

# PAK-SCMS

## BULLETIN

PAKISTAN: SATELLITE BASED CROP MONITORING SYSTEM

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SUPARCO, the National Space Agency of Pakistan, started the program on "Monitoring of Crops through Satellite Technology" during the year 2005. This is a perpetual study encompassing all crops growing seasons around the year. The purpose of this initiative is to reinforce support for policy makers, planners and private sector for food security, stocking, marketing, trade and industrial management. The final crop estimates are released by end of March for Rabi crops and mid of October for Kharif crops.

Wheat, cotton, rice, sugarcane, maize and potato crops are being covered under this program. In addition, large scale geospatial applications of satellite remote sensing technology have been made for monitoring/mitigation of natural disasters (floods, flash floods, and drought) and providing reconnaissance detailed information ordained for the uplift of agriculture and allied pursuits.

### CROP SITUATION: JUNE 2024 Summary

Satellite based Normalized Difference Vegetation Index (NDVI) values show start of Kharif season crops across Pakistan. Mainly hot and dry weather was observed in most parts of the country during the month. During last decade of June, light to moderate amount of rainfall was reported from almost all over the country, while in upper KP heavy showers were reported.

Federal Committee on Agriculture in its meeting held on 24th April 2024 fixed Kharif crops targets.

Cotton crop sowing has been completed during the month in Punjab and Sindh and is at varying growth stages from germination to boll formation depending on sowing time. Generally insect pests were under control by the end of June. Sporadic attack of Jassids, Dusky Cotton Bug and thrips were however reported at isolated places.

Sugarcane crop growth is generally satisfactory and insect pest situation was also under control by end of month.

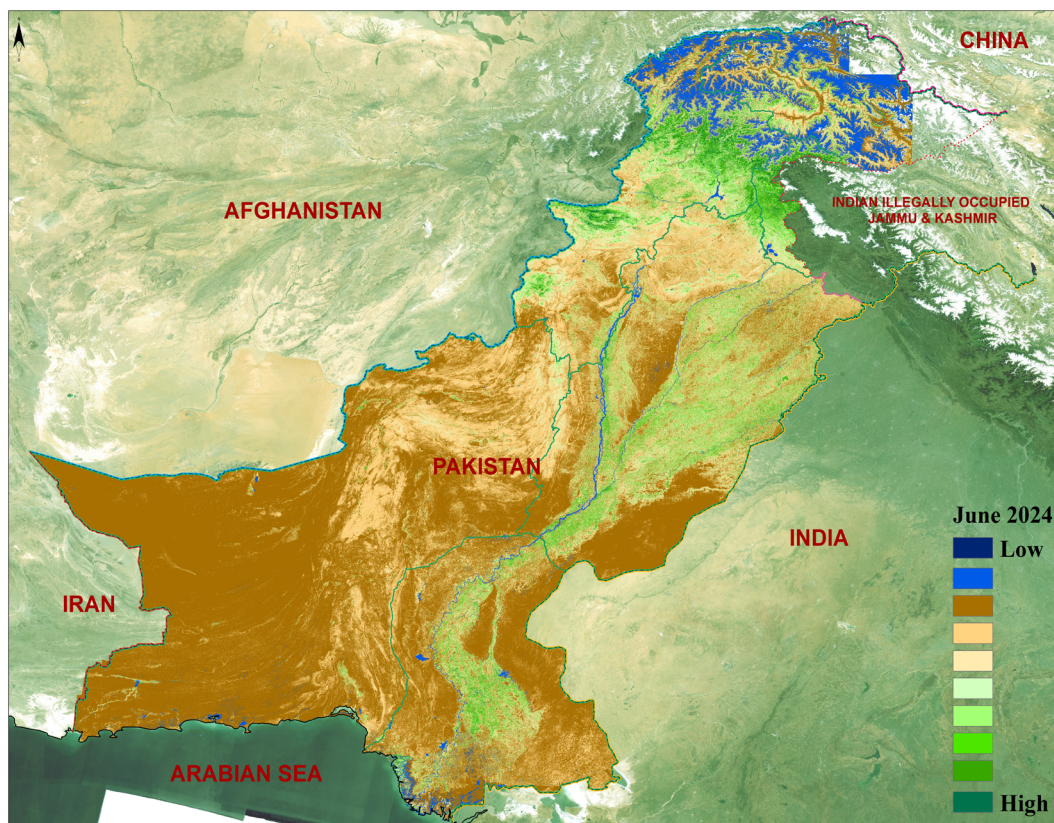
Early transplanted coarse rice was at vegetative stage. Further, nursery sowing operations and transplantation were in progress.

As per report of Indus River System Authority (IRSA) for June 2024, the irrigation water supply was 13.74 MAF against the last year's supply of 9.20 MAF, increased by 49.34 percent. As compared to the same period of last year, the irrigation water supplies were higher in Punjab, Sindh, Balochistan and Khyber Pakhtunkhwa.

As per report of National Fertilizer Development Centre (NFDC), total availability of Urea in May 2024 was 830 thousand tons whereas total availability of DAP was 259 thousand tons. During May 2024, off take of Nitrogen and Phosphate decreased by 18.7 and 40.0 percent respectively while the Potash was increased by 69.4 percent as compared to the same period of last year. The following NDVI image of Pakistan shows the growth stages of the Kharif crops for June 2024.

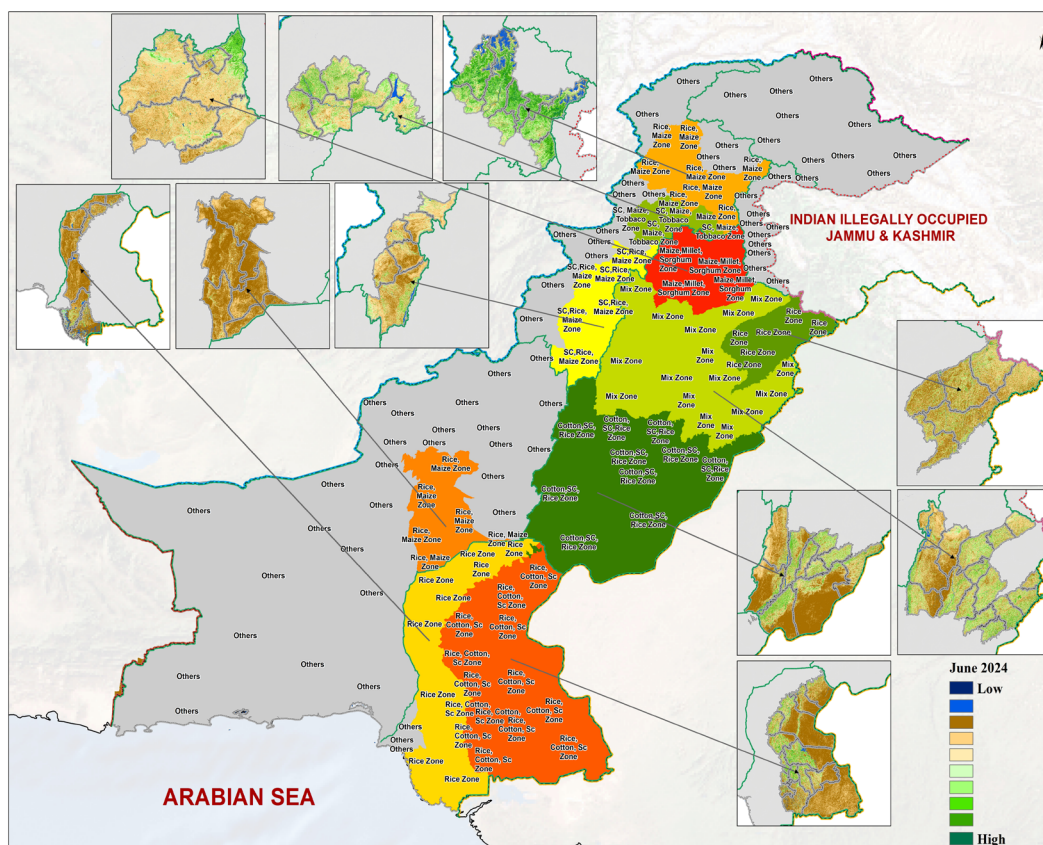


## CROPS SITUATION



### Satellite based Vegetation Index Analytics

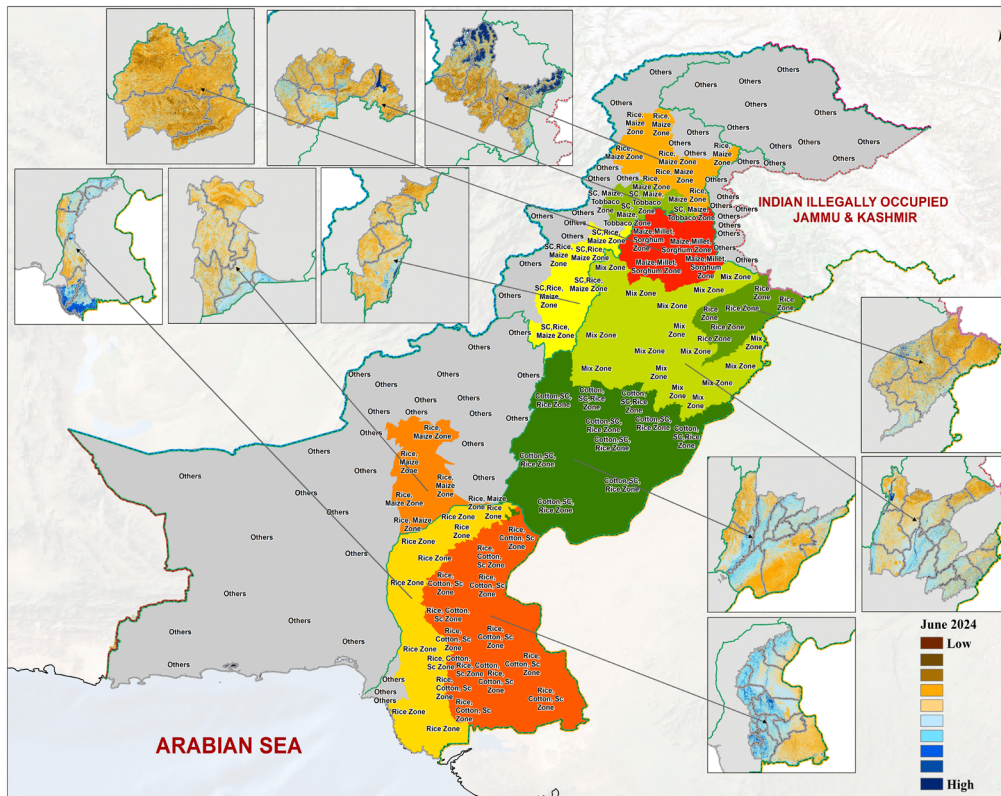
As per analysis of below map, kharif crops are at earlier stage of growth in different zones of Khyber Pakhtunkhwa, Potohar zone and Punjab Rice zone. While, Punjab central & south zone and Sindh left kharif crops are on advance vegetative growth. Kharif crops in Sindh left and Balochistan central zones are at earlier stage in June, 2024.



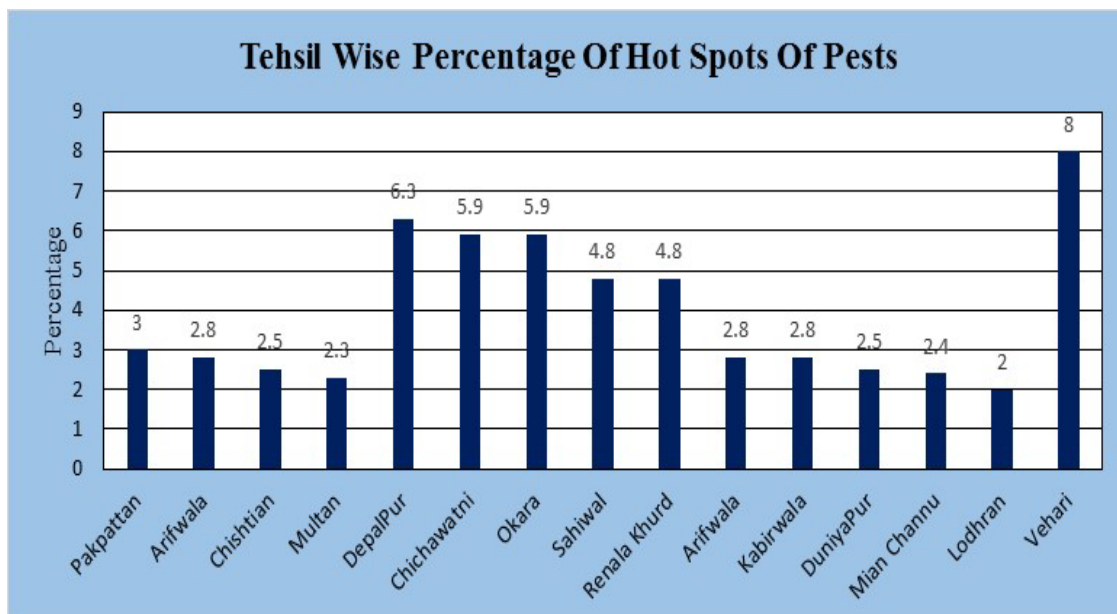


## Satellite based Water Index Analytics

Analysis of below given NDWI map shows that crops are not facing any major crop irrigation deficit in June.



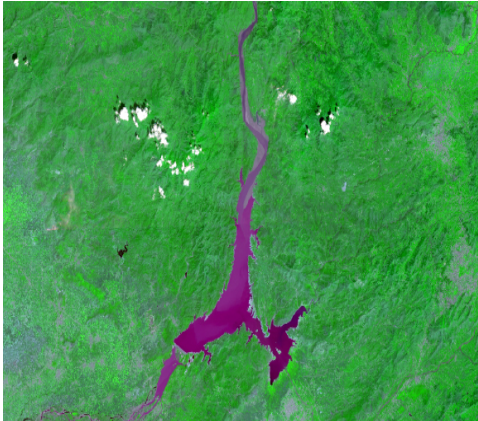
Cotton crop sowing has almost been completed during the month in Punjab and Sindh and is at varying growth stages from germination to boll formation depending on sowing time. Crop condition was generally satisfactory during the month. By the end of June, less pest pressure was observed this year than June 2023. However, sporadic attack of jassid and thrips were reported in some areas of Punjab. The Tehsil wise Percentage of Hot Spots of Pests and balance sheet of cotton are as under;



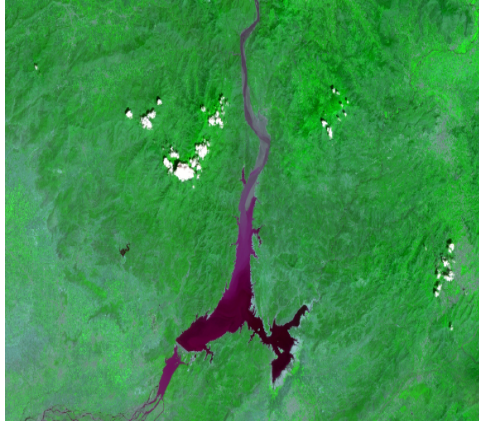
Sugarcane crop growth is generally satisfactory in the country during June 2024. Early transplanted coarse rice was at vegetative stage. However, rice crop transplantation in basmati growing area will start by end of July in Punjab. Spring maize harvesting has started and will be completed by end of June in major growing districts of Punjab.

Water Supply Situation for Kharif

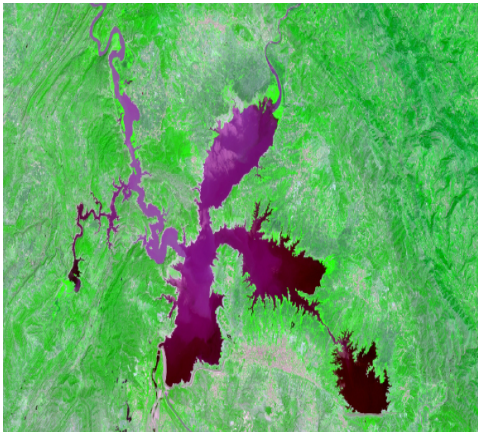
By 30th June 2024, water storage level in Tarbela and Mangla reservoirs was at level of 1501.99 and 1176.9 ft showing better resvoir situation than last year. During 30th June 2023, water storage level in Tarbela and Mangla reservoirs was 1399.48 and 1098.35 ft, respectively. This situation is visually evident from satellite images. The comparative satellite images are given below;



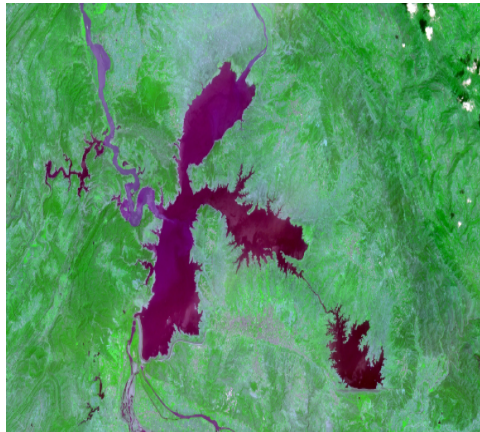
27 June 2023



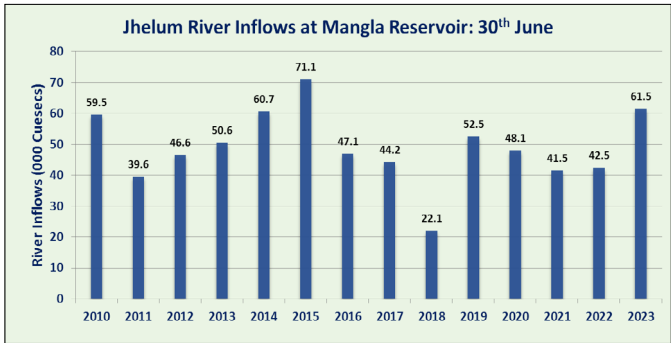
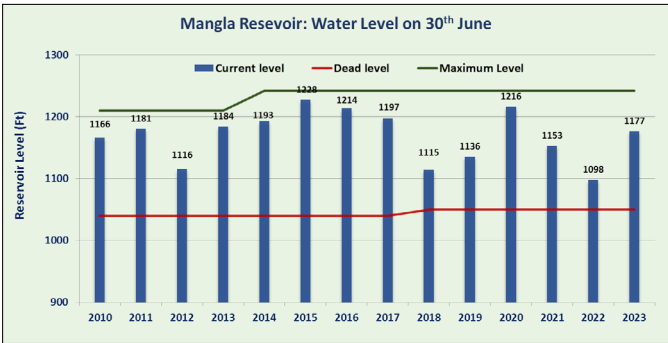
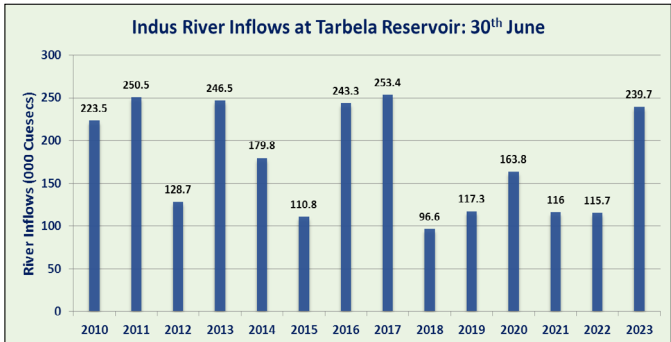
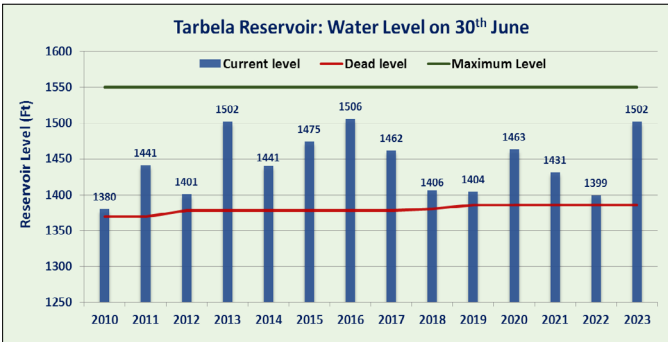
29 June 2024



30 June 2023



29 June 2024



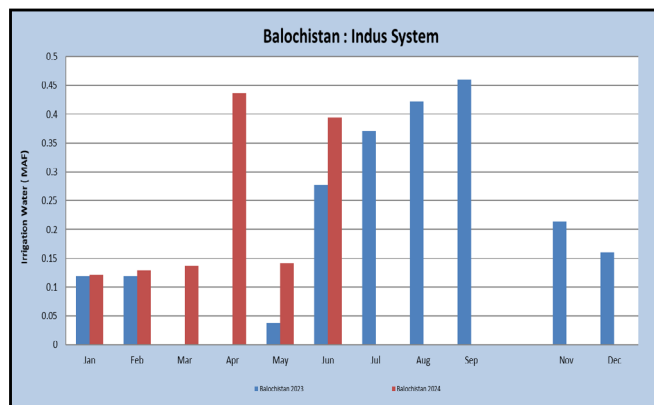
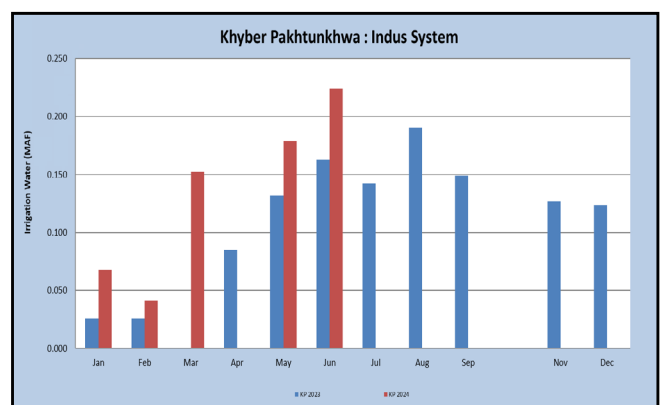
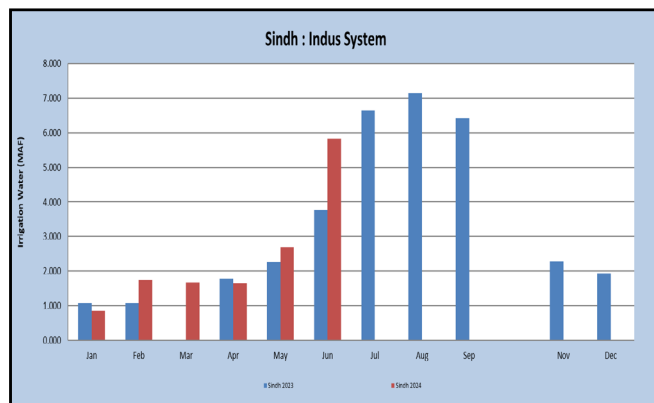
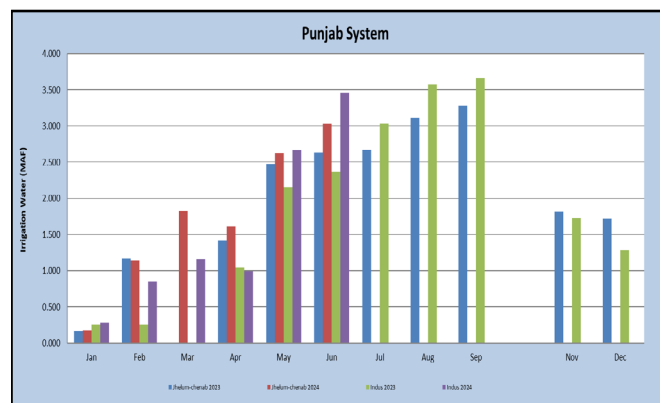


# Irrigation Water Supply: June, 2024

The irrigation water supply during June 2024 was 13.74 MAF against the last year's supply of 9.20 MAF, higher by 4.54 MAF (49.34 percent). During June 2024, as compared to the same period of last year, the supply in Punjab was 6.49 MAF (higher by 29.79 percent), Sindh was 5.84 MAF (higher by 55.27 percent), Khyber Pakhtunkhwa was 0.22 MAF (higher by 37.80 percent), while Balochistan received water supply 0.39 MAF (42.14 percent).

Kharif 2024-25	Month	Year	Punjab			Sindh	Khyber Pakhtunkhwa	Balochistan	Total
			Jhelum-Chenab	Indus	Total				
			Million Acre Feet						
	April	2024	1.61	0.75	2.36	1.64	0.44	0.00	4.35
		2023	1.42	1.04	2.46	1.78	0.09	0.00	4.32
		Change	0.19	-0.29	-0.10	-0.13	0.35	0.00	0.02
		% change	13.17	-28.04	-3.99	-7.48	411.63	0.00	0.53
	May	2024	2.63	2.67	5.29	2.70	0.18	0.14	8.09
		2023	2.47	2.15	4.26	2.25	0.13	0.04	7.05
		Change	0.15	0.51	0.67	0.45	0.05	0.10	1.15
% change		6.24	23.94	14.48	19.74	35.79	282.89	16.26	
June	2024	3.03	3.46	6.49	5.84	0.22	0.39	13.74	
	2023	2.63	2.37	5.00	3.76	0.16	0.28	9.20	
	Change	0.39	1.09	1.49	2.08	0.06	0.12	4.54	
	% change	14.98	46.27	29.79	55.27	37.80	42.14	49.34	

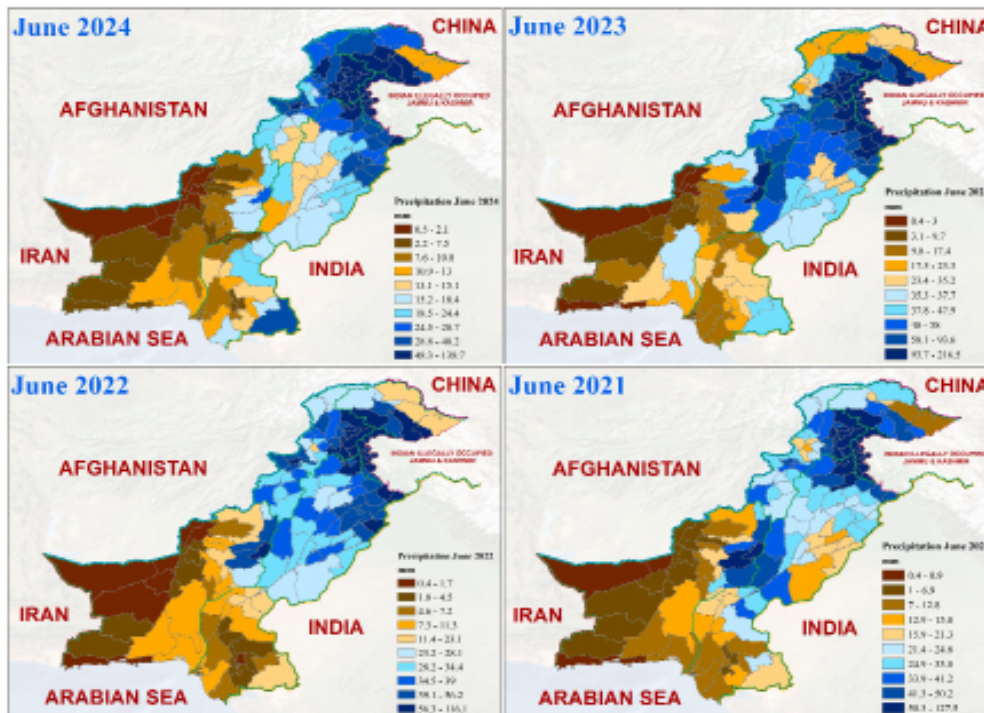
Source: Indus River System Authority (IRSA)



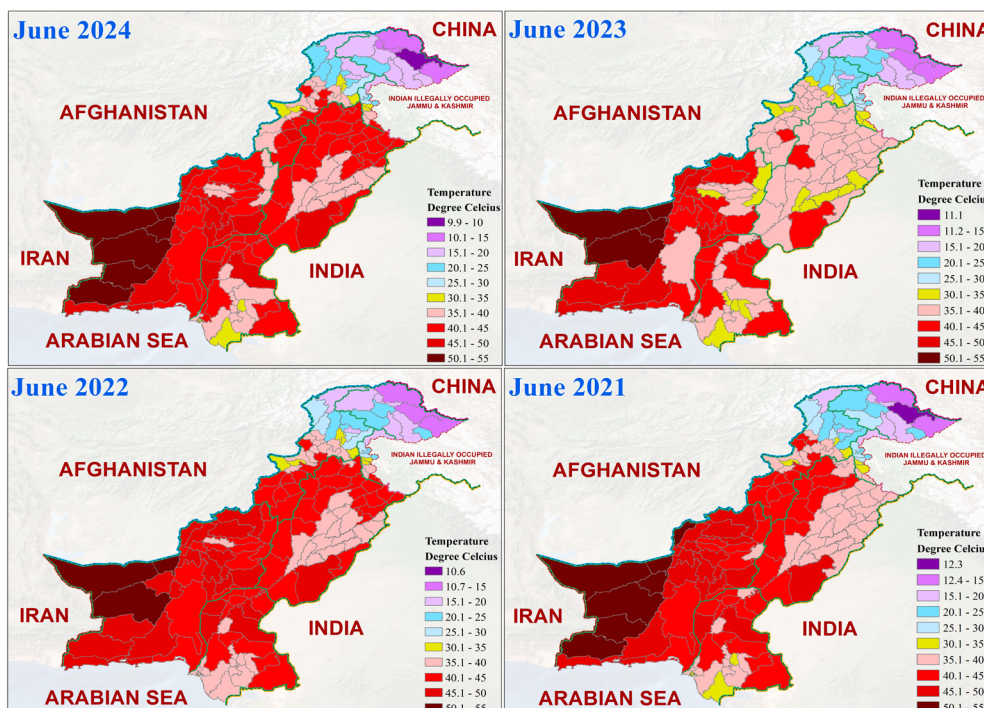
Source: Indus River System Authority (IRSA)

## Monthly Rainfall & Temperatures : June (2021 - 2024)

Monthly estimated rainfall was concentrated in northern parts of Pakistan including Gilgit Baltistan, Northern KP and Northern and North Eastern Punjab during June 2024 as compared to 2021, 2022 and 2023. Last three years rainfall were better spatially distributed in Punjab and KP agricultural areas.



Monthly land surface temperature referred as skin temperature was computed from the daily thermal imageries to link crops growing conditions with availability of sunlight for photosynthesis, growing degree days and irrigation water requirements for crop evapotranspirations. Generally, estimated temperatures remained higher in agricultural areas across Pakistan in 2024 as compared to 2021-2023. Overall, temperatures remained higher in Khyber Pakhtunkhwa, Punjab, Sindh and Balochistan cropping zones during earlier part of Kharif season in 2024 as compared to 2023.





# Fertilizer Offtake

As per report of NFDC, the month of May 2024 started with opening inventory of 368 thousand tons of Urea. During May 2024, domestic Urea production was 462 thousand tons with total availability of 830 thousand tons. Urea offtake during May remained 400 thousand tons leaving behind closing balance of 425 thousand tons.

The opening inventory of DAP for May 2024 was 117 thousand tons. During May 2024 domestic production of DAP was 79 thousand tons. The total availability of DAP was 259 thousand tons. DAP offtake during May 2024 was 41 thousand tons leaving behind closing balance of 219 thousand tons.

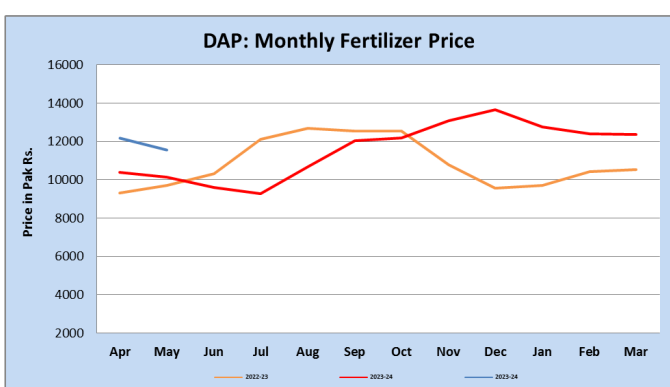
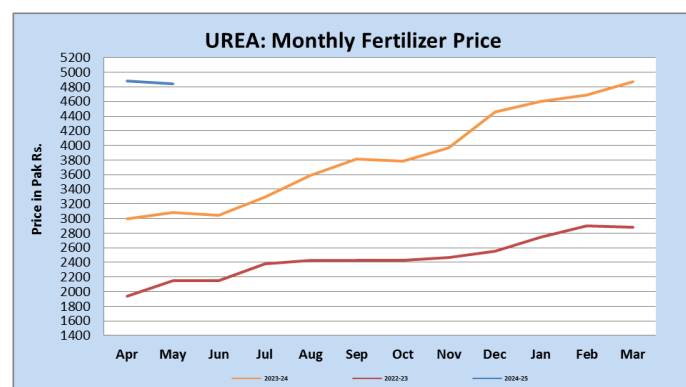
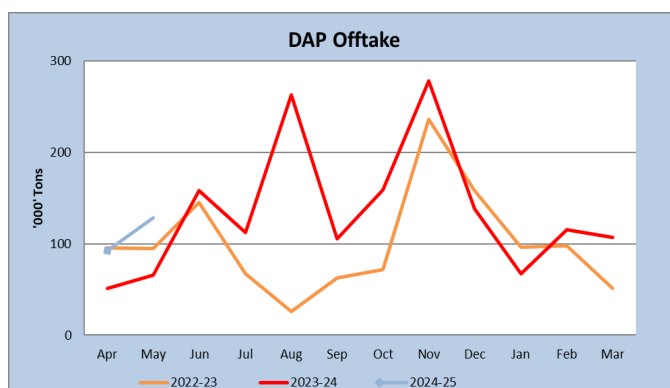
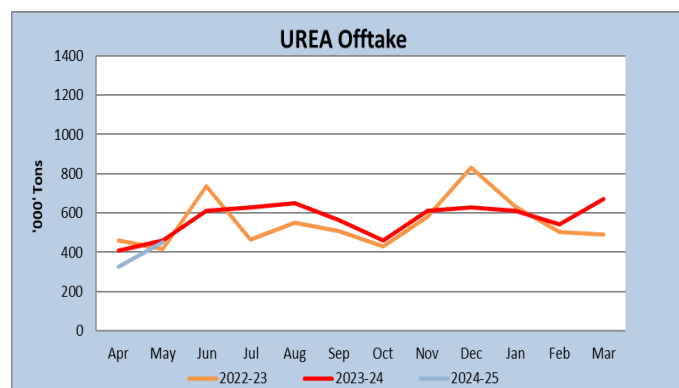
During May 2024, offtake of Nitrogen, Potash and Phosphate decreased by 17.5 percent and Potash and Phosphate increased by 1.1, 24.0 percent as compared to same period of last year.

Product	Opening Inventory	Domestic Production	Imports	Total Availability	Offtake	Write On/Off	Closing Balance
	000 Tons						
Urea	368	462	0	830	400	-5	425
DAP	117	79	63	259	41	0	219

Month	Fertilizer Offtake Kharif 2024-25				Fertilizer Offtake Kharif 2023-24				% Change			
	Nitrogen	Phosphate	Potash	Total	Nitrogen	Phosphate	Potash	Total	Nitrogen	Phosphate	Potash	Total
	(000 Tons)											
Apr	188.3	53.8	1.6	243.7	224.4	33.7	1.9	260.0	-16.1	59.8	-17.1	-6.3
May	212.8	29.0	3.0	244.7	261.8	48.2	1.7	311.7	-18.7	-40.0	69.4	-21.5
Total	401.1	82.7	4.6	488.4	486.2	81.9	3.7	571.7	-17.5	1.1	24.0	-14.6

Source: MRR.07/2023 NFDC

The fertilizer statistics and prices are depicted in the graphs below:



Source: MRR.07/2023 NFDC

زرعی سفارشات  
(جولائی)

کپا :-

[illegible]

نمبر درجہ	درجہ کے نام	سہائی تھکن کی قسم	نظمیں	سہائی تھکن کی قسم	
				فیڈرل قسم	محلیہ قسم
1	حرکیں	1958ء پانچ پانچ ٹی	چنگری نظم	کیٹ میں ذرا نہ نظم نظر آئے	و نظمیں ٹی 2500 سے 10000 تک ہیں، دیکھ لوں اور نظمیں کا تھکن
2	میرتج	ایک پانچ ٹی	گاہی نظم	کیٹ میں ذرا نہ نظم نظر آئے	و نظمیں ٹی 10000 سے 15000 تک ہیں، دیکھ لوں اور تھکن
3	میرتج	و پانچ پانچ ٹی	سہرکی نظم	کیٹ میں ذرا نہ نظم نظر آئے	و نمبر سے 1000 سے 15000 تک ہیں، دیکھ لوں اور تھکن
4	تھکن	تھکن کی علامت کا پورے	نظمی نظم	کیٹ میں نہ نظر آئے	کیٹ میں نہ نظر آئے



## کھاد:-

- 1۔ سوئی حالات کو مد نظر رکھتے ہوئے مناسب دقت (تقریباً 10 سے 12 دن) کے آپاشی کا مکمل ہماری رکھیں۔ تاکہ پانی کی کمی سے پیداوار متاثر نہ ہو۔
- 2۔ پانی کی کمی کی صورت میں ایک قحط چھوڑ کر آپاشی کریں۔ اور اگلے پانی پر چھوڑی ہوئی قحط میں پانی لگائیں۔
- 3۔ حتیٰ عکس ذراست کے عمل کی مدد سے جڑ اور سٹے کی گڑبڑ کی غلٹی کے لیے مناسب دقت و درزیروں کا انتخاب کریں۔
- 4۔ کھونکھ کے تھوک کے لیے دھس غلٹی کیڑوں کی پرورش کو روک دیں۔ اس کے لیے شکر ملوں یا عکس ذراست سے غلٹی کیڑوں کے کارڈا لکھتے میں پر دس کے ساتھ لکھ دیں۔ خطیہ عمل اور غلٹی کیڑوں کی کمی کی صورت میں دقت و درزیروں کا استعمال کریں اور دقت و درزیروں کے بعد کھیت کو اذی پائی دیں۔

## دھان:-

- 1۔ غلٹی کے وقت بغیر کی عمر 25 سے 35 دن ہونی چاہیے۔ البتہ کم زرخیز زمین پر غلٹی کی صورت میں بغیر کی عمر 35 سے 45 دن ہونی چاہیے تاکہ پودوں کا مر جھلاؤ کم ہو۔
- 2۔ کلر کے خلاف قوت مدافعت رکھنے والی اقسام کے انیس 282 یا سستی 385 اور شاہین یا سستی 1 استعمال کریں۔
- 3۔ بغیر کی آٹھارے سے ایک یا دو دن پہلے پانی لگائیں تاکہ غلٹی کے دوران پودے کی جڑوں کو نقصان نہ ہو۔ غلٹی کے دوران غلٹی سے متاثرہ اور جھلے ہوئے پودوں کو کٹ کر دیں۔
- 4۔ پودوں اور قحطوں کے درمیان 9 انچ کا فاصلہ رکھتے ہوئے سوراخوں کی تعداد 80 ہزار جبکہ پودوں کی تعداد 11 لاکھ 60 ہزار ہونی چاہیے۔ پودوں کی تعداد میں کمی پیداوار کو متاثر کرتی ہے۔
- 5۔ جڑی بوٹیوں کی بذریعہ زہر غلٹی کے لیے سفارش کردہ جڑی بوٹی مارزیر لاپ کی غلٹی کے 3 سے 5 دن کے اندر دھار پھڑکا دیں۔
- 6۔ کھادوں کا استعمال کا شیوہ قسم کو مد نظر رکھتے ہوئے حوازن اور مناسب ہونا چاہیے۔

نمبر	نام قسم	اوسط کھاد کی مقدار فی ایکڑ
1	سوئی اقسام	پولنے دو پوری ڈی اے پی + سو پوری پیریا + سو پوری پیریا + سو پوری پیریا + سو پوری پیریا
2	باسستی اقسام	ڈی پیریا پوری ڈی اے پی + پیریا پوری پیریا + ایک پیریا پیریا + سو پوری پیریا

- تمام فاسفورس، پوٹاش اور آدمی تاخیر جن کھاد آخری سہاگر دینے سے پہلے جبکہ جیسے تاخیر جن لاپ غلٹی کے 35 دن بعد لگائیں۔
- 7۔ لاپ غلٹی کے 10 تا 12 دن بعد 35 ڈی اے پی 20 ڈی اے پی 10 کو گرام فی ایکڑ استعمال کریں
- 8۔ نیو پ وائل سے سیرسپ ہونے والی زمین یا جزوی یا زرخیز زمین میں کھادوں کے ساتھ 10 پوری جیسیم فی ایکڑ ڈالنے سے پیداوار میں خاطر خواہ اضافہ ہوتا ہے۔



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