sup> IMF Press Release No. 10/37, “Statement at the Conclusion of an IMF Staff Mission to the Republic of Tajikistan” February 12, 2010

<sup>12</sup> Ibid.

## Tajikistan Monthly Risk Monitoring & Warning Report

*The aim of the Tajikistan Monthly Risk Monitoring Reports is to provide regular information and succinct analysis on the evolution of natural, economic, food-related, energy-related etc. risk factors in Tajikistan. Data and information in this report are provided by different sources and compiled by the RMWS Group of Experts and UN Agencies in Tajikistan. The United Nations in Tajikistan are not responsible for the quality of the data provided by external sources.*

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### **Annex A: Localized Meteorological Forecast for February 2010**

#### **Khatlon and Districts of Republican Subordination (DRS)**

The monthly average temperature in Khatlon and DRS in March 2010 is forecasted to be 1 to 2 °C above the climatic norm. At low elevations, temperature is expected to be around 10-13 °C and at higher elevations temperature is expected to vary between 5 to 8°C. During the first and the third week of the month, the maximal temperatures in the valleys of Khatlon and DRS are expected to rise to 17-25 °C.

The monthly amount of precipitation in Dushanbe, Kurgan-Tyube, Yavan, Hissor, Farkhor and Danghara is expected to be 90-150% above the multi-year norm (norm: 100-170mm). In southern Khatlon, Pyanj, Shaartuz precipitation will be 70-140% above the norm (norm: 35-70).

#### **Sughd**

At lower elevations of Sughd province, the monthly average temperature in March 2010 is expected to be below the norm by 0.5-1 °C (between 5 to 8°C) and on higher elevations 0.5-1°C above the norm (between -4 to 1 °C). The average temperature throughout the month is expected to be slightly colder. Night time temperature will vary from -4 to 4 °C, whereas daily temperature is expected to be around 6-12°C. Toward the end of the month, the temperature will raise from 6-11°C at night and 16 to 21°C during the day.

The monthly amount of precipitation in Khujand, Kayrakkum, Isfara, Buston, Gulshan, Dehwaz, Iskandarkul and Madrushakt is expected to be 150-250% above the norm (15-30mm) and in mountainous areas of Ayni and Penjikent for about 123-200% more than the norm (50-70mm mm).

#### **Mountainous areas of DRS and Western GBAO**

In the mountainous areas of DRS and Western GBAO, the monthly average temperature in March 2010 is expected to rise to 1-2 °C above the norm, at -1 and 4°C and in Darvoz district around 7 °C. Throughout the month temperature will vary between -5 to -10°C at night and between 0-5°C during the day. Along the slopes of Hissar Mountains, temperature will vary from -15 to -20°C at night and around 0 to 5°C during the day.

The monthly amount of precipitation is expected to fall 1-1.5 times more than average. In the Southern slopes of the Hissar Mountains, places such as Maykhura, Hushyori and Anzob precipitation will drop by 150-250% more than the norm (about 180-200mm). In Karategin, Rasht, Tavildara, Saridasht, Darband and Darvaz precipitation will fall for 160% more than the norm (about 100-170mm).

#### **Eastern GBAO**

In Eastern GBAO, the monthly average temperature in March 2010 is expected to be 2-4 °C below the climatic norm and it will be around -8 to -12 °C. The night time temperature will vary between - 25 to 30°C and from -5 to -10°C, and during the day, it may vary from -3 to -8°C and from 0 to 5°C.

The monthly amount of precipitation is expected to be near and above the multi-year norm. (Norm in Murghab, Bulunkul, Shaymak and Karakul is 5-20mm and on Fedchenko glacier 160mm)

**Note:** As this forecast bears a preliminary character, a more detailed analysis will be published every 10 days in March 2010 by the State Hydro Meteorological Agency of Tajikistan.