

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate rainfall reported from the agricultural plains of KP, Punjab, Gilgit Baltistan & Kashmir where as dry weather reported from Sindh and Balochistan during the last decade.
- ❖ Highest amount of rainfall recorded as 55 mm at Kalam during the last decade.
- ❖ Lowest minimum temperature recorded as -6.4°C at Astore during the last decade.
- ❖ Lower values of relative humidity (less than 45%) reported from Sindh and higher values of ETo reported from the agricultural plains of Sindh, Southern Punjab.
- ❖ Day & night temperatures expected to rise 1 -2°C 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.
- ❖ Light to moderate rainfall is expected in upper parts of KP, Upper Punjab, Gilgit Baltistan & Kashmir region, northern Balochistan and upper Sindh on 13 and 14th March, whereas isolated chances of light rainfall expected on 17th March in upper parts of the country during the decade.
- ❖ Farmers are advised to free the standing crops from excess of weeds.
- ❖ No irrigation is required in the upper half agricultural plains including KP and central/northern Punjab. Whereas farmers of lower half including Southern Punjab, Sindh and Balochistan should irrigate the crops as per requirement keeping the present forecast in mind.

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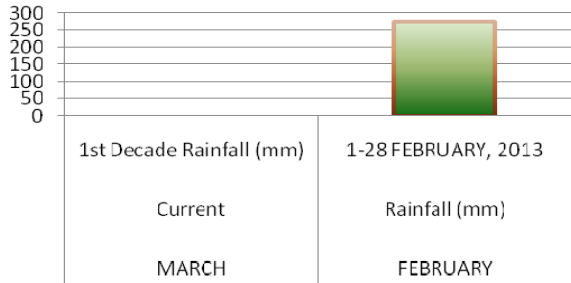
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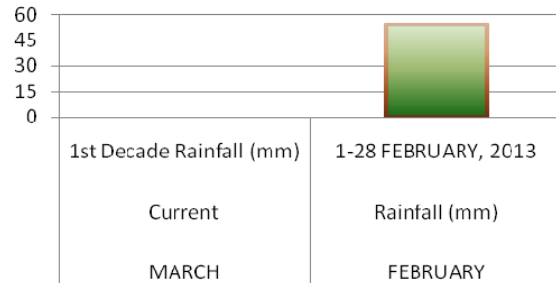
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Graphs for Rainfall (mm) during March 2013

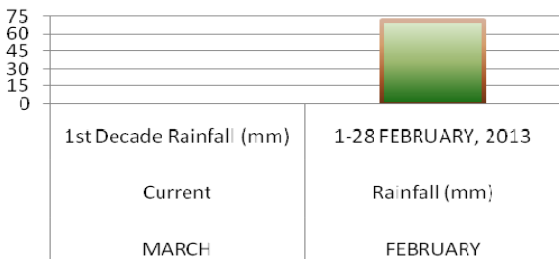
RAMC RAWALPINDI



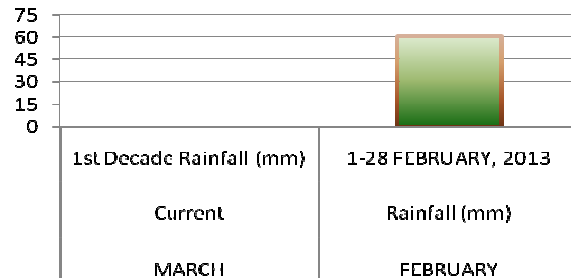
RAMC FAISALABAD



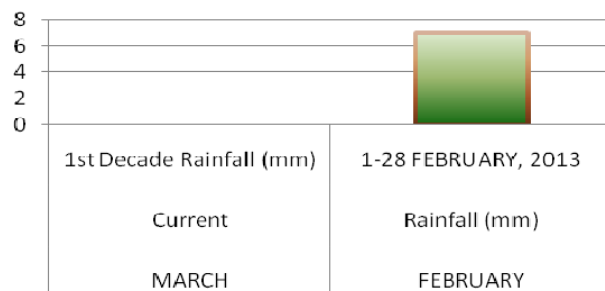
RAMC QUETTA



RAMC USTA MUHAMMAD



RAMC TANDOJAM



Note: No rainfall reported during the 1st decade of March 2013

Meteorological conditions during 1st decade of March, 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	-0.5	0.4	22.9	31.7	28.1	24.8	23.1	23.2	22.6	98.4	2.1	45.0	3.7
2	SAKRAND ☆	0.0	0.0	0.0	-2.0	0.9	21.8	31.9	29.7	33.2	23.4	23.9	22.9	100.2	3.9	44.0	3.6
3	ROHRI	0.4	0.0	-0.4	-0.9	0.7	23.5	31.6	29.0	24.3	23.6	22.0	23.9	102.0	4.6	44.0	4.3
4	USTA MUHAMMAD	0.0	0.0	0.0	1.5	-7.8	19.9	23.7	24.7	21.2	21.4	21.0	20.6	***	0.6	79.0	2.2
5	QUETTA	0.6	0.0	-0.6	1.0	2.5	12.4	17.4	15.8	11.4	10.5	9.1	10.7	104.5	5.7	33.0	3.4
6	KHANPUR	3.2	0.0	-3.2	-1.4	1.8	21.5	22.3	21.5	21.4	21.5	21.7	21.6	102.9	3.0	50.0	3.6
7	MULTAN	0.6	0.0	-0.6	0.9	1.8	21.5	***	***	***	***	***	***	79.9	3.8	52.0	3.3
8	LAHORE	0.9	0.0	-0.9	-1.8	2.4	20.7	23.5	22.1	19.6	18.5	***	18.5	97.4	3.0	54.0	3.2
9	FAISALABAD	0.8	0.0	-0.8	0.4	2.1	20.4	24.8	23.0	19.6	18.4	18.0	17.9	95.2	5.7	53.0	3.7
10	SARGODHA	0.5	0.0	-0.5	0.7	2.1	21.4	25.5	22.6	19.7	19.0	19.1	18.8	89.6	3.1	57.0	3.2
11	JHELUM	0.9	0.0	-0.9	0.3	3.0	20.7	22.6	20.8	18.6	17.6	18.0	***	94.6	3.5	52.0	3.3
12	RAWALPINDI	2.0	0.0	-2.0	0.6	3.0	18.5	21.2	18.6	15.5	15.5	15.1	15.1	91.2	2.3	55.0	2.8
13	DI KHAN	0.6	0.0	-0.6	1.2	1.7	20.3	***	***	***	***	***	***	94.5	2.5	57.0	3.0
14	PESHAWAR	1.4	6.7	5.3	-1.1	3.6	19.1	23.1	19.3	17.7	16.8	16.7	16.5	88.9	1.5	53.0	2.6
15	SKARDU	0.7	TR	-0.6	0.2	2.8	6.9	***	***	***	***	***	***	72.8	3.6	42.0	2.2
16	GILGIT	0.3	2.6	2.3	-0.4	2.9	12.1	***	***	***	***	***	***	75.5	3.4	43.0	2.7

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 (1st to 10th March, 2013):

Light to moderate rainfall reported from the agricultural plains of KP, while light rainfall reported from the agricultural plains of Gilgit Baltistan & Kashmir, while light rainfall reported from a single station of Punjab and dry weather reported from the agricultural plains of Sindh & Balochistan during the decade.

1.1 Punjab

Rainfall reported from a single station, chief amount received at Murree, Decadal maximum temperature raised above normal by 2.3°C & decadal minimum temperature remained normal in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.5 km/hr, 53%, and 3.3 mm/day respectively (Fig 3-4).

1.2 Sindh

Dry weather reported from agricultural plains of Sindh; Decadal maximum temperature raised above normal by 0.7°C & minimum temperature dropped below normal by 1.1, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.5 km/hr, 44%, and 3.9 mm/day respectively.

1.3 Khyber Pakhtoonkhawa (KP)

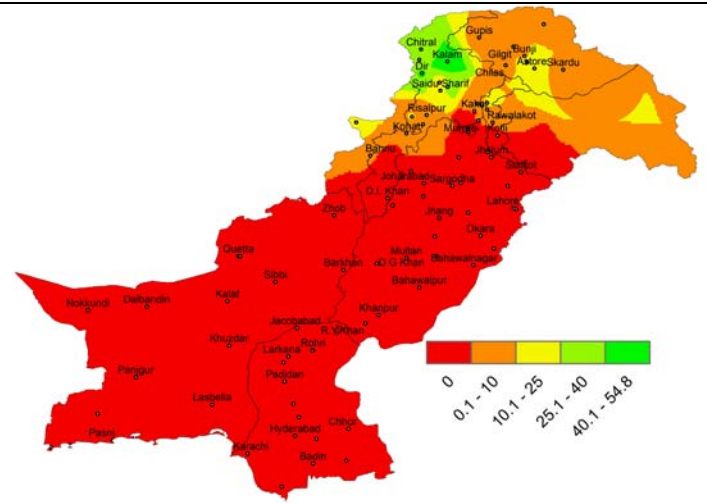
Light to moderate rainfall reported at a number of places in the agricultural plains of KP; chief amount received at Kalam, Dir, Malamjabba etc. In KP region; Decadal maximum & minimum temperature raised above normal by 2.7°C & 0.1°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 2.0 km/hr, 55%, and 2.8 mm/day respectively.

1.4 Balochistan

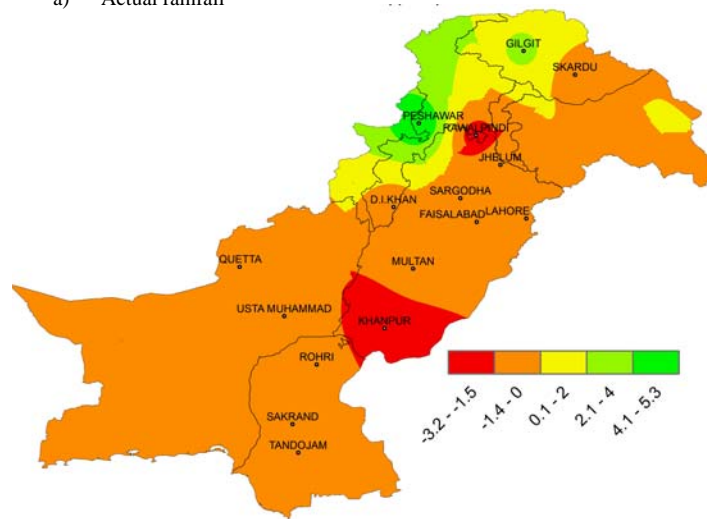
Dry weather reported from agricultural plains of Balochistan; Decadal maximum temperature dropped below normal by 2.7°C & minimum temperature raised above normal by 1.3°C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 3.2 km/hr, 56%, and 2.8 mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

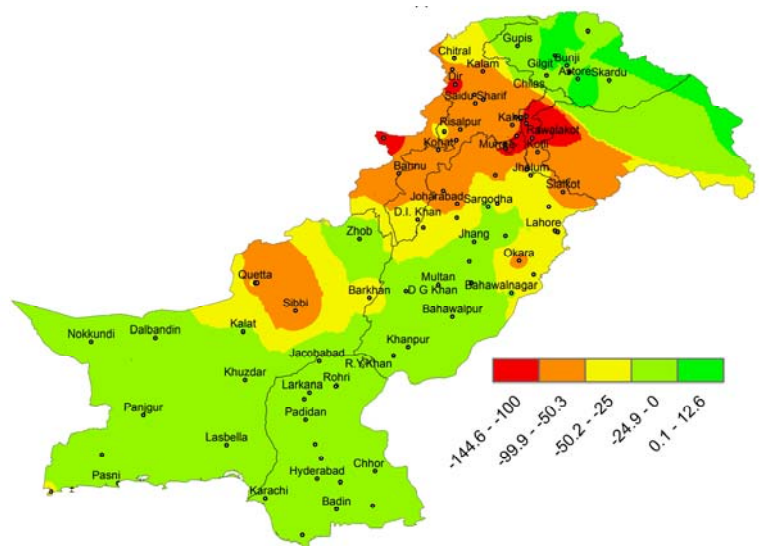
Light rainfall reported at a number of places in agricultural plains of GB & Kashmir; chief amount received at Pattan, Garhi doppta, Astore etc. In GB & AJK region; Decadal maximum temperature raised above normal by 2.9°C &, Decadal minimum temperature dropped below by 0.1°C normal in the province Whereas mean values of wind speed, relative humidity and ETo were recorded 2.0 km/hr, 55%, and 2.5 mm/day respectively.



a) Actual rainfall



Departure of rainfall from Normal



b) Departure of rainfall from Previous Decade

Figure.1: Rainfall distribution during previous decade in “mm”

2 (a) Past Weather for Major Agricultural Plains (1st to 10th March, 2013.): as per Table-1

2.1 RAMC, Rawalpindi (Potohar region)

No rainfall reported during the decade, weather remained cloudy for 2 days, average relative humidity recorded as 55%. Mean night temperature was 9.5°C while day temperature recorded as 27.4°C with 91.2 hours bright sunshine duration. Wind speed recorded as 2.3 Km/hr with mean direction *westerly*. Presently one crop is grown at the station.

Wheat Chakwal 97: Good condition, Shooting stage.

2.2 RAMC, Faisalabad (Central Punjab)

No rainfall reported during the decade, weather remained cloudy for 2 days, average relative humidity recorded as 53%. Mean night temperature was 12.1°C while day temperature recorded as 28.7°C with 95.2 hours bright sunshine duration. Wind speed recorded as 5.7 Km/hr with mean direction *north westerly*.

Sugarcane: Very Good condition, Tillering stage.

Wheat: Very Good condition, Heading stage.

2.3 RAMC, Tandojam (Lower Sindh)

No rainfall reported during the decade, weather remained cloudy for 1 day during the decade, average relative humidity recorded as 45%. Mean night temperature was 13.3°C while day temperature recorded as 32.5°C with 98.4 hours bright sunshine duration. Wind speed recorded as 2.1 km/hr with mean direction *north easterly*.

Wheat (TJ 83): Good condition, Full maturity stage.

2.4 RAMC, Quetta (Northern Balochistan)

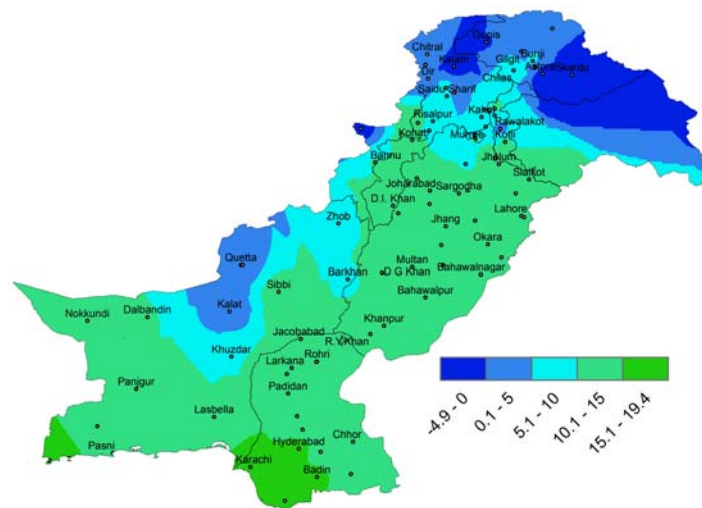
No rainfall reported during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 33%. Mean night temperature was 4.3°C while day temperature recorded as 20.5°C with 104.5 hours bright sunshine duration and wind speed recorded as 5.7 Km/hr with mean direction *southerly*.

Wheat (Local white): Good condition, Tillering stage.

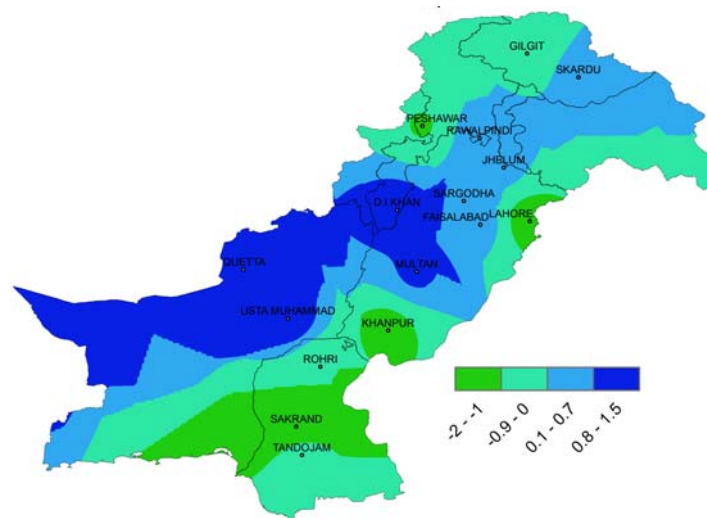
2.5 RAMC, Usta Muhammad (Eastern Balochistan)

No rainfall reported during the decade, No cloudy reported, average relative humidity recorded as 79%. Mean night temperature was 16.2°C while day temperature recorded as 23.6°C with wind speed recorded as 0.6 Km/hr with mean direction *southerly*.

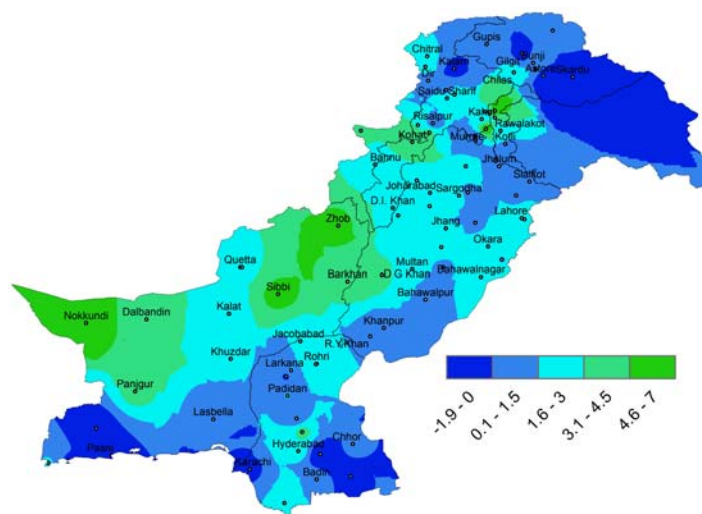
Wheat: Good condition, Shooting stage.



(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 previousdecade in “°C”

2(b) Past Weather for sub regional Agricultural Plains (1st to 10th March, 2013):

2.6 Jhelum

No rainfall reported during the decade, weather remained cloudy for 5 days and average relative humidity recorded as 52%. Mean night temperature was 11.9°C while day temperature recorded as 29.5°C with 94.6 hours bright sunshine duration. Wind speed recorded as 3.5 Km/hr with mean direction *north westerly*.

2.7 Lahore

No rainfall reported during the decade, weather remained cloudy for 2 days, average relative humidity recorded as 54%. Mean night temperature was 13.1°C while day temperature recorded as 28.3°C with 97.4 hours bright sunshine duration. Wind speed recorded as 3.0 Km/hr with mean direction *noth westerly*

2.8 Sargodha

No rainfall reported during the decade, weather remained cloudy for 4 days during the decade, average relative humidity recorded as 57%. Mean night temperature was 13.4°C while day temperature recorded as 29.3°C with 89.6 hours bright sunshine duration. Wind speed recorded as 3.1 Km/hr with mean direction *south westerly*.

2.9 Multan

No rainfall reported during the decade, weather remained cloudy for 3 days, average relative humidity recorded as 52%. Mean night temperature was 13.6°C while day temperature recorded as 29.4°C with 79.9 hours bright sunshine duration. Mean wind direction *southerly*.

2.10 Khanpur

No rainfall reported during the decade, weather remained cloudy for 3 days during the decade, average relative humidity recorded as 50%. Mean night temperature was 12.0°C while day temperature recorded as 31.0°C with 102.9 hours bright sunshine duration. Wind speed recorded as 3.0 Km/hr with mean direction *westerly*.

2.11 Rohri

No rainfall reported during the decade, weather remained cloudy for 2 days, average relative humidity recorded as 44%. Mean night temperature was 15.5°C while day temperature recorded as 31.4°C with 102.0 hours bright sunshine duration. Wind speed recorded as 4.6Km/hr with mean direction *north easterly*.

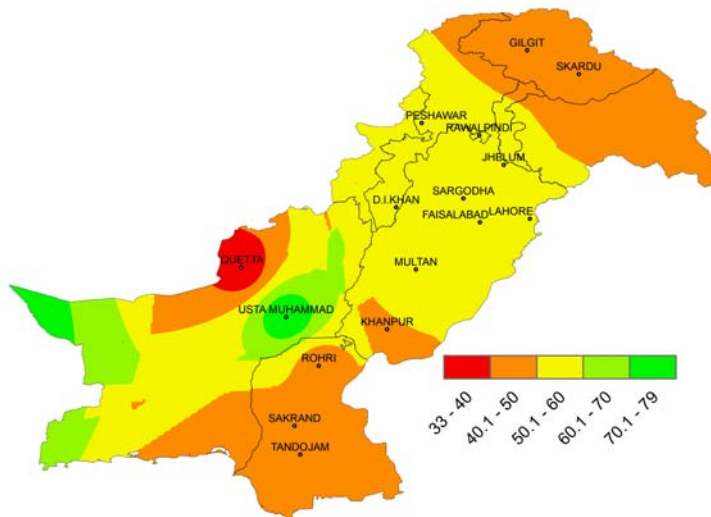


Figure.3: Relative Humidity in percentage

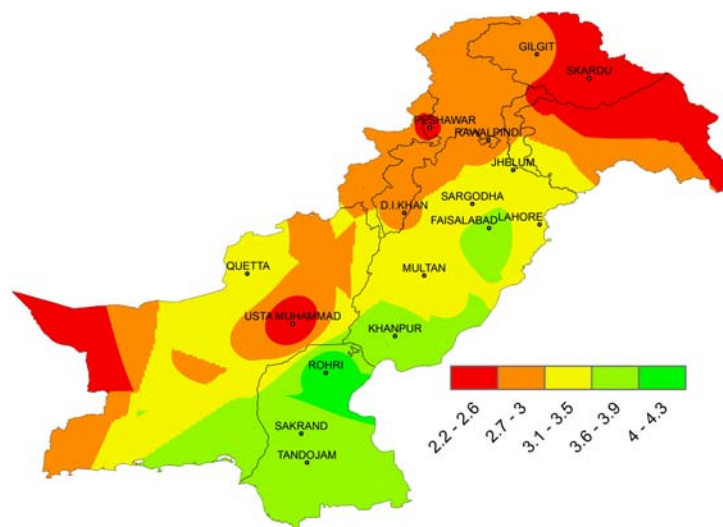


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

2.12 Sakrand

No rainfall reported during the decade, weather remained cloudy for 4 days during the decade, average relative humidity recorded as 44%. Mean night temperature was 11.4°C while day temperature recorded as 32.2°C with 100.2 hours bright sunshine duration. Wind speed recorded as 3.9 Km/hr with mean direction *northly*.

2.13 Peshawar

Rainfall reported as 6.7 mm during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 53%. Mean night temperature was 10.4°C while day temperature recorded as 27.7°C with 88.9 hours bright sunshine duration. Wind speed recorded as 1.5 Km/hr with mean direction *north westerly*.

2.14 D.I. Khan

No rainfall reported during the decade, weather remained cloudy for 3 days, average relative humidity recorded as 57%. Mean night temperature was 12.4°C while day temperature recorded as 28.2°C with 94.5 hours bright sunshine duration. Wind speed recorded as 2.5 Km/hr with mean direction *notth westerly*.

2.15 Gilgit

Rainfall reported as 2.6 mm during the decade. weather remained cloudy for 3 days and average relative humidity recorded as 43%. Mean night temperature was 3.0°C while day temperature recorded as 21.1°C with 75.5 hours bright sunshine. Wind speed recorded as 3.4 Km/hr with mean direction *easterly*.

2.16 Skardu

Rainfall reported Trace(non measureable) during the decade, weather remained cloudy for 2 days, average relative humidity recorded as 42%. Mean night temperature was - 0.9°C while day temperature recorded as 14.6°C with 72.8 hours bright sunshine duration with mean speed 3.6 Km/hr and mean direction *north westerly*.

3. Ten days Weather advisory for Farmers (11th to 20th March, 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:**

Mostly partly cloudy weather conditions are expected in most parts of the province on Monday and Tuesday. Rain-thunderstorm is expected at scattered places of upper Punjab (Islamabad/Rawalpindi, Gujranwala, Lahore, Sargodha, Faisalabad divisions) on Wednesday and Thursday(13-14 March), while at isolated places in other parts of the province. Light rain-thunderstorm may occur at isolated places in Rawalpindi/Islamabad on Sunday(17th March)..

❖ **Khyber Pakhtoonkhawa:** Mostly partly cloudy weather conditions are expected in most parts of the province on Monday and Tuesday. Scattered rain-thunderstorm is expected in KP on Tuesday Wednesday(12th and 13th march). Isolated rain-thunderstorm may occur in Hazara division on Thursday(14th march). Light rain-thunderstorm may occur at isolated places in Malakand and Hazara divisions on Sunday(17th march).

❖ **Sindh :** Mainly dry weather is expected in most parts of the province. However light rain-thunderstorm is expected in Upper Sindh (Sukkar and Larkana divisions) on 13th march.

❖ **Balochistan:** Isolated rain-thunderstorm is expected in Northeast Balochistan (Quetta, Zhob, Kalat and Sibbi divisions) on Wednesday 13th march). Dry weather is expected in most parts of the province from Thursday to Sunday.

❖ **Gilgit-Baltistan & Kashmir:** Mostly partly cloudy weather conditions are expected in most parts of G-B on Monday/Tuesday(11th and 12th march). However rain-thunderstorm is expected at scattered places in G-B from Tuesday (night) to Thursday(12th march to 14th march). Light rain-thunderstorm may occur at isolated places in Kashmir on Sunday(17th march).

❖ **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:

- ❖ Farmers are advised to free the standing crops from excess of weeds.
- ❖ No irrigation is required in the upper half agricultural plains including KP and central/northern Punjab. Whereas farmers of lower half including Southern Punjab, Sindh and Balochistan should irrigate the crops as per requirement keeping the present forecast in mind.