Decadal Agromet Bulletin of Pakistan

Highlights….

- ❖ Mainly dry/cold weather reported from the most of the agricultural plains of the country, However light rainfall (with light snow over hills) reported from the few agricultural plains of KP & Gilgit Baltistan region during the last decade.

- ❖ Highest amount of rainfall recorded as 12.0 mm at Parachinar during the last decade.

- ❖ Lowest minimum temperature recorded as -16.7°C at Skardu during the last decade.

- ❖ Lower values of relative humidity (less than 45%) reported from Gilgit and Quetta region during the last decade.

- ❖ Higher values of ETo reported from the southern agricultural plains of the country and lower values reported from Skardu region during last decade.

- ❖ Day & night temperatures expected to be normal in most of the agricultural plains of the country during the next decade.

- ❖ Normal wind pattern may prevail in most parts of the country during the next decade.

- ❖ Widespread (covering wide area) rainfall with snowfall over hills expected in most of the agricultural plains of the country except southern Punjab and Sindh, where scattered rainfall expected during the 1st half of the decade.

- ❖ Heavy snowfall is predicted over the hills of upper KP (Malakand, Hazara divisions), Gilgit-Baltistan, Kashmir and Murree on 4th and 5th January.

- ❖ The coming rains are beneficiary for all agricultural plains, especially northern rainfed and all southern agricultural plains of the country.
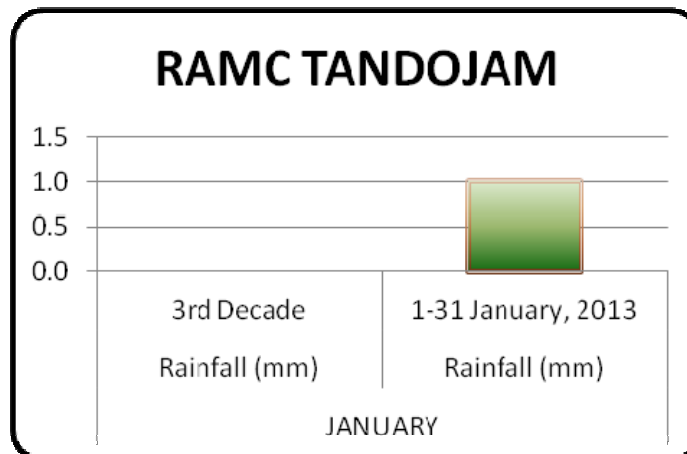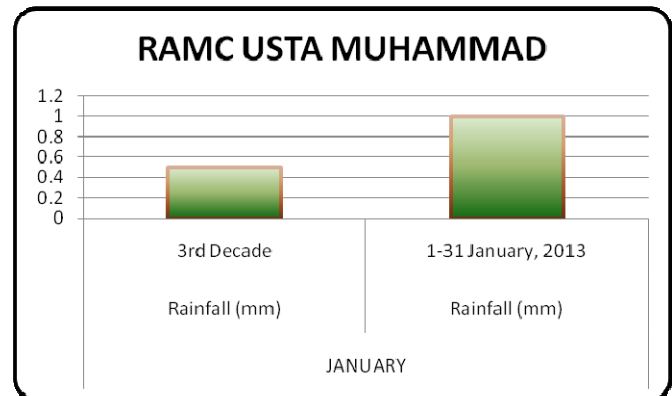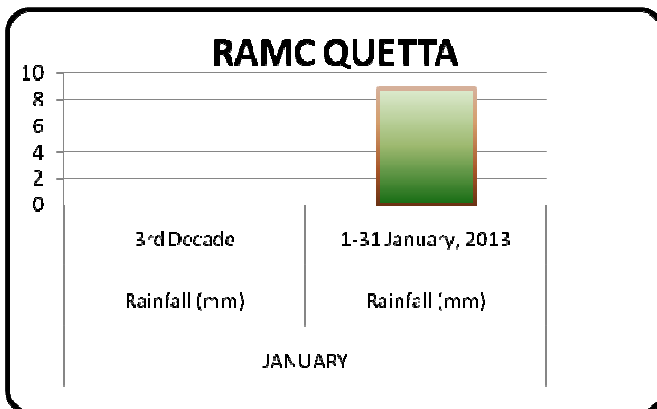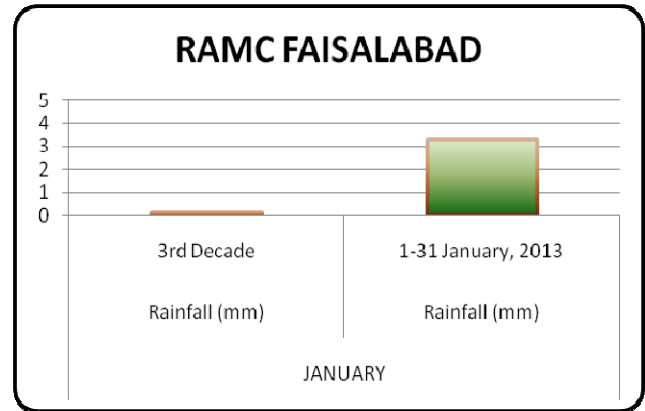
Graphs for Rainfall (mm) during January 2013

RAMC RAWALPINDI

	3rd Decade Rainfall (mm)	1-31 January, 2013 Rainfall (mm)

JANUARY

RAMC FAISALABAD

	3rd Decade Rainfall (mm)	1-31 January, 2013 Rainfall (mm)

JANUARY

RAMC QUETTA

	3rd Decade Rainfall (mm)	1-31 January, 2013 Rainfall (mm)

JANUARY

RAMC USTA MUHAMMAD

	3rd Decade Rainfall (mm)	1-31 January, 2013 Rainfall (mm)

JANUARY

RAMC TANDOJAM

	3rd Decade Rainfall (mm)	1-31 January, 2013 Rainfall (mm)

JANUARY

Meteorological conditions during 3rd decade of January, 2013

Sr. No.	Station	Precipitation (mm)			Air Temperature (°c)			Soil Temperatures (°c)						Sunshine Duration (hours)	Wind Speed (km/hr)	R.H (%)	ETo (mm/day)
		Normal	Actual	Dep	Tmin Dep	Tmax Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	TANDOJAM	0.0	0.0	0.0	5.2	1.4	17.6	23.1	20.5	18.9	18.3	19.5	20.8	19.2	1.4	51.0	1.6
2	SAKRAND ☆	0.0	0.0	0.0	-0.2	5.5	15.9	23.6	21.4	25.4	18.6	20.1	22.0	100.5	2.0	54.0	2.2
3	ROHRI	0.0	0.0	0.0	0.3	1.3	17.5	23.4	22.2	19.7	18.8	19.1	21.0	86.4	2.0	50.0	2.0
4	USTA MUHAMMAD	0.3	0.5	0.2	0.3	2.4	16.0	16.6	16.5	16.2	15.9	17.2	19.5	***	0.1	81.0	1.7
5	QUETTA	0.5	TR	-0.5	1.3	5.9	8.6	11.7	11.3	8.5	6.2	5.5	7.1	93.4	5.4	37.0	2.2
6	KHANPUR	0.0	0.0	0.0	-1.2	2.1	14.9	15.0	13.9	14.8	15.5	16.4	18.2	75.1	1.2	53.0	1.7
7	MULTAN	0.2	0.0	-0.2	-2.1	3.4	14.0	***	***	***	***	***	***	76.9	0.7	52.0	2.3
8	LAHORE	0.7	0.0	-0.7	-2.3	1.9	13.6	14.4	13.6	12.5	12.5	***	16.0	81.6	1.3	55.0	1.5
9	FAISALABAD	0.3	TR	-0.3	-0.4	-13.9	5.2	16.3	14.6	12.4	12.2	13.1	15.8	72.7	3.5	51.0	1.3
10	SARGODHA	1.0	0.0	-1.0	0.8	3.7	15.1	18.0	15.4	14.2	14.5	15.9	17.3	59.6	1.1	54.0	1.3
11	JHELUM	1.7	TR	-1.7	-1.5	2.5	13.5	14.0	13.1	12.1	12.2	12.9	***	71.1	1.2	58.0	1.4
12	RAWALPINDI	2.4	0.0	-2.4	-1.5	1.8	11.3	13.5	11.5	10.0	10.3	10.7	12.7	77.2	2.6	63.0	1.5
13	DI KHAN	0.6	0.0	-0.6	-0.6	1.1	12.8	***	***	***	***	***	***	18.3	1.7	49.0	1.3
14	PESHAWAR	1.7	TR	-1.7	-2.2	2.9	12.5	16.0	12.6	11.4	12.5	12.8	14.4	66.5	1.2	49.0	1.3
15	SKARDU	0.8	1.2	0.4	-8.6	-0.2	-6.2	***	***	***	***	***	***	39.8	5.2	64.0	0.9
16	GILGIT	0.2	0.0	-0.2	-2.4	0.1	3.2	***	***	***	***	***	***	43.5	1.7	43.0	1.2

Table-1: Meteorological parameters for selected station of Pakistan. "**Dep**" in the table stands for difference from climatic normal, i.e. actual value minus normal. And "**% Dep** "is calculated by the formula; **Dep** *divided by* **Normal** *multiplied by* 100. Tmin & Tmax stands for minimum and maximum temperatures respectively. ETo stands for reference crop evapotranspiration. *** stands for no data and (☆) indicates the station with five years climatic (normal) data for computing departures.

Past Weather (21st to 31st January, 2013):

Light rainfall reported from the few agricultural plains of KP & Gilgit Baltistan region, while dry weather reported from rest of the country during the decade.

1.1   Punjab

Trace (rainfall amount not measurable) reported at a few places in the agricultural plains of Punjab. Decadal maximum temperature raised above normal by 0.2 & decadal minimum temperature dropped below normal by 1.2°C in the province. Mean values of wind speed, relative humidity and ETo were recorded as 1.7 km/hr, 55%, and 1.6 mm/day respectively.

1.2   Sindh

Dry and cold weather reported in the agricultural plains of Sindh. Decadal maximum & minimum temperature raised above normal by 1.9 & 1.8°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 1.8 km/hr, 52%, and 1.9 mm/day respectively.

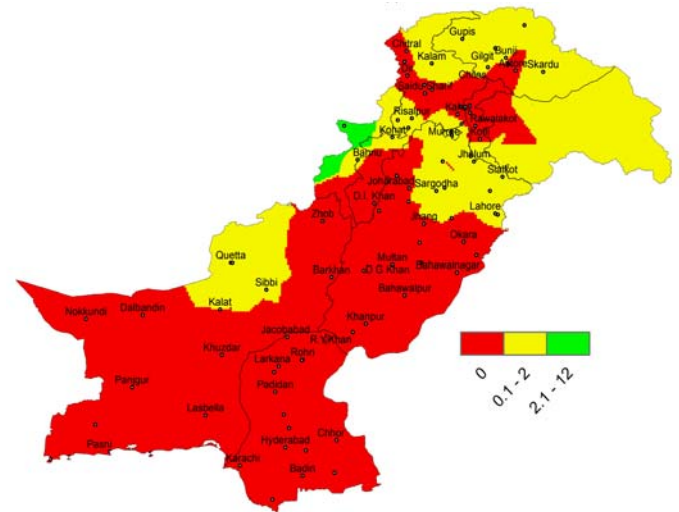### 1.3   Khyber Pakhtoonkhawa (KP)

Light rainfall (with light snowfall) reported at a few places in the agricultural plains of KP; chief amount received at Parachinar and Kalam. In KP region; Decadal maximum temperature raised above normal by 2.0 & decadal minimum temperature dropped below normal by 1.4°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 1.7 km/hr, 55%, and 2.0 mm/day respectively.
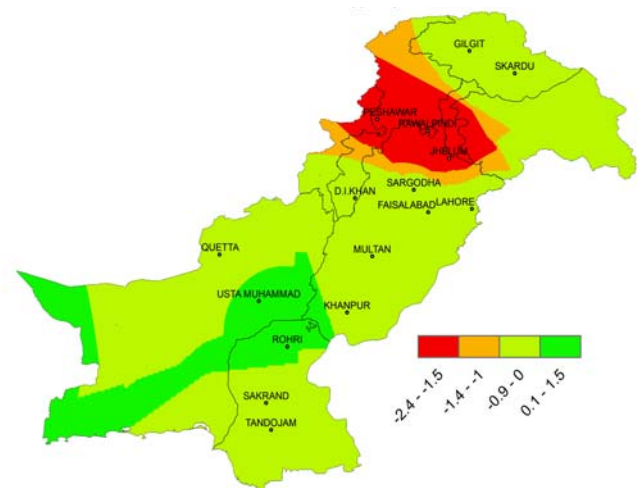
1.4   Balochistan

Dry and cold weather reported at a few places in agricultural plains of Balochistan; Trace (rainfall amount not measurable) received at Samungli (Quetta). Decadal   maximum & minimum temperature raised above normal by 4.2 & 0.8°C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 2.8 km/hr, 59%, and 2.0 mm/day respectively.

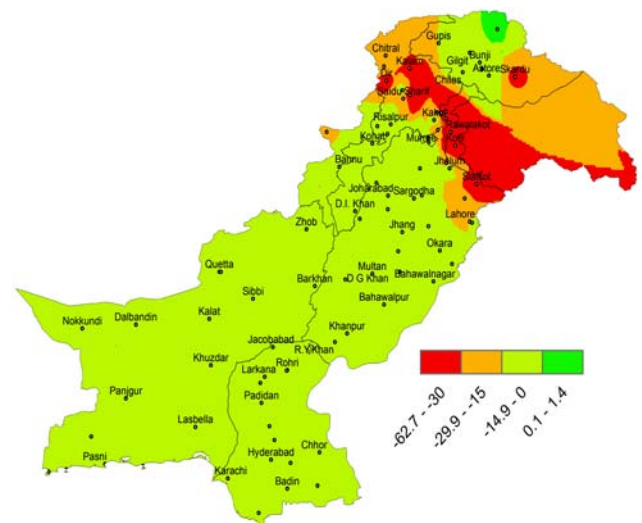### 1.5 Gilgit Baltistan and Azad Jammu & Kashmir

Light rainfall (with light snowfall) reported at a few places in the agricultural plains of GB & Kashmir; chief amount received at Hunza and Skardu. In GB & AJK region; Decadal maximum & minimum temperature dropped below normal by 0.05 & 5.5°C respectively, in the province Whereas mean values of wind speed, relative humidity and ETo were recorded 1.7 km/hr, 43%, and 1.1 mm/day respectively.

a)   Actual rainfall

b)   Departure of rainfall from Normal

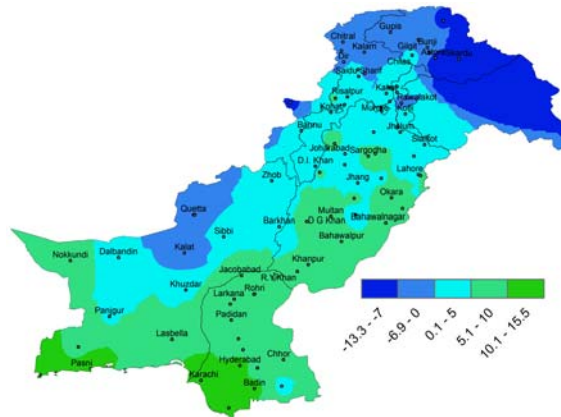c)   Departure of rainfall from Previous Decade

Figure.1: Rainfall distribution during previous decade in "mm"

2 (a)   Past Weather for Major Agricultural Plains (21st to 31st January, 2013) as per Table-1

2.1   RAMC, Rawalpindi (Potohar region)

No rainfall reported during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 63%. Mean night temperature was 2.0°C while day temperature recorded as 20.5°C with 77.2 hours bright sunshine duration. Wind speed recorded as 2.6 Km/hr with mean direction *westerly*. Presently one crop is grown at the station.

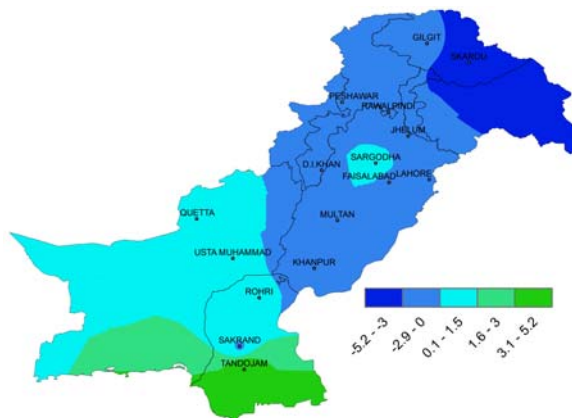Wheat Chakwal 97: Good condition, Shooting stage.

2.2   RAMC, Tandojam (Lower Sindh)

No rainfall reported during the decade, weather remained cloudy for 6 day during the decade, average relative humidity recorded as 51%. Mean night temperature was 8.7°C while day temperature recorded as 26.5°C with 92.2 hours bright sunshine duration. Wind speed recorded as 1.4 km/hr with mean direction *north easterly.*

Wheat (TJ 83): Good condition, Milk maturity stage.
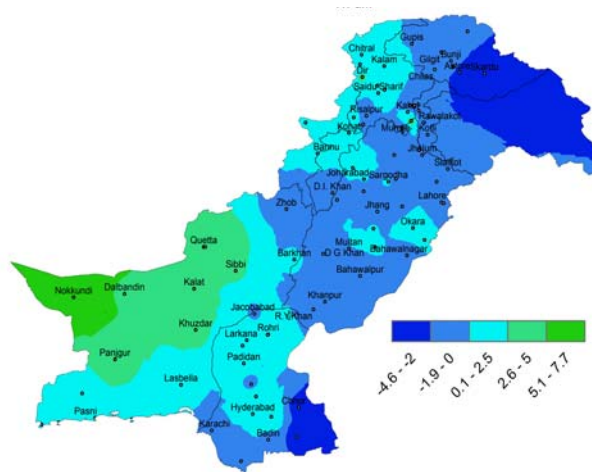
2.3   RAMC, Faisalabad (Central Punjab)

Rainfall reported as Trace (non measureable) during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 51%. Mean night temperature was 4.5°C while day temperature recorded as 22.8°C with 72.7 hours bright sunshine duration. Wind speed recorded as 3.5 Km/hr with mean direction *westerly*.

Sugarcane: Very Good condition, Tillering stage.
Wheat: Very Good condition, Tillering stage.

2.4   RAMC, Quetta (Northern Balochistan)

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 8 days, average relative humidity recorded as 37%. Mean night temperature was 0.2°C while day temperature recorded as 15.6°C with 93.4 hours bright sunshine duration and wind speed recorded as 5.4 Km/hr with mean direction *north westerly*.

Wheat (Local white): Good condition, Third leaf stage.

2.5   RAMC, Usta Muhammad (Eastern Balochistan)

Rainfall reported as 0.5 mm during the decade, weather remained cloudy for 3 days, average relative humidity recorded as 81%. Mean night temperature was 8.3°C while day temperature recorded as 23.6°C with wind speed recorded as 0.1 Km/hr with mean direction *southerly*.

Wheat: Good condition, Third leaf stage.

(a)   Actual min-temp

(b)   Departure of min-temp from Normal

(c)   Departure of min-temp from Previous Decade

Figure.2: Minimum Temperature distribution during previous decade in "°C"

2(b) Past Weather for sub regional Agricultural Plains (21st to 31st January, 2013

2.6 Rohri

No rainfall reported during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 50%. Mean night temperature was 10.2°C while day temperature recorded as 24.7°C with 86.4 hours bright sunshine duration. Wind speed recorded as 2.0 Km/hr with mean direction *north easterly*.

2.7 Skardu

Snowfall reported as 0.5 inch during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 64%. Mean night temperature was -13.3°C while day temperature recorded as 2.3°C with 39.8 hours bright sunshine duration with mean speed 5.2 Km/hr and mean direction *north westerly*.

2.8 Multan

No rainfall reported during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 52%. Mean night temperature was 6.0°C while day temperature recorded as 22.9°C with 76.9 hours bright sunshine duration. Wind speed recorded as 0.7 Km/hr with mean direction *southerly*.

2.9 Lahore

No rainfall reported during the decade, weather remained cloudy for 5days, average relative humidity recorded as 55%. Mean night temperature was 6.0°C while day temperature recorded as 21.2°C with 81.6 hours bright sunshine duration. Wind speed recorded as 1.3 Km/hr with mean direction *north westerly*.

2.10 Peshawar

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 49%. Mean night temperature was 3.2°C while day temperature recorded as 21.7°C with 66.5 hours bright sunshine duration. Wind speed recorded as 1.2 Km/hr with mean direction *north westerly*.

2.11 Khanpur

No rainfall reported during the decade, weather remained cloudy for 3 days during the decade, average relative humidity recorded as 53%. Mean night temperature was 5.2°C while day temperature recorded as 24.6°C with 75.1 hours bright sunshine duration. Wind speed recorded as 1.2 Km/hr with mean direction *westerly*.

2.12 Sargodha

No rainfall reported during the decade, weather remained cloudy for 7 days during the decade, average relative humidity recorded as 54%. Mean night temperature was 6.4°C while day temperature recorded as 23.7°C with 59.6 hours bright sunshine duration. Wind speed recorded as 1.1 Km/hr with mean direction *south westerly*.
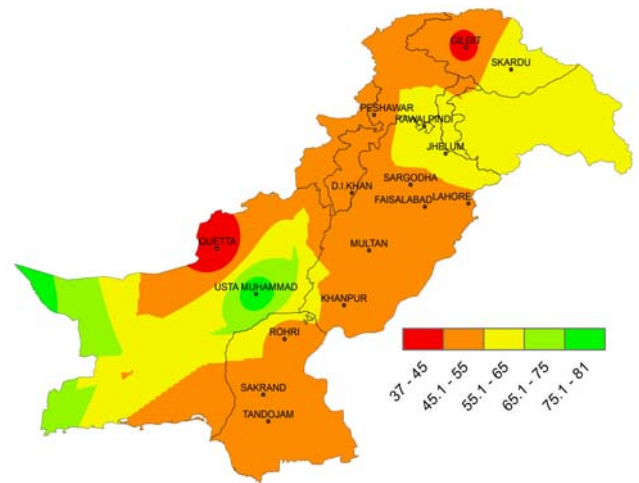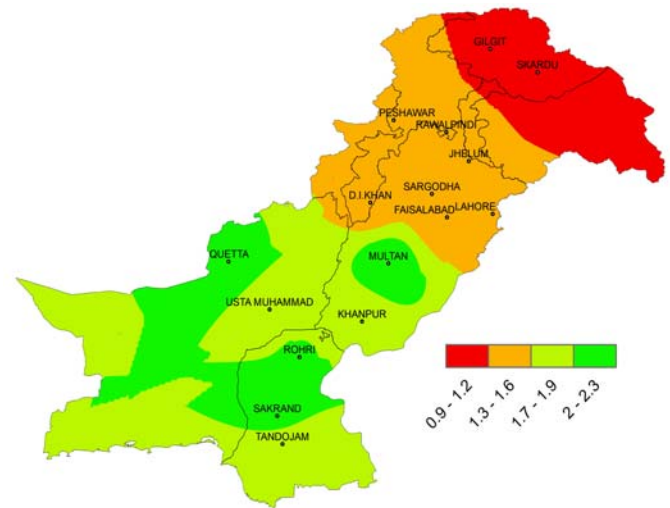

Figure.3: Relative Humidity in percentage

Figure.4: Reference Crop Evapotranspiration "ETo" in mm/day

2.13 Gilgit.

No rainfall reported during the decade. weather remained cloudy for 10 days and average relative humidity recorded as 43%. Mean night temperature was -4.7°C while day temperature recorded as 11.15°C with 43.5 hours bright sunshine. Wind speed recorded as 1.7 Km/hr with mean direction *southerly*.

2.14 Jhelum

Trace (rainfall amount not measureable) during the decade, weather remained cloudy for 9 days and average relative humidity recorded as 58%. Mean night temperature was 4.3°C while day temperature recorded as 22.7°C with 71.1 hours bright sunshine duration. Wind speed recorded as 1.2 Km/hr with mean direction *north westerly*.

2.15 D.I. Khan

No rainfall reported during the decade, weather remained cloudy for 5 days, average relative humidity recorded as 49%. Mean night temperature was 4.4°C while day temperature recorded as 21.2°C with 81.3 hours bright sunshine duration. Wind speed recorded as 1.7 Km/hr with mean direction *variable*.

2.16 Sakrand

No rainfall reported during the decade, weather remained cloudy for 5 days during the decade, average relative humidity recorded as 54%. Mean night temperature was 6.7°C while day temperature recorded as 25.1°C with 100.5 hours bright sunshine duration. Wind speed recorded as 2.0 Km/hr with mean direction *notherly*.

3. Ten days Weather advisory for Farmers (1st to 10th February, 2013)

3.1 Temperature Forecast:
Day & night temperatures expected to be normal in most of the agricultural plains of the country during the decade.

3.2 Rain Forecast:
- **Punjab**: Widespread rain (with snow over the hills) over upper parts and scattered rain over central & southern parts is expected during 3rd to 6th January. However, dry/cold weather during rest of the decade.
- **Khyber Pakhtoonkhawa**: Widespread rain (with snow over the hills) is expected during 3rd to 6th January. However, dry/cold weather during rest of the decade.
- **Sindh** : Scattered rain is expected during 3rd to 4th January, while dry/cold weather during rest of the decade.
- **Balochistan:** Widespread rain (with snow over the hills) is expected during 1st half while dry/cold weather during 2nd half of the decade.
- **Gilgit-Baltistan & Kashmir:** Widespread precipitation (rain and snow over the hills) is expected from 3rd to 7th January, while dry/cold weather during rest of the decade.

3.3 Wind Forecast:
Normal wind pattern may prevail in most of the agricultural plains of the country during the decade.

3.4 Advisory for Farmers:

- Wheat crop is in Shooting/Heading/Flowering development stages in most of the agricultural plains of the country. Farmers are advised to stop irrigation the crops by keeping in view the expected heavy rains in agricultural plains of the country.
- Due to the expected heavy rains, farmers should also stop weeds removing spray, fertilizer intake during 1st half of the decade. Weeds are expected to shoot in very excess after these rains. Farmers should control weeds growth soon after rains.
- The coming rains are beneficiary for all agricultural plains, especially northern rainfed and all southern agricultural plains of the country.
- Farmers of northern Punjab & KP are advised to take precautionary measures to save all standing crops from stagnant water due to coming heavy rains.