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అగ్రికల్చర్ వర్కీస్ సదస్సును ప్రారంభిస్తున్న మంత్రి నిరంజన్ రెడ్డి

విత్తనాల నాణ్యతపై రైతుల్లో అవగాహన పెంచాలి

○ వ్యవసాయ శాఖ మంత్రి నిరంజన్ రెడ్డి

గండివీటి, వెలుగు : రాష్ట్రంలో పెన్సిస్టెడ్స్, బయో పెన్సిస్టెడ్స్ నాణ్యతా ప్రమాణాలు గుర్తించేందుకు ఓ వ్యవస్థని తీసుకు రానున్నట్లు వ్యవసాయ శాఖ మంత్రి నిరంజన్ రెడ్డి పేర్కొన్నారు. ఎరువులు, పురుగు మందులు, విత్తనాల నాణ్యతపై రైతుల్లో అవగాహన పెంపొందించేందుకు వ్యవసాయ అధికారులు చర్యలు తీసుకోవాలని సూచించారు. ప్రొ ఫెసర్ జయశంకర్ రాష్ట్ర వ్యవసాయ విశ్వవిద్యాలయం, ఆగ్రోకెం ఫెడరేషన్ ఆఫ్ ఇండియా ఆధ్వర్యంలో 'నాణ్యమైన దిగుబడి - రైతుల ఆదాయం పెంచడానికి నాణ్యమైన వ్యవసాయ ఉత్పత్తుల పాత్ర'పై రాజేంద్రనగర్ లోని వర్కీస్ అడిటోరియంలో మంగళవారం సదస్సు జరిగింది. మంత్రి ముఖ్య అతిథిగా హాజరై మాట్లాడారు. పీవీటీఎస్ఎ

స్వియూ విస్తరణ విద్యాసంస్థ రూపొందించిన సంవార ప్రచార వాహనాలను, మొబైల్ అగ్రి సపోర్ట్ సర్వీసెస్ (మాస్)ని మంత్రి ప్రారంభించి మాట్లాడారు. వ్యవసాయంలో నకిలీలను నియంత్రించేందుకు దేశవ్యాప్తంగా ఒక సమగ్ర చట్టం రావాల్సిన అవసరం ఉందని పేర్కొన్నారు. సదస్సులో వ్యవసాయ శాఖ కార్యదర్శి, వర్కీస్ ఇన్ చార్జ్ వీసీ ఎం. రఘునందన్ రావు, ఆగ్రో కెం ఫెడరేషన్ ఆఫ్ ఇండియా చైర్మన్ ఆర్బీ అగర్వాల్, ఎన్ఐఆర్టీ మాజీ డైరెక్టర్ జనరల్ డబ్ల్యూఆర్ రెడ్డి, ఎస్ఐపీహెచ్ఎం డైరెక్టర్ జనరల్ సాగర్ హనుమాన్ సింగ్, వర్కీస్ రీసెర్చ్ డైరెక్టర్ పి.రఘురామి రెడ్డి, వ్యవసాయ శాఖ ప్రత్యేక కమిషనర్ హనుమంతు, వర్కీస్ అధికారులు, రైతులు, డీలర్లు, శాస్త్రవేత్తలు తదితరులు పాల్గొన్నారు.

ఖేती के लिए गुणवत्तापूर्ण उत्पाद चुनें किसान : निरंजन रेड्डी

मंत्री ने किसानों से की घटिया कीटनाशकों और उर्वरकों के उपयोग से बचने की अपील



हैदराबाद, 11 जुलाई (स्वतंत्र वाती)। कृषि मंत्री सिंगीरडी निरंजन रेड्डी ने किसानों से अपील की है कि वे खेती के लिए गुणवत्तापूर्ण उत्पाद चुनें और कृषि से संबंधित उर्वरकों, पोषक तत्वों और कीटनाशकों के मामले में सावधानी बरतनी चाहिए। मंगलवार को यहां आचार्य जयशंकर कृषि विश्वविद्यालय में किसानों की आय बढ़ाने के लिए गुणवत्तापूर्ण कृषि उत्पादों की भूमिका पर एक सेमिनार में बोलते हुए, मंत्री निरंजन रेड्डी ने कहा कि घटिया कीटनाशकों और उर्वरकों के उपयोग से सख्ती से बचा जाना चाहिए और किसानों को सही उत्पादों का चयन करना चाहिए। सामान्य तौर पर, किसान व्यापारियों पर भरोसा करते हैं और उत्पाद खरीदते हैं। हालांकि, स्थिति का फायदा उठाकर व्यापारियों को किसानों को धोखा नहीं देना चाहिए और जिम्मेदारी से काम करना चाहिए। उन्होंने यह भी बताया कि राज्य सरकार उर्वरकों और कीटनाशकों की गुणवत्ता की पहचान करने के लिए विभिन्न उपाय कर रही है और अधिकारियों से इस संबंध में किसानों को जागरूक करने के लिए कदम उठाने को भी कहा है। सेमिनार में कृषि सचिव रघुनंदन राव, विशेष आयुक्त हनमंत, रजिस्ट्रार वेंकटरमण, अनुसंधान निदेशक डॉ. रघुराम रेड्डी और अन्य उपस्थित थे।

నాణ్యమైన ఉత్పత్తులను ఎంపిక చేసుకోవాలి

వ్యవసాయ మంత్రి నిరంజన్ రెడ్డి

హైదరాబాద్, జులై 11, ప్రభాతవార్త: వ్యవసాయానికి సంబంధించి నాణ్యమైన ఉత్పత్తులను ఎంపిక చేసుకోవాలని వ్యవసాయ మంత్రి ఎన్ నిరంజన్ రెడ్డి సూచించారు. ప్రధానంగా ఎరువులు, పోషకాలు, క్రిమినసహారక మందుల విషయంలో రైతులు తగు జాగ్రత్తలు తీసుకోవాలని చెప్పారు. హైదరాబాద్ లో మంగళవారం జరిగిన సదస్సులో పాల్గొని మాట్లాడుతూ నాణ్యమైన ఉత్పత్తుల వాడకంలోనే మంచి దిగుబడులు సాధ్యమవుతాయన్నారు. ఇదే సమయంలో సాసరకం మందులు, ఎరువుల వాడకాన్ని నిరోధించాల్సి ఉందని తెలిపారు. వ్యాపారులను నమ్మి రైతులు వాటిని కొంటారని, ఆటంపంటి వారిని ఎవరూ మోసం చేయ వద్దన్నారు. కాగా ఎరువులు, పురుగుమందులలో నాణ్యమైన వాటిని గుర్తించేందుకు చర్యలు తీసుకుంటామని వెల్లడించారు. ఈ సదస్సులో వ్యవసాయ శాఖ కార్యదర్శి రఘునందన్ రావు తదితరులు పాల్గొన్నారు.

నకిలీలను అరికట్టేందుకు సమగ్ర చట్టం రావాలి

రాష్ట్ర వ్యవసాయరంగంలో అద్భుత పురోగతి: మంత్రి నిరంజన్ రెడ్డి

ఏజీ వర్కీస్: వ్యవసాయంలో నకిలీలను అరికట్టేందుకు దేశవ్యాప్తంగా సమగ్ర చట్టం రావాల్సి ఉందని, పెన్సిస్టెడ్స్, బయో పెన్సిస్టెడ్స్ నాణ్యతా ప్రమాణాలు గుర్తించడానికి రాష్ట్రంలో ఓ వ్యవస్థ తీసుకురావడానికి ప్రభుత్వం కృషి చేస్తోందని రాష్ట్ర



మొబైల్ వ్యాప్తును జిందా ఊపి ప్రారంభిస్తున్న మంత్రి

వ్యవసాయంలో రైతులకోసం 'మాస్'

మన తెలంగాణ/హైదరాబాద్: వ్యవసాయ రంగంలో రైతులకు మాస్ ఎంతో ఉపయోగపడుతుందని రాష్ట్ర వ్యవసాయశాఖ మంత్రి నిరంజన్ రెడ్డి వెల్లడించారు. ప్రొఫెసర్ జయశంకర్ తెలంగాణ రాష్ట్ర వ్యవసాయ విశ్వవిద్యాలయం. అగ్రి కెం ఫెడరేషన్ ఆఫ్ ఇండియా ఆధ్వర్యంలో నాణ్యమైన దిగుబడి మరియు రైతుల ఆదాయాన్ని పెంచడానికి నాణ్యమైన వ్యవసాయ ఉత్పత్తుల పాత్ర అన్న అంశం పై మంగళవారం రాజేంద్ర నగర్ లోని విశ్వవిద్యాలయం ఆడిటోరియంలో సదస్సు జరిగింది. రాష్ట్ర వ్యవసాయ శాఖ మంత్రి ఎస్.నిరంజన్ రెడ్డి ముఖ్య అతిథి గా పాల్గొన్నారు. ఈ సందర్భంగా పీ జే టీ ఎస్ ఎస్ ఏ యూనివర్సిటీ విద్యా సంస్థ రూపొందించిన సంచార ప్రచార వాహనాలని, మొబైల్ అగ్రి సపోర్ట్ సర్వీసెస్ (మాస్) ని మంత్రి ప్రారంభించారు. ఈ సందర్భంగా మంత్రి మాట్లాడుతూ ఒకప్పుడు జీవనాధారం కోసం వ్యవసాయం చేసే వారని, నేడు మార్కెట్ ఆధారితం గా మారిందన్నారు. వ్యవసాయ విశ్వవిద్యాలయం పరిశోధన సంచాలకులు పి. రఘురామి రెడ్డి మాట్లాడుతూ సాగు విస్తీర్ణం, దిగుబడులు బాగా పెరిగాయని అదే సమయంలో రైతాంగానికి కొత్త సవాళ్ళు ఎదురు అవుతున్నాయని వివరించారు.



రైతులు సంఘటితంగా వీటిని ఎదుర్కోవాలని అన్నారు. ఎరువులు, పురుగు మందులు వంటివి అవసరం అయినంత మేరకే వాడాలని, ఈ విషయంలో వ్యవసాయ శాఖ, విశ్వవిద్యాలయం అందించే సూచనలు, సలహాలని రైతాంగం పాటించాలని రఘురామి రెడ్డి పేర్కొన్నారు. రాష్ట్ర ప్రభుత్వం చేపట్టిన అనేక కార్యక్రమాల వల్ల తెలంగాణ వ్యవసాయ రంగం లో జాతీయ స్థాయి లో రికార్డులు సాధిస్తోందని వ్యవసాయ శాఖ ప్రత్యేక కమిషనర్ హనుమంతు అభిప్రాయ పడ్డారు. ప్రభుత్వం కూడా

టిస్టింగ్ లాబ్ లని బలోపేతం చేస్తోందన్నారు. రైతులు కూడ అవగాహన పెంచుకొని నాణ్యమైన, ధ్రువీకరించిన ఇన్ పుట్స్ నే తీసుకోవాలని హనుమంతు సూచించారు.

నకిలీ నిరోధానికి సమగ్ర చట్టం: మంత్రి నిరంజన్ రెడ్డి

సదస్సులో పాల్గొన్న రైతులు, డీలర్లు, వ్యవసాయ శాఖ అధికారులు, శాస్త్రవేత్తలు, వ్యవసాయ పరిశ్రమ ప్రతినిధులని ఉద్దేశించి మంత్రి నిరంజన్ రెడ్డి ప్రసంగించారు. వ్యవసాయంలో నకిలీలని అరికట్టేందుకు దేశవ్యాప్తం గా ఒక సమగ్ర చట్టం రావల్సి ఉందన్నారు. పెస్టి సైడ్స్, బయో పెస్టి సైడ్స్ నాణ్యత ప్రమాణాలు గుర్తించటానికి రాష్ట్రంలో ఓ వ్యవస్థని తీసుకురావటానికి క్రుషి చేస్తున్నట్లు మంత్రి తెలిపారు. ఎరువులు, పురుగుమందులు, విత్తనాల నాణ్యత తదితర విషయాల్లో రైతాంగంలో అవగాహన పెంపొందించడానికి వ్యవసాయ శాఖ అధికారులు చర్యలు తీసుకోవాలని సూచించారు. ఈ కార్యక్రమంలో వ్యవసాయ శాఖ కార్యదర్శి, వర్సిటీ ఇంచార్జి ఉపకులపతి ఎం. రఘునందన్ రావు, ఐ ఏ ఎస్, అగ్రి కెం ఫెడరేషన్ ఆఫ్ ఇండియా చైర్మన్ ఆర్ జీ అగర్వాల్, ఎన్ ఐ ఆర్ డీ మాజీ డైరెక్టర్ జనరల్ డాక్టర్ డబ్ల్యు. ఆర్. రెడ్డి, ఎన్ ఐ పీ హెచ్ ఎం డైరెక్టర్ జనరల్ సాగర్ హనుమాన్ సింగ్, విశ్వవిద్యాలయ అధికారులు పాల్గొన్నారు.

అగ్రికల్చర్లో అద్భుత ప్రగతి

మంత్రి సింగిరెడ్డి నిరంజన్ రెడ్డి

28. రాజేంద్రనగర్: ప్రత్యేక తెలంగాణ ఏర్పడిన తర్వాత వ్యవసాయ రంగంలో అద్భుతమైన ప్రగతిని సాధించామని మంత్రి సింగిరెడ్డి నిరంజన్ రెడ్డి అన్నారు. చెరువుల పునరుద్ధరణతో పత్తి, పరి సాగు విస్తీర్ణం గణనీయంగా పెరిగిందన్నారు. 'జాగో

కిసాన్ జాగో' పేరిట ఏసీఎఫ్ఐ ఆధ్వర్యంలో పది ప్రచార వాహనాలను రాజేంద్రనగర్ లోని జయశంకర్ అగ్రికల్చర్ యూనివర్సిటీ వద్ద మంత్రి ప్రారంభించి మాట్లాడారు. రాష్ట్ర ప్రభుత్వం నీటిపారుదలకు ఎంతో ప్రాధాన్యతనిస్తున్నదన్నారు. కార్యక్రమంలో వ్యవసాయ సహకార కార్యదర్శి ఎం రఘునందన్ రావు, ఏసీఎఫ్ఐ ఆధ్వర్యంలో కమిటీ చైర్మన్ ఆర్టీ అగర్వాల్ పాల్గొన్నారు.



వాహనాలను ప్రారంభిస్తున్న మంత్రి నిరంజన్ రెడ్డి

నకిలీ ఎరువుల నిరోధానికి కేంద్రం చట్టం తేవాలి

● వ్యవసాయ మంత్రి నిరంజన్ రెడ్డి

ఈనాడు, హైదరాబాద్: వ్యవసాయంలో నకిలీ విత్తనాలు, పురుగుమందులు, ఎరువులు, నాసిరకం యంత్ర పరికరాలను అరికట్టేందుకు కేంద్ర ప్రభుత్వం దేశవ్యాప్తంగా ఒక సమగ్రచట్టం తేవాలని వ్యవసాయ శాఖ మంత్రి నిరంజన్ రెడ్డి డిమాండ్ చేశారు. రాష్ట్రంలో పురుగుమందుల నాణ్యత ప్రమాణాలను గుర్తించటానికి కొత్త వ్యవస్థను ఏర్పాటు చేయనున్నట్లు చెప్పారు. నాణ్యమైన దిగుబడి, రైతుల ఆదాయం పెంపునకు నాణ్యమైన వ్యవసాయ ఉత్పత్తుల పాత్రపై వ్యవసాయ విశ్వవిద్యాలయంలో మంగళవారం నిర్వహించిన సదస్సులో మంత్రి ముఖ్యఅతిథిగా పాల్గొని ప్రసంగించారు. విశ్వవిద్యాలయ విస్తరణ సంస్థ రూపొందించిన సంచార ప్రచార వాహనాలను, మొబైల్ అగ్రి



సంచార ప్రచార వాహనాలను ప్రారంభిస్తున్న మంత్రి నిరంజన్ రెడ్డి

సపోర్ట్ సర్వీసెస్(మాస్)ని మంత్రి ప్రారంభించారు. సదస్సులో వ్యవసాయశాఖ కార్యదర్శి, ఇన్ ఛార్జి ఉపకులపతి రఘునందన్ రావు, ప్రత్యేక కమిషనర్ హనుమంతు, ఇతర ప్రతినిధులు పాల్గొన్నారు.

कृषि जागरूकता के लिए 10 मोबाइल वैन

हैदराबाद, 11 जुलाई -(मिलाप ब्यूरो) तेलंगाना के कृषि और सहकारिता मंत्री सिंगीरेड्डी निरंजन रेड्डी ने आज किसानों के बीच जागरूकता बढ़ाने के लिए एगो बेम पेडरेशन ऑफ इंडिया (एसीएफआई) के महत्वाकांक्षी जन अभियान 'जागो किसान जागो' के अंतर्गत 10 मोबाइल वैन को हरी झंडी दिखाई। यह अभियान किसानों की गुणवत्तापूर्ण उपज और आय बढ़ाने के लिए गुणवत्तापूर्ण कृषि-इनपुट (कृषि रसायन) सुनिश्चित करने के लिए जागरूकता का काम करेगा।

आज यहाँ प्रो. जयशंकर कृषि विश्वविद्यालय परिसर में आयोजित कार्यक्रम में जागरूकता मोबाइल वैन का उद्घाटन करते हुए कृषि मंत्री निरंजन रेड्डी ने कहा कि तेलंगाना की स्थापना के बाद से विभिन्न क्षेत्रों, विशेष रूप से कृषि में तेलंगाना ने उल्लेखनीय प्रगति की है। सिंचाई सुविधाओं के विस्तार और सिंचाई टैंकों के नवीनीकरण से कपास और धान के रकबे में उल्लेखनीय वृद्धि हुई है। इसके परिणामस्वरूप कृषि उत्पादकता में सुधार हुआ है और किसानों की समृद्धि बढ़ी है। उन्होंने कहा कि सिंचाई को प्राथमिकता देने के अलावा तेलंगाना सरकार ने कृषक समुदाय के लिए उच्च गुणवत्ता वाले कृषि आदानों की उपलब्धता सुनिश्चित करने के लिए सक्रिय उपाय लागू किए हैं। किसानों के पास अब बेहतर बीज, उर्वरक और कृषि रसायनों तक आसान पहुंच है,



जागरूकता मोबाइल वैन को हरी झंडी दिखाते कृषि और सहकारिता मंत्री सिंगीरेड्डी निरंजन रेड्डी एवं अन्य।

जो कृषि समर्थन के लिए राज्य की प्रतिबद्धता को दर्शाता है।

तेलंगाना सरकार के कृषि सचिव एम. रघुनंदन राव ने कहा कि कृषि विभाग द्वारा ऑनलाइन लाइसेंस प्रबंधन प्रणाली (ओएलएमएस) और विक्रय अनुमतियों के नवीनीकरण को सुव्यवस्थित करके इनपुट क्षेत्र में और क्रांति लाने का काम किया गया है। उन्होंने कहा कि तेलंगाना तेजी से भारत के 'धान के कटोरे' के रूप

में उभर रहा है, जिसमें 50 लाख एकड़ का व्यापक रकबा खरीफ फसलों के लिए और 34 लाख एकड़ रबी सीजन के लिए समर्पित है। चावल मिलिंग में आने वाली चुनौतियों का समाधान करने के लिए सरकार देरी को खत्म करने और बुशाल प्रसंस्करण सुनिश्चित करने के लिए आधुनिक, उच्च क्षमता वाली चावल मिलों की स्थापना कर रही है।

एसीएफआई की सलाहकार

समिति व धानुका समूह के अध्यक्ष आर. जी. अग्रवाल ने कहा कि तेलंगाना में इन मोबाइल ऑडियो वैन की तैनाती किसानों को कौटनाशकों के उचित उपयोग और उचित बिल के साथ खरीद पर आवश्यक प्रशिक्षण प्रदान करने में महत्वपूर्ण भूमिका निभाएगी। अवसर पर एसीएफआई और इंडोग्लफ क्रॉपसाइंस लिमिटेड के प्रबंध निदेशक संजय अग्रवाल, एसीएफआई के सचिव कल्याण गोस्वामी उपस्थित थे।

నాసిరకం మందులు, ఎరువులను కలిసికట్టుగా నియంత్రిద్దాం

● అధికారులు, వ్యవసాయశాస్త్రవేత్తలకు మంత్రి నిరంజన్ రెడ్డి పిలుపు



హైదరాబాద్, ఆంధ్రప్రభ : సాగులో నాణ్యమైన ఉత్పత్తులను వాడితే ఆశించిన దిగుబడివచ్చి రైతుల ఆదాయం పెరుగుతుందని, ఇందుకు నాసిరకం మందులు, ఎరువుల అమ్మకాన్ని కలిసికట్టుగా నిరోధించాలని వ్యవసాయ విశ్వ విద్యాలయంలో నిర్వహించిన సదస్సులో వ్యవసాయశాఖ మంత్రి సింగిరెడ్డి నిరంజన్ రెడ్డి పిలుపునిచ్చారు. రైతులు నాణ్యమైన ఎరువులు, మందులను ఎంపిక చేసుకోవాలన్నారు. వ్యాపారులను నమ్మి నాసిరకం ఉత్పత్తులను కొనుగోలు చేయొద్దని, అదే సమయంలో వ్యాపారులు కూడా రైతులను మోసం చేయొద్దన్నారు. ఈ విషయంలో ఉత్పత్తిదారులు, వ్యాపారులు బాధ్యతగా వ్యవహరించాలన్నారు. ఎరువులు, పురుగు మందుల్లో నాణ్యమైన ఉత్పత్తులను రైతులు సులువుగా

గుర్తించేందుకు తగిన చర్యలను వ్యవసాయశాఖ తీసుకుంటోందన్నారు. జిల్లాల్లో రైతులను చైతన్యం చేసేందుకు వ్యవసాయ అధికారులు ప్రత్యేక శిబిరాలను నిర్వహించాలని పిలుపునిచ్చారు. నాణ్యమైన దిగుబడి, రైతుల ఆదాయం పెంచేందుకు నాణ్యమైన వ్యవసాయ ఉత్పత్తుల పాత్రపై ఆచార్య జయశంకర్ వ్యవసాయ విశ్వవిద్యాలయంలో మంగళవారం నిర్వహించిన రాష్ట్ర సదస్సులో ఆయన పాల్గొని మాట్లాడారు. ఈ కార్యక్రమంలో వ్యవసాయ శాఖ కార్యదర్శి రఘునందన్ రావు, ప్రత్యేక కమిషనర్ హన్మంతు, రిజిస్ట్రార్ వెంకటరమణ, డైరెక్టర్ ఆఫ్ రీసెర్చ్ డాక్టర్ రఘురాం రెడ్డి, ధనూకా ఛైర్మన్ ఆర్ జీ అగర్వాల్, ఎసీఎఫ్ఐ ప్రతినిధులు తదితరులు పాల్గొన్నారు.

వ్యవసాయంలో నకిలీలను అరికట్టడానికి చట్టం రావాలి

రాజేంద్రనగర్, జూలై 11(ఆంధ్రప్రభ): వ్యవసాయంలో నకిలీలను అరికట్టేందుకు దేశవ్యాప్తంగా ఒక సమగ్ర చట్టం రావాలని తెలంగాణ రాష్ట్ర వ్యవసాయ శాఖ మంత్రి సింగిరెడ్డి నిరంజన్ రెడ్డి అభిప్రాయపడ్డారు. ప్రొఫెసర్ జయశంకర్ తెలంగాణ రాష్ట్ర వ్యవసాయ విశ్వవిద్యాలయం, ఆగ్రో కెం పెడరేషన్ ఆఫ్ ఇండియా ఆధ్వర్యంలో నాణ్యమైన దిగుబడి, రైతుల ఆదాయాన్ని పెంచడానికి నాణ్యమైన వ్యవసాయ ఉత్పత్తుల పాత్ర అన్న అంశంపై రాజేంద్రనగర్లో వర్చివీ ఆడిటోరియంలో మంగళవారం సదస్సు నిర్వహించారు. ఈ సందర్భంగా వ్యవసాయ విశ్వవిద్యాలయం విస్తరణ విద్యా సంస్థ రూపొందించిన సంచార ప్రచార వాహనాలను(మొబైల్ ఆగ్రి సపోర్ట్ సర్వీసెస్) మంత్రి సింగిరెడ్డి నిరంజన్ రెడ్డి ప్రారంభించారు. అనంతరం ఆయన మాట్లాడుతూ, పెన్సిన్ డ్రాగ్ బయో పెన్సిన్ డ్రాగ్ నాణ్య

తా ప్రమాణాలను గుర్తించడానికి రాష్ట్రంలో ఓ వ్యవస్థను తీసుకురావడానికి కృషి చేస్తున్నట్లు తెలిపారు. ప్రొఫెసర్ జయశంకర్ తెలంగాణ రాష్ట్ర వ్యవసాయ విశ్వవిద్యాలయం పరిశోధనా సంచాలకులు డాక్టర్ పిరమురామిరెడ్డి మాట్లాడుతూ, ఒకప్పుడు జీవనాధారం కోసం వ్యవసాయం చేసేవారని, నేడు మార్కెట్ ఆధారితంగా మారిందన్నారు. సాగు విస్తీర్ణం దిగుమతులు బాగా పెరిగాయని, అదే సమయంలో రైతాంగానికి కొత్త సవాళ్లు ఎదురవుతున్నాయన్నారు. కార్యక్రమంలో వ్యవసాయ శాఖ కార్యదర్శి, వర్చివీ ఇంచార్జి ఉపకులపతి ఎం.రఘునందన్ రావు, ఆగ్రో కెం పెడరేషన్ ఆఫ్ ఇండియా చైర్మన్ ఆర్ జీ అగర్వాల్, ఎసీఐఆర్ డివీఆర్ మాజీ డైరెక్టర్ జనరల్ డాక్టర్ డబ్ల్యు ఆర్ రెడ్డి, ఎసీఐఆర్ హెచ్ఎం డైరెక్టర్ జనరల్ సాగర్ హనుమాన్



సంచార ప్రచార వాహనాలకు జెండా ఊపి ప్రారంభిస్తున్న వ్యవసాయ శాఖ మంత్రి సింగిరెడ్డి నిరంజన్ రెడ్డి తదితరులు సింగ్ విశ్వవిద్యాలయం అధికారులు పాల్గొన్నారు.

Minister flags off 10 vans to promote quality agri-inputs

Hyderabad: Telangana Agriculture and Co-operation Minister Niranjan Reddy on Tuesday flagged off 10 mobile vans as part of ACFI's (Agro Chem Federation of India) ambitious mass campaign 'Jago Kisan Jago'. The campaign aims to raise awareness among farmers about the importance of quality agri-inputs (agrochemicals) in enhancing crop yield and income. The mobile vans, equipped with advanced audio technology, will disseminate crucial information about the use of quality pesticides, promote modern agricultural technologies, and emphasize the significance of obtaining proper bills for agri-input purchases.

The launch of these mobile vans in Telangana is a part of ACFI's nationwide campaign, which has previously been implemented in Haryana and Maharashtra. During the event, Niranjan Reddy highlighted the significant progress made by Telangana, particularly in the agricultural sector, since the formation of the state. The expansion of irrigation facilities and the



renewal of irrigation tanks have led to increased acreages dedicated to cotton and paddy, resulting in improved farm productivity and increased prosperity for farmers.

Niranjan Reddy stated, "In addition to prioritizing irrigation, the Telangana government has taken proactive measures to ensure the availability of high-quality agricultural inputs for farmers. Farmers now have easy access to superior seeds, fertilizers, and agrochemicals, demonstrating the state's commitment to supporting agriculture." M Raghunandan Rao, APC &

Secretary to Government (Agri & Coop. Dept.) Government of Telangana, mentioned that the introduction of the Online License Management System (OLMS) by the Agricultural Department has revolutionized the inputs sector by streamlining the issuance and renewal of selling permissions.

He further stated that Telangana is rapidly emerging as the 'rice bowl' of India, with 50 lakh acres dedicated to Kharif crops and 34 lakh acres for the Rabi season. To address challenges in rice milling, the government is proactively establishing modern,

high-capacity rice mills to ensure efficient processing and eliminate delays, Rao added.

R G Agarwal, Chairman of the Advisory Committee of ACFI and Chairman of Dhanuka Group, expressed that the deployment of these mobile audio vans in Telangana represents a significant step towards providing farmers with essential training on the proper use of pesticides and the importance of purchasing products with proper bills.

"These vans will educate farmers on the procurement of high-quality pesticides, emphasizing the importance of obtaining products with bills that provide detailed information such as batch numbers and expiry dates," he said.

The mobile vans will travel on fixed routes and collaborate with the Telangana Government and agricultural officials at Rythu Vedikas. Many reputable companies have started incorporating QR codes on their products, allowing farmers to scan them using smartphones to verify the authenticity of the products.

Campaign on agri-inputs launched for farmers

BB BUREAU
HYDERABAD

AS part of the Agro Chem Federation of India's (ACFI) nationwide campaign 'Jago Kisan Jago' 10 mobile vans were flagged-off in the city. Telangana Minister of Agriculture and Co-operation Singireddy Niranjan Reddy launched the campaign, aimed at raising awareness among farmers about quality agri-inputs.

The Association of Pesticides Manufacturers (APMA) and National Seed Association of India (NSAI) have collaborated with ACFI for the event. The event was held earlier in the states of Haryana and Maharashtra. Equipped with state-of-the-art audio technology, these mobile vans will spread information about the use of quality pesticides to farmers. Furthermore, they will educate farmers about modern agricultural technologies, and emphasise the significance of purchasing agri-inputs with proper bills.

"In addition to prioritising irrigation, the Telangana government has implemented proactive measures to ensure the availability of



Telangana Agriculture Minister Singireddy Niranjan Reddy flagging-off ACFI's 10 mobile vans in Hyderabad on Tuesday

high-quality agricultural inputs for the farming community. Farmers now have easy access to superior seeds, fertilizers, and agrochemicals, which reflects the State's commitment to supporting agriculture," Niranjan Reddy said.

These vehicles will travel on fixed routes and will work with Telangana Government, Agri-officials at Rythu vedikas. Kalyan Goswami, Secretary, ACFI explained that the campaign also aims to integrate pest management techniques into crop management practices, educate farmers on the proper disposal of empty containers, and emphasise accurate timing and methodologies for the application of agrochemicals.

Minister appeals to farmers to choose quality products

HANS NEWS SERVICE
HYDERABAD

MINISTER for Agriculture Singireddy Niranjan Reddy has appealed to farmers to choose quality products for the cultivation of agriculture and care should be taken in the matter of fertilizers, nutrients and pesticides related to agriculture.

Speaking at a seminar on the role of quality agricultural products to increase farmers' income at Acharya Jayashankar Agricultural University here on Tuesday, Minister Niranjan Reddy said that the use of substandard pesticides and fertilizers should be strictly avoided and farmers should take in choosing the right products.

In general, the farmers trust traders and buy the products. However, taking advantage of the situation, the traders should not cheat



farmers and act responsibly, the Minister said.

He also informed that the State government is taking various measures to identify the quality of fertilizers and pesticides and also asked the officials to take steps to sensitize the farmers in this regard.

Agriculture Secretary Raghunandan Rao, Special Commissioner Hanmanthu, Registrar Venkataramana, Director of Research Dr. Raghuram Reddy and others were present in the seminar.

Niranjan: Teach a lesson to anti-farmer Congress

Says Revanth's statement a humiliation of farmers

HANS NEWS SERVICE
WANAPARTHY

AGRICULTURE Minister Singireddy Niranjan Reddy on Tuesday called upon the people to teach a lesson to State Congress president Revanth Reddy for opposing free power supply to the farm sector, and termed his statement as humiliation to farmers of the State.

The Minister participated in the programme of BRS leaders who burned the effigy of TPC president Revanth Reddy at Ambedkar Chowrasta in Wanaparthy.

Speaking on the occasion, he said the agricultural sector was ignored by the Congress government due to insuf-

ficient power supply, which turned the state as hub of drought and led to the mass migration of people in search of livelihood in other States. After BRS formed government, the situation has improved due to the initiatives of KCR. He said that the answer to what would happen if Telangana comes is that we have taken the State to the level where the State is growing more rice than the entire country put together in Yashangi. He said that Telangana has become the crown jewel of the agricultural sector due to execution several irrigation projects, free electricity, Rythu Bandhu, Rythu Bhima and purchase of grain from farmers.

Their attitude towards the agriculture sector reveals that two and a half crore people in the state depend on agriculture for their livelihood, he said. 24 hours electricity source is used by the farmer according to his requirement.

The Congress leaders are speaking as economic experts as if it is a crime to supply power, as if they had uplifted the people during their rule, the Minister remarked.

Society should stop those who dare to speak against the farmers. They should be punished in the political field. Under KCR's leadership, we have developed agriculture to a level that farming has become a festival for farmers, he stated.

'Jago Kisan Jago' mass campaign flagged off

Honourable Minister of Agriculture and Co-operation of Telangana, Singireddy Niranjan Reddy flagged-off 10 mobile vans as part of ACFI's ambitious mass campaign 'Jago Kisan Jago' to raise awareness among farmers about the role of quality Agri-inputs (Agrochemicals) for Increasing Quality Yield and Income of Farmers and the significance of obtaining proper bills to ensure the purchase of quality Agri-inputs.

Minister flags off 10 vans to promote quality agri-inputs

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Agro Chem Federation of India organized a seminar on Agriculture Extension



Ahmedabad, Under the stewardship program Kisan Kalyan Karyakram ACFI organized a seminar on Agriculture Extension: Role of the Government and Industry. Speaking at the occasion, SHRI PARBAT B KHISTIRIYA, DY.DIR. OF AGRICULTURE highlighted the remarkable progress made by Gujarat across the agriculture sector. He spoke about the extensive Agricultural extension work that's being carried out in Gujarat at the Taluka level to reach & help each and every farmer. "We are facing a few difficulties in the implementation of Integrated Pest Management (IPM) practices as farmers got a preconceived notion about the correct way of farming and

they usually do not want to change so easily. But things are falling on the right track with regular farmers' awareness camps and meeting organized by the department," SHRI PARBAT B KHISTIRIYA said. Shri Parikshit Mundhra, Chairman, Governing Council, ACFI highlighted the organization's objective to work in the interest of the Farmers by educating them about the proper usage of Crop Protection Chemicals for higher yields and better quality of various crops with the appropriate use of agrochemicals involving the right dose, timely application, appropriate application methodology, and use of PPEs from the safety aspect.

એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયાએ અમદાવાદ, ગુજરાતમાં કૃષિ વિસ્તરણ: સરકાર અને ઉદ્યોગની ભૂમિકા પર એક સેમિનારનું આયોજન કર્યું

અમદાવાદ, ૧૯મી જુલાઈ-૨૦૨૩: સ્ટુઅર્ડશિપ પ્રોગ્રામ હેઠળ કિસાન કલ્યાણ કાર્યક્રમ એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયા એ કૃષિ વિસ્તરણ: સરકાર અને ઉદ્યોગની ભૂમિકા પર સેમિનારનું આયોજન કર્યું હતું. આ પ્રસંગે બોલતા શ્રી પરબત બી ખીસ્તીરીયા. ડી વાય .ડિરેક્ટર ઓફ એગ્રીકલ્ચર એ સમગ્ર કૃષિ ક્ષેત્રમાં ગુજરાતે કરેલી નોંધપાત્ર પ્રગતિને ઉજાગર કરી હતી. તેમણે દરેક ખેડૂત સુધી પહોંચવા અને મદદ કરવા માટે ગુજરાતમાં તાલુકા સ્તરે હાથ ધરાયેલા વ્યાપક કૃષિ વિસ્તરણ કાર્ય વિશે વાત કરી.

“અમે સંકલિત જંતુ વ્યવસ્થાપન (આઈપીએમ) પદ્ધતિઓના અમલીકરણમાં કેટલીક મુશ્કેલીઓનો સામનો કરી રહ્યા છીએ



કારણ કે ખેડૂતોને ખેતીની સાચી રીત વિશે પૂર્વધારણા મળી છે અને તેઓ સામાન્ય રીતે આટલી સરળતાથી બદલવા માંગતા નથી. પરંતુ વિભાગ દ્વારા આયોજિત નિયમિત ખેડૂતોની જાગૃતિ શિબિરો અને બેઠકોથી વસ્તુઓ યોગ્ય માર્ગ પર આવી રહી છે.” શ્રી પરબત બી ખીસ્તીરીયાએ જણાવ્યું

શ્રી ભાવેશ શાહ, મેનેજિંગ ડિરેક્ટર, જીએસપી કોપ સાયન્સ પ્રા. લિ.એ ઈન્ડસ્ટ્રીઝ ગુજરાત દ્વારા

કરવામાં આવતી ખેડૂત કેન્દ્રિત પ્રવૃત્તિઓ અને જાગૃતિ વિશે વાત કરી હતી. તે માત્ર એગ્રોકેમિકલ અને સારી પદ્ધતિઓના ઉપયોગની આસપાસ જ નથી, પરંતુ ઉદ્યોગ મંડળ ખેડૂતોના સ્વાસ્થ્ય અને સ્વચ્છતા માટે પણ કામ કરી રહ્યું છે.

શ્રી પરીક્ષિત મુંધરા, ગવર્નિંગ કાઉન્સિલ, એસીએફઆઈના ચેરમેન એ જણાવ્યું કે, “ખેડૂતોના હિતમાં કામ કરવાના સંગઠનના ઉદ્દેશ્યને ઉજાગર કરીને ઉચ્ચ ઉપજ માટે પાક સંરક્ષણ રસાયણોના યોગ્ય ઉપયોગ અને કૃષિ રસાયણોના યોગ્ય ઉપયોગ સાથે વિવિધ પાકોની વધુ સારી ગુણવત્તા વિશે શિક્ષિત કરી. યોગ્ય માત્રા, સમયસર ઉપયોગ, યોગ્ય એપ્લિકેશન પદ્ધતિ, અને સલામતીના પાસાથી પીપીઈ નો ઉપયોગ શીખવવામાં આવશે.

એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયાએ કૃષિ વિસ્તરણ પર સેમિનારનું આયોજન કર્યું

અમદાવાદ સ્ટુઅર્ડશિપ પ્રોગ્રામ હેઠળ કિસાન કલ્યાણ કાર્યક્રમ એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયા એ કૃષિ વિસ્તરણ: સરકાર અને ઉદ્યોગની ભૂમિકા પર સેમિનારનું આયોજન કર્યું હતું. પરબત બી ખીસ્તીરીયા. ડી વાય .ડિરેક્ટર ઓફ એગ્રીકલ્ચર એ સમગ્ર કૃષિ ક્ષેત્રમાં ગુજરાતે કરેલી નોંધપાત્ર પ્રગતિને ઉજાગર કરી હતી. તેમણે દરેક ખેડૂત સુધી પહોંચવા અને મદદ કરવા માટે ગુજરાતમાં તાલુકા સ્તરે વ્યાપક કૃષિ વિસ્તરણ સાધ્યું.

એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયાએ સેમિનારનું આયોજન કર્યું

સ્ટુઅર્ડશિપ પ્રોગ્રામ હેઠળ કિસાન કલ્યાણ કાર્યક્રમ એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયા એ કૃષિ વિસ્તરણ: સરકાર અને ઉદ્યોગની ભૂમિકા પર સેમિનારનું આયોજન કર્યું હતું. આ પ્રસંગે બોલતા શ્રી પરબત બી ખીસ્તીરીયા. ડી વાય .ડિરેક્ટર ઓફ એગ્રીકલ્ચર એ સમગ્ર કૃષિ ક્ષેત્રમાં ગુજરાતે કરેલી નોંધપાત્ર પ્રગતિને ઉજાગર કરી હતી. તેમણે દરેક ખેડૂત સુધી પહોંચવા અને મદદ કરવા માટે ગુજરાતમાં તાલુકા સ્તરે હાથ ધરાયેલા વ્યાપક કૃષિ વિસ્તરણ કાર્ય વિશે વાત કરી.

“અમે સંકલિત જંતુ વ્યવસ્થાપન (આઈપીએમ) પદ્ધતિઓના અમલીકરણમાં કેટલીક મુશ્કેલીઓનો સામનો કરી રહ્યા છીએ કારણ કે ખેડૂતોને ખેતીની સાચી રીત વિશે પૂર્વધારણા મળી છે અને તેઓ સામાન્ય રીતે આટલી

સરળતાથી બદલવા માંગતા નથી. પરંતુ વિભાગ દ્વારા આયોજિત નિયમિત ખેડૂતોની જાગૃતિ શિબિરો અને બેઠકોથી વસ્તુઓ યોગ્ય માર્ગ પર આવી રહી છે.” શ્રી પરબત બી ખીસ્તીરીયાએ જણાવ્યું

શ્રી ભાવેશ શાહ, મેનેજિંગ ડિરેક્ટર, જીએસપી કોપ સાયન્સ પ્રા. લિ.એ ઈન્ડસ્ટ્રીઝ ગુજરાત દ્વારા કરવામાં આવતી ખેડૂત કેન્દ્રિત પ્રવૃત્તિઓ અને જાગૃતિ વિશે વાત કરી હતી. તે માત્ર એગ્રોકેમિકલ અને સારી પદ્ધતિઓના ઉપયોગની આસપાસ જ નથી, પરંતુ ઉદ્યોગ મંડળ ખેડૂતોના સ્વાસ્થ્ય અને સ્વચ્છતા માટે પણ કામ કરી રહ્યું છે.

શ્રી પરીક્ષિત મુંધરા, ગવર્નિંગ કાઉન્સિલ, એસીએફઆઈના ચેરમેન એ જણાવ્યું કે, “ખેડૂતોના હિતમાં કામ કરવાના સંગઠનના ઉદ્દેશ્યને ઉજાગર કરીને ઉચ્ચ ઉપજ

માટે પાક સંરક્ષણ રસાયણોના યોગ્ય ઉપયોગ અને કૃષિ રસાયણોના યોગ્ય ઉપયોગ સાથે વિવિધ પાકોની વધુ સારી ગુણવત્તા વિશે શિક્ષિત કરી. યોગ્ય માત્રા, સમયસર ઉપયોગ, યોગ્ય એપ્લિકેશન પદ્ધતિ, અને સલામતીના પાસાથી પીપીઈ નો ઉપયોગ શીખવવામાં આવશે. કૃષિ વિસ્તરણ સેવા ખેડૂતોને કોઈપણ કૃષિ મુદ્દાઓ પર તકનીકી સહાય પૂરી પાડે છે. તે તેમને આવશ્યક ઈનપુટ્સ અને સેવાઓ પૂરી પાડવા માટે કામ કરે છે જે તેમના કૃષિ ઉત્પાદનને ટેકો આપે છે અને તેમાં વધારો કરે છે. શ્રેષ્ઠ ઈનપુટ્સ સાથે કૃષિ ઉત્પાદન વધારવામાં તે એક નિર્વિવાદ પરિબળ છે. વિસ્તરણ માત્ર ખેતીની ઉપજમાં વધારો કરતું નથી અને ખેડૂતોના જીવનધોરણમાં સુધારો કરે છે, તે રાષ્ટ્રીય વિકાસ કાર્યક્રમોમાં પણ ફાળો આપે છે.”

એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયાએ સરકાર અને ઉદ્યોગની ભૂમિકા પર એક સેમિનારનું આયોજન કર્યું

સ્ટુઅર્ડશિપ પ્રોગ્રામ હેઠળ કિસાન કલ્યાણ કાર્યક્રમ એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયા એ કૃષિ વિસ્તરણ: સરકાર અને ઉદ્યોગની ભૂમિકા પર સેમિનારનું આયોજન કર્યું હતું. આ પ્રસંગે બોલતા શ્રી પરબત બી ખીસ્તીરિયા. ડી વાય .ડિરેક્ટર ઓફ એગ્રીકલ્ચર એ સમગ્ર કૃષિ ક્ષેત્રમાં ગુજરાતે કરેલી નોંધપાત્ર પ્રગતિને ઉજાગર કરી હતી. તેમણે દરેક ખેડૂત સુધી પહોંચવા અને મદદ કરવા માટે ગુજરાતમાં તાલુકા સ્તરે હાથ ધરાયેલા વ્યાપક કૃષિ વિસ્તરણ કાર્ય વિશે વાત કરી. "અમે સંકલિત જંતુ વ્યવસ્થાપન (આઈપીએમ) પદ્ધતિઓના અમલીકરણમાં કેટલીક મુશ્કેલીઓનો સામનો કરી રહ્યા છીએ કારણ કે ખેડૂતોને ખેતીની સાચી રીત વિશે પૂર્વધારણા મળી છે અને તેઓ સામાન્ય રીતે આટલી સરળતાથી બદલવા માંગતા નથી. પરંતુ વિભાગ દ્વારા આયોજિત નિયમિત ખેડૂતોની જાગૃતિ શિબિરો અને બેઠકોથી વસ્તુઓ યોગ્ય માર્ગ પર આવી રહી છે." શ્રી પરબત બી ખીસ્તીરિયાએ જણાવ્યું

શ્રી ભાવેશ શાહ, મેનેજિંગ ડિરેક્ટર, જીએસપી કોપ સાયન્સ પ્રા. લિ.એ ઈન્ડસ્ટ્રીઝ ગુજરાત દ્વારા કરવામાં આવતી ખેડૂત કેન્દ્રિત

પ્રવૃત્તિઓ અને જાગૃતિ વિશે વાત કરી હતી. તે માત્ર એગ્રોકેમિકલ અને સારી પદ્ધતિઓના ઉપયોગની આસપાસ જ નથી, પરંતુ ઉદ્યોગ મંડળ ખેડૂતોના સ્વાસ્થ્ય અને સ્વચ્છતા માટે પણ કામ કરી રહ્યું છે. શ્રી પરીક્ષિત મુંધરા, ગવર્નિંગ કાઉન્સિલ,

એસીએફઆઈના ચેરમેન એ જણાવ્યું કે, "ખેડૂતોના હિતમાં કામ કરવાના સંગઠનના ઉદ્દેશ્યને ઉજાગર કરીને ઉચ્ચ ઉપજ માટે પાક સંરક્ષણ રસાયણોના યોગ્ય ઉપયોગ અને કૃષિ રસાયણોના યોગ્ય ઉપયોગ સાથે વિવિધ પાકોની વધુ સારી ગુણવત્તા વિશે શિક્ષિત કરી. યોગ્ય માત્રા, સમયસર ઉપયોગ, યોગ્ય એપ્લિકેશન પદ્ધતિ, અને સલામતીના પાસાથી પીપીઈ નો ઉપયોગ શીખવવામાં આવશે. કૃષિ વિસ્તરણ સેવા ખેડૂતોને કોઈપણ કૃષિ મુદ્દાઓ પર તકનીકી સહાય પૂરી પાડે છે. તે તેમને આવશ્યક ઈનપુટ્સ અને સેવાઓ પૂરી પાડવા માટે કામ કરે છે જે તેમના કૃષિ ઉત્પાદનને ટેકો આપે છે અને તેમાં વધારો કરે છે. શ્રેષ્ઠ ઈનપુટ્સ સાથે કૃષિ ઉત્પાદન વધારવામાં તે એક નિર્વિવાદ પરિણામ છે. વિસ્તરણ માત્ર ખેતીની ઉપજમાં વધારો કરતું નથી અને ખેડૂતોના જીવનધોરણમાં સુધારો કરે

છે, તે રાષ્ટ્રીય વિકાસ કાર્યક્રમોમાં પણ ફાળો આપે છે." એસીએફઆઈ ના ડાયરેક્ટર જનરલ ડો. કલ્યાણ ગોસ્વામીએ જણાવ્યું કે, "વિસ્તરણના કામો માટે ગ્રામીણ વિસ્તારો સુધી પહોંચવામાં પડતી મુશ્કેલીઓ વિશે વાત કરી. "ભારતમાં ૧૩૮ મિલિયન કૃષિ હોલિડેંગ છે, જેમાંથી લગભગ ૮૫ ટકા નાના અને સીમાંત ખેડૂતો છે. કૃષિ વિસ્તરણ પ્રણાલી ખેડૂતના ખેતરમાં સંશોધન પ્રયોગશાળાઓ વચ્ચેના અંતરને દૂર કરવા માટે માનવામાં આવે છે

કેમ ફેડરેશન ઓફ ઈન્ડિયાએ અમદાવાદ, ગુજરાતમાં કૃષિ વિસ્તરણ અને ઉદ્યોગની ભૂમિકા પર એક સેમિનારનું આયોજન

અમદાવાદ, સ્ટુઅર્ડશિપ પ્રોગ્રામ હેઠળ કલ્યાણ કાર્યક્રમ એગ્રો કેમ ઈન્ડિયા એ કૃષિ વિસ્તરણ: સરકાર અને ઉદ્યોગની ભૂમિકા પર સેમિનારનું આયોજન કર્યું આ પ્રસંગે બોલતા શ્રી પરબત બી ખીસ્તીરિયા. ડી વાય .ડિરેક્ટર ઓફ એગ્રીકલ્ચર એ સમગ્ર કૃષિ ક્ષેત્રમાં ગુજરાતે કરેલી નોંધપાત્ર પ્રગતિને ઉજાગર કરી હતી. તેમણે દરેક ખેડૂત પહોંચવા અને મદદ કરવા માટે તાલુકા સ્તરે હાથ ધરાયેલા વ્યાપક કૃષિ વિસ્તરણ કાર્ય વિશે વાત કરી. "અમે સંકલિત જંતુ વ્યવસ્થાપન (આઈપીએમ) પદ્ધતિઓના અમલીકરણમાં કેટલીક મુશ્કેલીઓનો સામનો કરી રહ્યા છીએ કારણ કે ખેડૂતોને ખેતીની સાચી રીત વિશે પૂર્વધારણા મળી છે અને તેઓ સામાન્ય રીતે આટલી સરળતાથી બદલવા માંગતા નથી. પરંતુ વિભાગ દ્વારા આયોજિત નિયમિત ખેડૂતોની જાગૃતિ શિબિરો અને બેઠકોથી વસ્તુઓ યોગ્ય માર્ગ પર આવી રહી છે." શ્રી પરબત બી ખીસ્તીરિયાએ જણાવ્યું

શ્રી ભાવેશ શાહ, મેનેજિંગ ડિરેક્ટર, જીએસપી કોપ સાયન્સ પ્રા. લિ.એ ઈન્ડસ્ટ્રીઝ ગુજરાત દ્વારા કરવામાં આવતી ખેડૂત કેન્દ્રિત પ્રવૃત્તિઓ અને જાગૃતિ વિશે

એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયાએ અમદાવાદ, ગુજરાતમાં કૃષિ વિસ્તરણ: સરકાર અને ઉદ્યોગની ભૂમિકા પર એક સેમિનારનું આયોજન કર્યું

સ્ટુઅર્ડશિપ પ્રોગ્રામ હેઠળ કિસાન કલ્યાણ કાર્યક્રમ એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયા એ કૃષિ વિસ્તરણ: સરકાર અને ઉદ્યોગની ભૂમિકા પર સેમિનારનું આયોજન કર્યું હતું. આ પ્રસંગે બોલતા શ્રી પરબત બી ખીસ્તીરીયા. ડી વાય .ડિરેક્ટર ઓફ એગ્રીકલ્ચર એ સમગ્ર કૃષિ ક્ષેત્રમાં ગુજરાતે કરેલી નોંધપાત્ર પ્રગતિને ઉજાગર કરી હતી. તેમણે દરેક ખેડૂત સુધી પહોંચવા અને મદદ કરવા માટે ગુજરાતમાં તાલુકા સ્તરે હાથ ધરાયેલા વ્યાપક કૃષિ વિસ્તરણ કાર્ય વિશે વાત કરી. “અમે સંકલિત જંતુ વ્યવસ્થાપન (આઈપીએમ) પદ્ધતિઓના અમલીકરણમાં કેટલીક મુશ્કેલીઓનો સામનો કરી રહ્યા છીએ કારણ કે ખેડૂતોને ખેતીની સાચી રીત વિશે પૂર્વધારણા મળી છે અને તેઓ સામાન્ય રીતે આટલી સરળતાથી બદલવા માંગતા નથી. પરંતુ વિભાગ દ્વારા આયોજિત નિયમિત ખેડૂતોની જાગૃતિ શિબિરો અને બેઠકોથી વસ્તુઓ યોગ્ય માર્ગ પર આવી રહી છે.” શ્રી પરબત બી ખીસ્તીરીયાએ જણાવ્યું શ્રી ભાવેશ શાહ, મેનેજિંગ ડિરેક્ટર, જીએસપી કોપ સાયન્સ પ્રા. લિ.એ ઈન્ડસ્ટ્રીઝ ગુજરાત દ્વારા કરવામાં આવતી ખેડૂત કેન્દ્રિત પ્રવૃત્તિઓ અને જાગૃતિ વિશે વાત કરી હતી. તે માત્ર એગ્રોકેમિકલ અને સારી પદ્ધતિઓના ઉપયોગની આસપાસ



જ નથી, પરંતુ ઉદ્યોગ મંડળ ખેડૂતોના સ્વાસ્થ્ય અને સ્વચ્છતા માટે પણ કામ કરી રહ્યું છે. શ્રી પરીક્ષિત મુંધરા, ગવર્નિંગ કાઉન્સિલ, એસીએફઆઈના ચેરમેન એ જણાવ્યું કે, “ખેડૂતોના હિતમાં કામ કરવાના સંગઠનના ઉદ્દેશ્યને ઉજાગર કરીને ઉચ્ચ ઉપજ માટે પાક સંરક્ષણ રસાયણોના યોગ્ય ઉપયોગ અને કૃષિ રસાયણોના યોગ્ય ઉપયોગ સાથે વિવિધ પાકોની વધુ સારી ગુણવત્તા વિશે શિક્ષિત કરી. યોગ્ય માત્રા, સમયસર ઉપયોગ, યોગ્ય એપ્લિકેશન પદ્ધતિ, અને સલામતીના પાસાથી પીપીઈ નો ઉપયોગ શીખવવામાં આવશે. કૃષિ વિસ્તરણ સેવા ખેડૂતોને કોઈપણ કૃષિ મુદ્દાઓ પર તકનીકી સહાય પૂરી પાડે છે. તે તેમને આવશ્યક ઈનપુટ્સ અને સેવાઓ પૂરી પાડવા માટે કામ કરે છે જે તેમના કૃષિ ઉત્પાદનને ટેકો આપે છે અને તેમાં

વધારો કરે છે. શ્રેષ્ઠ ઈનપુટ્સ સાથે કૃષિ ઉત્પાદન વધારવામાં તે એક નિર્વિવાદ પરિબળ છે. વિસ્તરણ માત્ર ખેતીની ઉપજમાં વધારો કરતું નથી અને ખેડૂતોના જીવનધોરણમાં સુધારો કરે છે, તે રાષ્ટ્રીય વિકાસ કાર્યક્રમોમાં પણ ફાળો આપે છે.” એસીએફઆઈ ના ડાયરેક્ટર જનરલ ડૉ. કલ્યાણ ગોસ્વામીએ જણાવ્યું કે, “વિસ્તરણના કામો માટે ગ્રામીણ વિસ્તારો સુધી પહોંચવામાં પડતી મુશ્કેલીઓ વિશે વાત કરી. “ભારતમાં ૧૩૮ મિલિયન કૃષિ હોલ્ડિંગ છે, જેમાંથી લગભગ ૮૫ ટકા નાના અને સીમાંત ખેડૂતો છે. કૃષિ વિસ્તરણ પ્રણાલી ખેડૂતના ખેતરમાં સંશોધન પ્રયોગશાળાઓ વચ્ચેના અંતરને દૂર કરવા માટે માનવામાં આવે છે પરંતુ જાહેર વિસ્તરણ સેવાઓ ભારતમાં સંલગ્ન ક્ષેત્રોને અવગણીને પાકપાલન તરફ ખૂબ જ વિચલિત છે.”

એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયાએ અમદાવાદ, ગુજરાતમાં કૃષિ વિસ્તરણ: સરકાર અને ઉદ્યોગની ભૂમિકા પર એક સેમિનારનું આયોજન કર્યું

અમદાવાદ, ૧૯મી જુલાઈ-૨૦૨૩: સ્ટુઅર્ડશિપ પ્રોગ્રામ હેઠળ કિસાન કલ્યાણ કાર્યક્રમ એગ્રો કેમ ફેડરેશન ઓફ ઈન્ડિયા એ કૃષિ વિસ્તરણ: સરકાર અને ઉદ્યોગની ભૂમિકા પર સેમિનારનું આયોજન કર્યું હતું. આ પ્રસંગે બોલતા શ્રી પરબત બી ખીસ્તીરીયા. ડી વાય .ડિરેક્ટર ઓફ એગ્રીકલ્ચર એ સમગ્ર કૃષિ ક્ષેત્રમાં ગુજરાતે કરેલી નોંધપાત્ર પ્રગતિને ઉજાગર કરી હતી. તેમણે દરેક ખેડૂત સુધી પહોંચવા અને મદદ કરવા માટે ગુજરાતમાં તાલુકા સ્તરે હાથ ધરાવેલા વ્યાપક કૃષિ વિસ્તરણ કાર્ય વિશે વાત કરી. "અમે સંકલિત જંતુ વ્યવસ્થાપન (આઈપીએમ)



પદ્ધતિઓના અમલીકરણમાં કેટલીક મુશ્કેલીઓનો સામનો કરી રહ્યા છીએ કારણ કે ખેડૂતોને ખેતીની સાચી રીત વિશે પૂર્વધારણા મળી છે અને તેઓ સામાન્ય રીતે આટલી સરળતાથી બદલવા માંગતા નથી. પરંતુ વિભાગ દ્વારા આયોજિત નિયમિત ખેડૂતોની જાગૃતિ શિબિરો અને બેઠકોથી વસ્તુઓ યોગ્ય માર્ગ પર આવી રહી છે." શ્રી પરબત બી ખીસ્તીરીયાએ જણાવ્યું શ્રી ભાવેશ શાહ, મેનેજિંગ ડિરેક્ટર, જીએસપી કોપ સાયન્સ પ્રા. લિ.એ ઈન્ડસ્ટ્રીઝ ગુજરાત દ્વારા કરવામાં આવતી ખેડૂત કેન્દ્રિત પ્રવૃત્તિઓ અને જાગૃતિ વિશે વાત કરી હતી.

તે માત્ર એગ્રોકેમિકલ અને સારી પદ્ધતિઓના ઉપયોગની આસપાસ જ નથી, પરંતુ ઉદ્યોગ મંડળ ખેડૂતોના સ્વાસ્થ્ય અને સ્વચ્છતા માટે પણ કામ કરી રહ્યું છે. શ્રી પરીક્ષિત મુંધરા, ગવર્નિંગ કાઉન્સિલ, એસીએફઆઈના ચેરમેન એ જણાવ્યું કે, "ખેડૂતોના હિતમાં કામ કરવાના સંગઠનના ઉદ્દેશ્યને ઉજાગર કરીને ઉચ્ચ ઉપજ માટે પાક સંરક્ષણ રસાયણોના યોગ્ય ઉપયોગ અને કૃષિ રસાયણોના યોગ્ય ઉપયોગ સાથે વિવિધ પાકોની વધુ સારી ગુણવત્તા વિશે શિક્ષિત કરી. યોગ્ય માત્રા,

સમયસર ઉપયોગ, યોગ્ય એપ્લિકેશન પદ્ધતિ, અને સલામતીના પાસાથી પીપીઈ નો ઉપયોગ શીખવવામાં આવશે. કૃષિ વિસ્તરણ સેવા ખેડૂતોને કોઈપણ કૃષિ મુદ્દાઓ પર તકનીકી સહાય પૂરી પાડે છે. તે તેમને આવશ્યક ઈનપુટ્સ અને સેવાઓ પૂરી પાડવા માટે કામ કરે છે જે તેમના કૃષિ ઉત્પાદનને ટેકો આપે છે અને તેમાં વધારો કરે છે. શ્રેષ્ઠ ઈનપુટ્સ સાથે કૃષિ ઉત્પાદન વધારવામાં તે એક નિર્વિવાદ પરિબળ છે. વિસ્તરણ માત્ર ખેતીની ઉપજમાં વધારો કરતું નથી અને ખેડૂતોના જીવનધોરણમાં સુધારો કરે છે, તે રાષ્ટ્રીય વિકાસ કાર્યક્રમોમાં પણ ફાળો આપે છે." એસીએફઆઈ ના ડાયરેક્ટર જનરલ ડૉ. કલ્યાણ ગોસ્વામીએ જણાવ્યું કે, "વિસ્તરણના કામો માટે ગ્રામીણ વિસ્તારો સુધી પહોંચવામાં પડતી મુશ્કેલીઓ વિશે વાત કરી. "ભારતમાં ૧૩૮ મિલિયન કૃષિ હોલિડિંગ છે, જેમાંથી લગભગ ૮૫ ટકા નાના અને સીમાંત ખેડૂતો છે. કૃષિ વિસ્તરણ પ્રણાલી ખેડૂતના ખેતરમાં સંશોધન પ્રયોગશાળાઓ વચ્ચેના અંતરને દૂર કરવા માટે માનવામાં આવે છે પરંતુ જાહેર વિસ્તરણ સેવાઓ ભારતમાં સંલગ્ન ક્ષેત્રોને અવગણીને પાકપાલન તરફ ખૂબ જ વિચલિત છે."

Agro Chem Federation of India organized a seminar on Agriculture Extension: Role of the Government and Industry in Ahmedabad, Gujarat

Ahmedabad

: Under the stewardship program Kisan Kalyan Karyakram ACFI organized a seminar on Agriculture Extension: Role of the Government and Industry

Speaking at the occasion, SHRI PARBAT B KHISTIRIYA, DY.DIR. OF AGRICULTURE highlighted the remarkable progress made by Gujarat across the agriculture sector. He spoke about the extensive Agricultural



extension work that's being carried out in Gujarat at the Taluka level to reach & help each and every farmer.

Shri Bhavesh Shah, Managing Director, GSP Crop Science Pvt. Ltd. talked about the farmer-

centric activities and awareness being done by the Industries Gujrat. It's not only around the use of Agrochemical and good practices, but the industry fraternity is also working for the health and hygiene of the farmers.

Inventory, demand woes hit agrochemical stocks

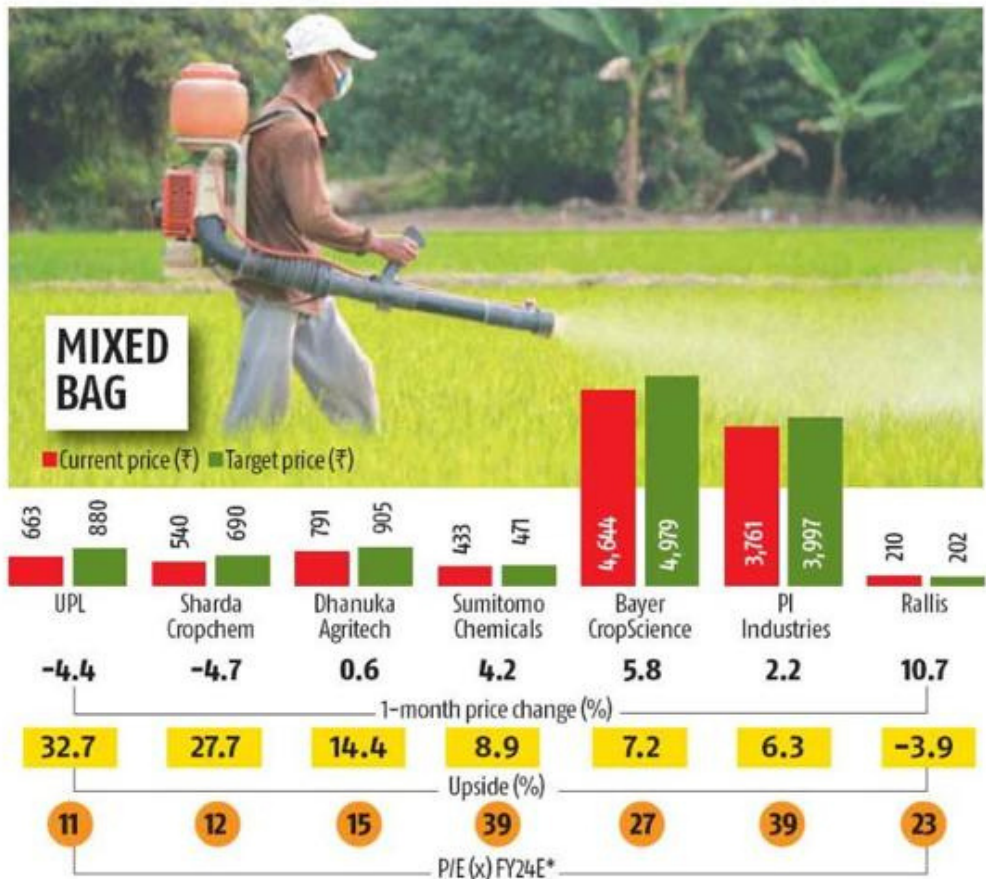
Street remains cautious due to lower price realisations, El Niño impact

RAM PRASAD SAHU
Mumbai, 7 July

Headwinds that hit the prospects of agrochemical companies in the second half of 2022-23 (H2FY23) are likely to continue in the June quarter (Q1FY24). After 4 per cent revenue growth year-on-year (YoY) in the March quarter, which missed estimates, aggregate sales growth for the firms in Q1FY24 is expected to fall by 1 per cent as compared to Q1FY23.

Himanshu Binani, an analyst with Prabhudas Lilladher Research, expects the performance of agrochemical companies to be muted primarily due to sluggish demand in both domestic and global markets, higher carry-over inventory from last year (FY23) leaving limited room for further inventory push and provisioning of high cost inventory amid falling raw material cost scenario.

The impact on the operating and net profit for the sector was sharp in Q4FY23. Operating profit fell by 16 per cent YoY as compared to the mid-single digit estimates by analysts. The profit print in Q1FY24 too could reflect the muted top line performance. Agricultural input majors are expected to report a 10 per cent decline in operating profit. Barring PI Industries, which is expected to post a 21 per cent growth in operating profit and an 80 basis point expansion in margins, the dip in margin performance for the rest of the sector varies between 60 and 300 basis points. While sales volumes are expected to be in mid-single digits, profitability has been impacted by inferior product mix and provisioning due to high cost inventory. These pressures may impact



Note: *E is estimates ; Source: Exchanges, Bloomberg

Compiled by BS Research Bureau

DRY SPELL

- Agrochemical companies' performance to be muted primarily due to sluggish demand
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- Profit print in Q1FY24 too could reflect muted top line showing
- Agricultural input majors are expected to report a 10% decline in operating profit
- Profitability hit by inferior product mix and provisioning due to high-cost inventory

the performance for the rest of the year as well.

"In the near term there are few headwinds like high channel inventory, declining input prices, higher supplies from China and the El Niño effect which may result in lower sales growth with pressure on operating profitability margins in FY24," says Hardik Shah, director, CareEdge Ratings. While the operating profitability mar-

gin for agrochemicals remained healthy, at 14 per cent to 15 per cent in FY21 and FY22, it moderated to 13 per cent in FY23 due to the impact of the decline in input prices leading to inventory losses, especially in H2FY23. Going ahead, in line with the likely moderation in sales growth in FY24, operating profitability is also expected to remain under pressure in the near term, says

CareEdge Ratings.

Brokerages such as Prabhudas Lilladher remain cautious on the sector given delayed monsoons with looming fears of El Niño in second half of the monsoon season (mid-August to September), pressure on price realisations amid falling raw materials cost scenario (generics) and higher base of last year.

Exemption for agri land conversion for industries

TEAM TOI

Seeking to reach out to the farming community, Siddaramaiah proposed to increase the cap on medium and long-term farm loans from Rs 10 lakh to Rs 15 lakh (at 3% interest) and exempted land-use conversion on up to two acres of agricultural land if it is for the purpose of establishing new industries.

He also decided to continue with the proposal of the previous government to increase the limit of the interest-free loan from Rs 3 lakh to Rs 5 lakh.

He said his government intends to disburse Rs 25,000 crore in loans to more than 35 lakh farmers this fiscal year. However, rather than increasing the loan limit, most farmers want more from the farming community to be eligible for these loans. They say 50% of farmers are not covered under loan schemes of either the Union or state government.

The CM also proposed interest subsidy of up to 7% on bank loans up to Rs 20 lakh for the construction of godowns to store produce. This aside, farmers in hilly regions will get a loan up to Rs 7 lakh at 4% interest to purchase vehicles to transport farm produce and equipment. "The scheme will help farmers in Shivamogga, Chikkamagaluru, Kodagu, Hassan, Dakshina Kannada, Udupi, and Uttara Kannada districts," the CM said.

He also proposed amending the Karnataka Land Revenue Act to allow people to

Total allocation

₹28,891cr

(includes allocation for agriculture, horticulture, fisheries, cooperation and irrigation departments)

Other proposals

➤ Navodyama scheme for value addition of agricultural produce and to encourage innovation in agricultural marketing

➤ Financial assistance to farmer-producer organisations (FROs) in the form of a 4% interest subsidy on loans up to Rs 20 lakh each availed from banks and cooperative societies

➤ Set up 100 high-tech harvester hubs at a cost of Rs 50 crore

➤ Upgrade the silk cocoon market at Shidlaghatta at a cost of Rs 75 crore



convert agricultural land for non-agricultural purposes by way of self-declaration.

Siddaramaiah also proposed to relaunch his pet programme, Krishi Bhagya, under which farmers are given financial assistance to dig agriculture ponds in their fields to store water. He also announced the relaunch of the Anugraha scheme, which seeks to provide financial assistance of Rs 5,000 for sheep and goats and Rs 10,000 for cows, buffalo, and bulls that die in natural calamities.

No funds for irrigation

Siddaramaiah accused the previous BJP regime of beginning work on 1,274 irrigation projects worth Rs 25,548 crore in the last six months of its regime, although the average

annual budgetary allocation was only Rs 20,000 crore for the department.

"Due to this gross fiscal indiscipline of the previous government, it has become almost impossible to take up new projects," he said, adding that over Rs 1 lakh crore is required to complete the approved project as of April 1, 2023. He also blamed the Bommai government for a steep escalation in the Yettinahole project. "The cost was escalated to Rs 23,252 crore from Rs 12,912 crore," he said.

However, he proposed to complete 10 irrigation schemes to irrigate 25,948 hectares this fiscal year, besides seeking speedy approval from the centre for Meke datu and Mahadayi drinking water projects.

Augmenting the agriculturists

Nexus of Good

Through facilitating the convergence of rural communities and utilising available resources, Rampur Krishak FPC has been boosting farmers' financial and nutritional statuses



ANIL SWARUP

The coronavirus has impacted industrial production — both in the country and worldwide. However, even during this period, the agriculture sector did not wilt. With a large number of people in India still engaged in agriculture, it continues to be a significant source of employment and makes substantial contributions to the GDP, both directly and indirectly. There are a number of steps that have been taken by field-level civil servants to promote agriculture. One such effort was made by a District Magistrate of Rampur in Uttar Pradesh, Anjaneya Kumar Singh.

Recognising the importance of agriculture, Anjaneya visualised an idea that later became known as Farmer Producers Company (FPC). The idea was fleshed out through talks with farmers, and meetings were initiated for this purpose in March 2019. The first Rampur Krishak FPC was formed in July 2020, with 10 directors, aiming to create a cluster of farmers involved in diversified farming, storage, high-value grains, local market availability, vocal-for-local, marketing and branding, self-reliance of farmers, biodiversity, and technical training. Hence, all aspects of the value chain were taken into account, with the initial focus on storage and marketing.

Approximately 1,200 meetings were held in different villages. Initially, there were only four farmer members, guided by the basic mantra of Trust, Transparency, and Togetherness (3T). Meeting the trust of farmer members and resolving their problems posed a significant challenge. As a first step, a solar-powered cold storage facility was established in collaboration with the farmer members and directors to ensure the purity and preservation of produce for an extended period. The farmers united to negotiate fair prices for their produce in the mar-



Solar-powered cold storage facility ensures the purity and preservation of produce for an extended period IMAGE COURTESY: RAMPUR KRISHAK FPC/ TWITTER

ket. Subsequently, four more solar-powered cold stores were established, with a total capacity of 100 metric tonnes. This included a 12 MT mobile solar-powered cold store, which was inaugurated by the Chief Minister of the Government of Uttar Pradesh.

In addition to the above, a 50 MT silo was constructed in 2020 to enhance regular storage capacity. **Aahar se Upchaar:** Several problems have arisen due to the widespread use of chemicals in agricultural food products, impacting their nutritional value. Being sensitive to the nutrition and health of children, teenage girls and women, Anjaneya initiated a campaign to raise awareness among children, teenage girls, and women about diverse farming. Thus, in November 2020, the campaign "Aahar Se Upchaar" was launched. The campaign promoted chemical-free and healthy products such as Millets, Kodo, Quinoa, Black wheat, Mushroom, Amla, Linseed, Sesame, Moringa, and encouraged their incorporation in appropriate quantities to prepare nutri-

tious food for children. A large number of children were provided with chemical-free product kits, which were funded by the "Child Care and Protection Fund" created on the basis of voluntary donations at the district level. After using the nutrition kit for 3 months, most of the children showed improvement and achieved the desired nutritional levels. Based on these positive results, the Shambhav Abhiyan was launched at the district level in 2021, targeting 2,000 SAM children who were provided with nutrition kits. Approximately 94 per cent of these children showed improvement after consuming the nutrition kit for three months. The funding for these nutrition kits was provided by the Gram Panchayat through the 15th Finance Commission, and NAB Kisan (NABARD) also offered financial assistance to Rampur Krishak FPC for the kit preparation.

The key to any successful idea lies in its sustainability and replicability. The beauty of the initiative in Rampur is that, due to its impact, it has been continued by Anjaneya's

successor. The present District Magistrate, Ravindra Kumar Mander, has taken it a step further by giving a comprehensive dimension to this innovation, naming it as an initiative of 'Samvardhan-Suposhit Rampur ek Pahal', and publicising it throughout the district. It was also deemed necessary to gain support from senior officers of the State government. Therefore, a presentation of this campaign was made before the Chief Secretary of Uttar Pradesh. Not only did it receive unequivocal praise, but it was also suggested to implement this initiative in other districts of the state. Thus, the initiative received endorsement at the state level.

What began as an experiment in the District of Rampur is now being implemented through 22 FPCs in eight other districts of Uttar Pradesh. This initiative aims to assist malnourished children, leading to rapid and improved nutritional management and creating greater awareness of malnutrition within the community. Traditionally, malnourished children did not receive adequate nutrition

from the available diet, and it took a long time to improve their nutritional levels. However, the Samvardhan-Suposhit initiative addresses these issues effectively. Furthermore, this innovation does not require additional government financing.

For their contribution to this innovation, Rampur Krishak FPC has received awards from various organisations such as ICAR Hyderabad.

What Anjaneya initiated in Rampur, which was subsequently strengthened by Ravindra and his team, serves as an excellent example of Nexus of Good. The model is already being scaled through public-private partnerships, resulting in increased income for farmers and remarkable success in nutritional management. Unlike many government programs, this initiative does not require a significant financial commitment. It is an effort to bring together rural communities and utilise existing resources to demonstrate the benefits for all stakeholders, both financially and nutritionally.

Views expressed are personal

What began as an experiment in the District Rampur is now being implemented through 22 FPCs in eight other districts of Uttar Pradesh

Climate Smart Agriculture aims to de-risk farmers

NEW DELHI

ITC, a diversified Indian conglomerate, has released its Sustainability and Integrated Report 2023 titled "Shaping the Future".

In his message, ITC Chairman Sanjiv Puri reiterated the significant role businesses must play in shaping a greener and cleaner future for the world.

This report marks two decades of sustainability reporting for ITC.

The company's innovative business models have posi-

The program concentrates on promoting high-yielding and climate-resilient crop varieties, adopting suitable mechanisation practices

tioned it as the sole enterprise worldwide, comparable in size and scope, to have achieved and maintained the three crucial global environmental sustainability indices.

These indices include being 'water positive' for 21 years, 'carbon positive' for 18 years, and 'solid waste recycling positive' for 16 years.

By adhering to this approach, ITC and its various business divisions have been

able to support sustainable livelihoods for over six million individuals.

ITC is currently acknowledged as a global leader in sustainability, thanks to its numerous accomplishments and its commitment to innovative, inclusive, and impactful initiatives.

The company has consistently maintained an 'AA' rating by MSCI-ESG for five consecutive years, solidifying

its position as a sustainability exemplar on a global scale.

Furthermore, ITC has been included in the Dow Jones Sustainability Emerging Markets Index and has received an 'A-' rating at the Leadership Level for Climate Change, Supply Chain, and Water Security by CDP.

The ITC report acknowledges the prevailing state of permacrisis and uncertainty in our world today.

Referring to 2023 as the year of 'polycrisis,' the World Economic Forum has highlighted critical areas such as climate change, food and energy shortages, and more, signifying that the world is at a pivotal moment.

The recent IPCC Synthesis Report on Climate Change has warned that India is among the countries that face the highest risk from climate change related events like heat waves to cyclones and displacement. In this context, enterprises with their immense and multi-di-



mensional resources can play a significant role in alleviating such challenges.

ITC, inspired by its credo of "Nation First: Sab Saath Badhein", has placed sustainable and inclusive growth at the heart of its corporate strategy under the leadership

of Chairman Sanjiv Puri.

With a focus on responsible competitiveness, ITC is actively pursuing Sustainability 2.0, an agenda that re-defines sustainability in the face of pressing challenges like climate change and social inequality.

Syngenta unveils crop protection solutions for paddy, cotton farmers

Our Bureau

Bengaluru

Syngenta India has unveiled its new-age plant protection solutions — Incipio and Simodis — for paddy, cotton and vegetable farmers. These advanced products, based on the innovative PLINAZOLIN® technology, offer effective defence against various pests, ensuring improved yields and crop quality. These are developed to efficiently meet the challenges arising from climate change and pest resistance, which are responsible for major crop losses every year, the company said in a statement.

Incipio, a high-end insecticide effectively combats new species of stem borers and leaf folders attack on paddy crops, while Simodis offers a reliable solution to cotton and vegetables against sucking and lepidoptera insects such but-

terflies and moths and is especially efficient on vegetables such as hot pepper, brinjal, cotton, groundnut, soyabean and red gram (arhar).

YIELD LOSSES

Pests can lead to yield losses ranging from 30-40 per cent if not controlled effectively at the right time. “Incipio and Simodis are our latest solutions to help solve many pest problems of our farmers. We are happy to bring alternative solutions which will provide effective, longer duration control from resistant pests,” said Mr Susheel Kumar, Country Head and Managing Director, Syngenta India.

KC Ravi, Chief Sustainability Officer, Syngenta India said, “Understanding the dire need for comprehensive solutions, Syngenta India has introduced Incipio and Simodis, specifically formulated to address the unique challenges faced by paddy and vegetable

growers in the country and make the country the largest producer and exporter for many other vegetables.”

The new products provide broad spectrum, effective and long-lasting control against multiple pests, which, in turn helps reduce number of applications.

“With the launch of our new products, we aim to provide Indian farmers with reliable and effective plant protection solutions, enabling them to boost yields, improve crop quality, save on labour cost and secure their livelihoods”, added Susheel.

Based on PLINAZOLIN® technology, a new active ingredient that protects plant health with outstanding performance on a wide range of harmful pests that affect key crops, Incipio and Simodis have a very good tank mix profile and can be mixed with other fungicides if needed, the company said.

After Amazon, ICAR plans to rope in Flipkart and Jio

Prabhudatta Mishra
New Delhi

A month after signing an MoU with Amazon, the Indian Council of Agricultural Research (ICAR) plans to bring in other players such as Flipkart and Jio into extension activities with the objective of leveraging the technology for raising farmers' income. Amazon has also been asked by ICAR to prepare a roadmap for their next plan at the earliest so that it can be rolled out in Haryana and Maharashtra at the first stage.

“Once the multi-layer extension system starts, farmers will be more empowered with technology and know-

ledge, which will help in agriculture production,” US Gautam, deputy director general (extension) of ICAR, told *businessline*. He said ICAR is discussing with Flipkart and Jio how they can help farmers in extension activities.

He also said not only Krishi Vigyan Kendras (KVKs) but also the private sector can come and join the various extension programmes of ICAR.

Asked how the private sector being roped in by ICAR is different from what many new-age agritech companies are doing, Gautam said the initiative is to supplement what KVKs are already doing.

Gautam said ICAR has a

programme called Kisan Sarathi, which reaches out to 3 lakh farmers, whereas the country has over 11 crore small and marginal farmers. “KVKs and Sarathi-type programmes cannot reach all the farmers on their own,” he said. On the free-of-cost technology demonstration by KVKs, he said the private sector has to realise that the objective is to raise the income so that farmers become in a position to pay any fee.

MORE OPTIONS

The ICAR has been considering various options to bridge the knowledge gap so that what has been done in the laboratories reaches the

farmers in a format they can easily adopt, officials said. For instance, if Jio can provide data services to farmers, they can have access to view new technologies and their applications on the field, the officials said.

Last month, ICAR and Amazon Kisan signed an MoU to combine strengths and create synergy between the two organisations for guiding farmers in the scientific cultivation of crops for optimum yield and income, according to an official statement.

PILOT PROJECT

After two years of a pilot project in Pune, with the main support of two local KVKs,

ICAR decided to roll it out at the national level. Sources said that during the first stage of rollout in Haryana and Maharashtra, nine crops will be taken up, and Amazon will get all the produce tested for the presence of any chemical residue before selling it on its platform.

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Agri-tech poised for a big take-off

VINCENT FERNANDES

AIDED by an indigenous supply chain, military-civil convergence, robust skilling and digital financing mechanisms, drones can help Indian livelihoods take a quantum leap. Indian agriculture is going through a transformative phase where it is expected to feed a growing population while coping with the challenges of climate change, geopolitical tensions and stressed natural resources.

The agriculture sector has been marred by long-term challenges such as sub-optimal yield, eroding soil health, lack of irrigation, inefficient use of inputs, lack of post-harvest management structure and access to formal financial services.

Emerging fourth industrial revolution technologies can play a role in addressing these challenges.

A Ministry of Electronics and Information Technology (MeitY) report highlighted that digital tech-based agriculture can unlock further value of \$65 billion by 2025. The gross domestic product (GDP) impact of digital agriculture will be even larger. Drones are one such technology that is gaining prominence in the sector. Land mapping and agrochemical spraying are the most prominent use cases for drones in Indian agriculture. Other applications such as seeding, crop yield assessment and drone-based analytics hold significant potential. The early results have been promising. Agrochemical spraying has the potential to be widely used, considering that it saves the cost of inputs by 25-90%, minimizes skin exposure by 90% while boosting crop yield.

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Mapping is the second major use case with the potential to drive precision agriculture and reduce land disputes simultaneously. However, their implementation is still nascent, mainly

undertaken by corporate farming institutions or big farmers.

The drone-related policy landscape for India has been eased significantly since August 2021, with enabling mechanisms like the Production Linked Incentive scheme (PLI) and import bans paving the way for the domestic manufacturing sector. However, for drones to be widely accepted as a viable mechanization option, enabling infrastructure needs to be strengthened over and above these policies.

It is expected that the drone and drone components industry will attract \$50 billion of investment in the next few years. This flow of funds will be helpful to unlock the potential of the

drone sector and make them ubiquitous for Indian agriculture. Civil-military convergence can provide cutting-edge technologies and a better scale for the emerging drone industry.

Skill development and digital finance will be foundational building blocks for the industry - creating new livelihoods and spurring entrepreneurship. These interventions need to be complemented by a robust local supply chain, standard operating procedures (SoPs) and government support especially in awareness building, safety standards and promoting drones as-a-service.

As drones emerge as a transformational innovation for the agriculture sector, there is a need to design

and implement pilots at a smaller scale with clear indicators for outcome measurement, followed by rapid refinement and nationwide roll-out. If executed well, drones can help transform Indian agriculture and boost its GDP by 1-1.5%, create at least 500,000 new jobs and support the country in ushering in a new digital era of prosperity.

World Economic Forum (WEF), in its latest report, stated that drones have the potential to be the indicator of technology-led transformation of Indian agriculture.

India's agriculture sector provides livelihood to 8% of families and ensures food security to 1.3 billion people. Indian agriculture is not just significant for the domestic market but it is also a key component of the global food supply chain.

Food security challenges are compounded by nutritional security, self-sufficiency, ecological problems, climate change and sharp inflation. The farm sector faces challenges, including fragmented landholdings; inefficient usage of agricultural inputs; poor availability of credit and financial inclusion; lack of market access and poor post-harvest infra-

structure.

There are multiple uses for drones, including Pesticide and nutrient application; Mapping water spread area; Sampling water; Mapping macrophyte infestation; Aquaculture management practices

As per WEF, drone usage could reduce the cost of application by 20% and mitigate health hazards of manual work. It is also useful in promoting precision agriculture, thereby optimising input use. - Precision agriculture know-how and farm advisory services based on data sources can enable 15% increase in productivity.

The Agriculture Ministry provides grant up to Rs. 10 lakh to agricultural institutes for the purchase of drones. The need of the hour is to scale up drone use in the agriculture sector from the present 10,000 aerial vehicles. Civil-military engagement should be promoted to realise gains from cross-industry application of drones.

Consultations may be held with experienced strategic partners like Israel where AI-enabled drones are used for mapping plots, assessing crop damage, and even plucking only ripe apples.

ICAR-CTCRI to focus on developing climate-resilient crop varieties

The Hindu Bureau
THIRUVANANTHAPURAM

The ICAR-Central Tuber Crops Research Institute (CTCRI) will give more priority to developing climate-resilient tuber crop varieties in the country, says Himanshu Pathak, Secretary, Department of Agricultural Research and Education (DARE) & Director General, ICAR.

Addressing the media on the sidelines of a function organised to mark the 60th foundation day of CTCRI here on Saturday, Mr. Pathak said during the 2022-2023 year, 346 crop varieties were released by the institution across the country.

Of this, 255 crop varieties are climate resilient—some varieties are tolerant to high temperatures while others are drought- and flood-tolerant crops. Even as the country has been witnessing extreme climatic conditions, the main priority of the ICAR-CTCRI is to develop varieties and technologies tolerant to all types of extreme climatic conditions in the country, says Mr. Pathak. The project to improve the qualities of different crop varieties in terms of nutrient content, minerals and vitamins is under way. He also stressed the need for capacity development and to upskill farmers and students who research in va-

rious areas.

Mr. Pathak, the chief guest at the function, inaugurated a Farmer Facilitation Centre, Climate controlled plant growth facility, E-crop based smart fertigation system, Agri business Incubation (ABI) Centre, 'Diamond Jubilee Hall', and exhibition stalls.

As part of the diamond jubilee celebration, one variety of Cassava Mosaic Disease (CMD)-resistant cassava 'Sree kaveri' and two varieties of high-yielding taro varieties 'Sree Heera and Sree Telia' were also released.

In his inaugural address, the ICAR Director General also emphasised the role of ICAR as the base of Indian

agriculture and according to him, agriculture should not be considered just as an occupation, but also as a means to ensure food and nutritional security of the nation. He said the ICAR had taken three main initiatives such as certification of technologies, expanding the education in ICAR research institutes, and the need for close collaboration with private companies for technology development and commercialisation.

Seven progressive tuber crop farmers from the country were honoured at the function, while exhibitions by ICAR/State institutes for school children were also organised.

Pressure mounting to embrace sustainable practices AI can take agriculture to new highs, says WEF

New Delhi/Geneva, July 21: The agriculture sector in India can be transformed by promoting the use of artificial intelligence (AI) and other emerging technologies, according to a new World Economic Forum report.

Releasing the phase-1 report of 'agriculture advancement' the WEF said its AI for Agriculture Innovation (AI4AI) initiative has helped more than 7,000 chilli farmers get access to agritech services in the first phase.

These agritech services include AI-based advisories, soil testing, produce quality testing and e-commerce -- all in the project's pilot phase.

The state government plans to scale existing and



additional agritech services in phase II (from 2023 onwards) to 20,000 chilli and groundnut farmers in three districts. The digital public infrastructure will also be introduced in phase II, while in phase III (by 2025), the target is to reach 1,00,000 farmers in the state.

The project, taken up by the Telangana govern-

ment in collaboration with it, is being implemented by Digital Green (in consortium with three agritech startups) with support from the Bill & Melinda Gates Foundation.

The WEF said the project report can serve as a playbook for governments to enable their local agritech ecosystem and uplift smallholder farmers.

"As the urgency of the climate crisis becomes more evident and conflicts and natural calamities continue to devastate communities, threatening global food security, the industry is under mounting pressure to embrace sustainable practices and revamp its portfolios.

"Consequently, agriculture has evolved into a dynamic arena with investment opportunities and innovative solutions, making it an attractive domain for tech-savvy and entrepreneurial minds," the Forum said.

Use of AI and other emerging technologies have the potential to contribute to improving productivity and sustainability. They are often marked by fragmented infras, high costs of operations, lack of access to data and limited technical expertise.

The WEF described this project as an example of agriculture value chain transformation by focusing on agritech services delivery. —PTI

Farmers may stop sowing cotton as yields and prices slump in Tamil Nadu

M. Soundariya Preetha

COIMBATORE

Area under cotton cultivation in Tamil Nadu is likely to fall next sowing season as farmers harvesting cotton now struggle to get remunerative prices.

Selvakumar, who raised cotton on 1.5 acres in Tiruchengode area, said he spent ₹35,000 and earned just ₹15,000. The yield this year was just 200 kg an acre as against 11 quintals last year. The price had also dropped from ₹120 a kg last year to ₹70 a kg now. "We do not know if the fall in yield was due to pest attack or severe summer. But, at least 25% of farmers in our region will not sow cotton next year," he said.



Kannan, a farmer from Tiruvarur district, said that on Saturday the average price for cotton in that area was ₹64 a kg. Even a week or 10 days ago, the price was ₹55 a kg or less.

According to data available with the Indian Cotton Federation, almost 1.65 lakh hectares of land was under cotton cultivation in

the State and production was expected to be 6.5 lakh bales during the 2022-2023 cotton season (October to September).

Price support

An official of the CCI said that the new minimum support price (MSP) rates were declared for cotton season 2023-2024 and added that the Corporation would step in for MSP operations from day one (October 1), if necessary. "We have been told that at present, the prices are running at about ₹6,800 per quintal and in case of Cauvery delta region it was ₹6,400 to ₹ 6,500," the official said.

Ravichandra, a farmer from Nannilam, said the government should support

them to form farmer producer organisations and set up ginning mills in the cotton growing areas so that they get better prices. Further, the revised MSP that was implemented from October 1 should be advanced for the summer crop in Tamil Nadu where picking started in June.

V. Sathyanarayanan, State secretary for the Consortium of Indian Farmers' Associations, demanded steps to boost prices for cotton by-products so that farmers were not affected by the cotton price fluctuations.

The textile industry has sought a Technology Mission on cotton to boost yield and to help farmers get better prices.

Farmers turn to 'more profitable' fig farming

K Sandeep Kumar

ksandeep.kumar@liveindian.com

PRAYAGRAJ : Select farmers of Prayagraj region, especially in Fatehpur district, have moved on from their traditional crops like paddy, wheat and pulses, and begun fig (or anjeer) farming, which is helping them reap rich dividends.

These farmers are making use of technical as well as financial support in the form of a 'financial incentive' from the horticulture department.

As per its policy, the state government is not just providing them support in their efforts but also helping them earn much more than ever before. These farmers, through fig farming, are earning as much as Rs 10 lakh per acre against Rs 1 lakh to Rs 4 lakh they used to earn earlier, say officials. Presently, Fatehpur alone has fig farming taking place on around 11 acres of land by these farmers, they added.

One such farmer is Sarvesh Chandra Mishra of Fatehpur's Mawai Pathakpur village in the Prayagraj division.

"I have started cultivating Afghani species of figs instead of traditional farming for the past two years, and I have witnessed great results. My



Farmer Sarvesh Chandra Mishra in his field showing fig trees with fruits in his field..

HT PHOTO

income has more than doubled," he said with a smile.

Sarvesh says that he started fig cultivation on his 1-acre farmland.

"I opted for fig plants of Afghan Diana variety for their sturdiness and good fruit-yielding capacity. To make the produce more appealing, I used only cow dung manure for the crop at the suggestion of horticulture department officials, and this has proved greatly beneficial. I am earning around Rs 10 lakh from fig cultivation

on my 1-acre land," he said.

For this farming, he also received an incentive amount of Rs 90,600 from the state government. Seeing his success, other farmers of the area too have turned towards fig cultivation.

Another farmer involved in fig farming is Shiv Nandan, a resident of Pathakpur village in Fatehpur.

"I used to grow paddy and wheat like most farmers till just two years back. However, when I heard that anjeer farm-



Today, I am growing fig trees on 1.5-acre land that I own in my village and the last two harvests have yielded me four times the earnings that I made through traditional crops

SHIV NANDAN, Farmer

ing was proving to be a success in my area and was more profitable, I decided to go for it. Today, I am growing fig trees on 1.5-acre land that I own in my village and the last two harvests have yielded me four times the earnings that I made through traditional crops," said Shiv Nandan.

Another farmer of the same village Jageshwar, too has started anjeer farming on his 1-acre land.

Speaking on the trend, deputy director, horticulture, Prayagraj division, Krishna Mohan

Chowdhary, said that around seven farmers have embraced fig cultivation in Fatehpur district and also availed the subsidy of up to 50% on the expenses under the state horticulture mission initiative aimed at encouraging dry fruit cultivation in the state.

The fact that fig farming can be done even in dry sunny and rocky areas where many other crops do not flourish is also a big advantage of taking up anjeer farming, he added.

Deputy director of agriculture, Prayagraj, Satya Prakash Srivastava, said that fig trees can withstand a range of soil types, such as sandy, loamy, and clay soils, with good drainage and thrive in hot and dry climates. "Fig tree produces two crops of figs per year. Farmers are now coming to the horticulture department to get information about anjeer farming," he added.

Anjeer is considered immensely beneficial as it is a rich source of vitamins and minerals, including vitamin A, vitamin C, vitamin K, potassium, magnesium, zinc, copper, manganese, and iron. It is known to promote digestion, good bone health, maintain blood sugar levels, and lower the risk of heart disease.

Acid test for specialty chemical firms: Mix of weak demand, low realisations

CAUSTIC REACTION: Sector expected to underperform as brokerages slash profit estimates

RAM PRASAD SAHU
Mumbai, 30 July

The weak April-June quarter (first quarter, or Q1) results of the largest listed specialty chemical maker, SRF, and multiple global headwinds for the sector are expected to weigh on the prospects of Indian specialty chemical companies in 2023-24 (FY24). Stocks in the sector (down 7-18 per cent) have underperformed the benchmarks (up over 10 per cent) in the past three months, and given the multiple challenges, the trend is likely to continue.

Kotak Institutional Equities expects a very weak quarter (Q1FY24) for the sector due to destocking, demand weakness across certain critical end-use industries, and price erosion amid intense competition from Chinese suppliers. It expects both revenues and margins to remain under pressure.

SRF reported a 14 per cent fall in consolidated revenues due to a muted showing across its three key categories of chemicals, packaging, and technical textiles. Falling commodity prices, leading to inventory corrections amid weak demand, saw its operating profit fall by 29 per cent. Operating profit margins also slipped by 460 basis points (bps) over the year-ago quarter and 380 bps sequentially.

BALANCING EQUATIONS



Analysts of Motilal Oswal Research, led by Sumant Kumar, expect the chemicals and packaging business margins to remain under pressure in FY24, led by a weak demand scenario and lower realisations. The brokerage has cut its FY24 operating profit estimates for the company by 20 per cent. While most brokerages believe that there are short-term headwinds for the company, they are positive about its long-term story.

Nuvama Research believes that long-term prospects remain robust, given a strong capital expenditure pipeline across business segments, the ramp-up in spe-

cially active intermediates, a recovery in demand for refrigerant gas and fluoropolymers, especially in the US and West Asia, and volume growth.

While SRF reported a 40 per cent fall in net profit, PhillipCapital Research expects a 33 per cent decline in overall net profit of the sector on the back of a 12 per cent decline in revenues and a sequential margin correction. While key input prices have come down sequentially, they will not be able to protect the margins of chemical companies, given that prices of final chemical products have corrected at a faster pace. This is on account of aggres-

	(MP (₹))	3-month return (%)	FY24 P/E (x)	Target*	Upside (%)
Gujarat Fluorochemicals	2,699.9	-20.1	20.5	4,134	53.1
Navin Fluorine International	4,275.8	-11.8	43.2	5,188	21.3
SRF	2,169.8	-14.6	30.8	2,574	18.6
Clean Science and Technology	1,287.1	-10.9	40.8	1,517	17.8
Vinati Organics	1,811.0	-8.5	39.6	2,004	10.7
Deepak Nitrite	2,012.1	6.6	25.2	2,183	8.5
Atul	6,621.3	-3.6	36.6	6,276	-5.2

*Bloomberg consensus one-year target price per share
Source: Bloomberg
Compiled by BS Research Bureau

sive Chinese competition and negative operating leverage, given weak demand.

While Gujarat Fluorochemicals, Clean Science and Technology, and Galaxy Surfactants could see their operating profits fall by up to 20 per cent, the contract business of players such as Anupam Rasthyan India, PI Industries, and Navin Fluorine International could help them perform better than the sector.

Demand weakness remains a key negative for chemical majors.

Research analyst Surya Patra of PhillipCapital Research says, "The visible economic slowdown already in Europe,

the largest target market for Indian industrial chemicals, and an impending one as predicted for the US (the second largest market) in the second half of calendar year 2023 (CY23), and the inflationary trend in both the European Union and the US (causing declines in consumer demand as well as inventory rationalisation by industries) have destroyed overall chemical demand."

Two European specialty chemical giants have reduced their sales and profit forecasts. German specialty chemical company Lanxess has recently cut its second-quarter (Q2) and annual profit forecast as there was no demand recovery in June, and ongoing destocking has continued. The demand conditions were weak in construction, electronics, and consumer products, which, coupled with customer destocking, led to the revision in profit estimates.

Swiss specialty chemicals major Clariant also revised down its sales estimates for Q2 and CY23 outlook. The lower estimates were on account of tough macroeconomic conditions, a slow recovery in China, and destocking in important user markets.

With some brokerages expecting the slowdown to extend to the July-September and October-December quarters as well, investors should take a cautious view and await signs of demand and margin expansion before considering stocks in the sector.

S Sarath

Studies conducted on mental health in farming communities worldwide have identified several common risk factors. These include fluctuations in commodity prices, high levels of debt, the impacts of climate change, prolonged periods of drought, excessive workload, exposure to pesticides, government regulations, social isolation, role conflicts, time pressures and inadequate housing.

Disturbingly, farmers have also reported a higher likelihood of feeling that life is not worth living compared to non-farmers. Mental disorders have been identified as a significant risk factor for suicide attempts among farmers.

Disturbing statistics further highlight the severity of the issue. In February 2022, the Lok Sabha reported that over 17,000 farmers in India had committed suicide between 2018 and 2020. In the Marathwada region of Maharashtra alone, recent data shows that 600 farmers died by suicide between January 1, 2022, and mid-August, as reported by the divisional commissioner's office in Aurangabad. Unfortunately, a definitive solution to address this distressing trend remains elusive.

THE STATUS

The mental health of farmers can have wide-ranging impacts on individuals, their families, farm productivity, and the health and welfare of animals.

Prioritising the mental health of farmers and farmworkers is crucial.

If farmers face mental health challenges at a similar rate to the general population, it would suggest that around 25 per cent of farmers worldwide, or about 225 million individuals, may encounter difficulties with their mental well-being annually.

This estimation takes into account the fact that there are over 570 million farms globally, with approximately 550 million of them being family-run, and assumes conservative figures of two-member families. However, it is important to note that this calculation is likely a conservative estimate, as evidence suggests that farmers may experience higher rates of mental illness compared to the general population. Moreover, this estimate does not encompass farmworkers and other individuals involved in farm operations.

The National Institute for



Farmers are seriously stressed out

MENTAL WELL-BEING. Farmers have to deal with a variety of risks that impact mental health. The Centre, States should take this issue seriously

Occupational Safety and Health in the United States examined 130 different occupations and found that farm workers and farm owners had high rates of deaths related to stress-related conditions and mental disorders.

Some studies indicate that female farmers experience higher psychological distress due to role conflicts between farm and home responsibilities and a lack of partner support. Increased workload and longer working hours contribute to their emotional distress.

Farm women often prioritise their partner's health over their own. Additionally, animal farmers and dairy farmers have shown higher levels of mental disorders and poorer vitality

In Maharashtra, social health activists use a specialised depression screening tool to identify cases of depression among farmers and refer them for counselling.

compared to non-farmers. Younger farmers, burdened by higher debt levels, also exhibit more stress-related symptoms.

SHEDDING LIGHT

Rural areas often lack an adequate number of mental health professionals with the necessary cultural competence to effectively serve farmers. During times of immense stress, farmers need someone to confide in and seek advice, as it can make a significant difference in navigating difficult situations.

Extension workers and advisors should possess a comprehensive understanding of farmers' mental well-being. Encouraging social activities and creating avenues for entertainment in rural areas can provide farmers with a means to temporarily escape the stresses associated with farming.

In India, a notable mental health intervention was implemented in the Maharashtra region, which had witnessed a rise in farmer suicides. This intervention involved recruiting "social health activists" who were trained to use a specialised depression screening tool developed by local psychiatrists. The

objective of this intervention was to more effectively identify cases of depression among farmers and refer them to appropriate services, such as counselling and long-term treatment.

In line with these efforts, the Central Research Institute for Dryland Agriculture (CRIDA) is set to launch an early warning system called the Farmers Distress Index. This index will track farmers' exposure to risks, debt, adaptive capacity, land holdings, irrigation facilities, and other factors to identify signs of distress. The index will be used to prevent income shocks to farmers and provide timely relief.

Lastly, it is important to recall the stance of the Supreme Court in addressing the issue of farmer suicides. In 2017, while hearing a Public Interest Litigation (PIL) regarding farmer suicides in Tamil Nadu, which were attributed to crop failure caused by drought, the Supreme Court emphasised that it is the government's responsibility to ensure that distressed farmers do not resort to suicide.

The writer is Assistant Professor, NITTE School of Management, Bangalore

RIISING GREEN COVER

'EU deforestation regulation provides new opportunities for Indian agri-based industry as against global peers'

PTI / New Delhi

The European Union's (EU) stringent deforestation regulation would provide new opportunities for domestic agro-based industry players, as against their global competitors, as forest cover in India is increasing significantly, an official said. While several countries in Latin America

and Africa have cleared their forests for agricultural purposes, India's forest cover is increasing and there is no practice here in the country to cut forest for agri activities. The government official said these regulations provide an opportunity for "our industry because our forest cover has increased, our reserve forest is strong and it is increasing. "Our forest land is

different from agri land. We can demonstrate these facts to the EU and converge to some kind of understanding on this regulation". According to a report by GTRI, India's exports of products like coffee, leather hides and paperboard worth USD 1.3 billion annually to the EU will get impacted due to the deforestation regulation adopted by the EU.

Godrej Gracia product for AP, TS chilli farmers

BB BUREAU
HYDERABAD

GODREJ Agrovet Limited's (GAVL) Crop Protection Business announced that their insecticide, Godrej Gracia has interested chilli farmers in Andhra Pradesh and Telangana. Wherein, 74 per cent of the farmers have expressed their intent to continue using Godrej Gracia in the next season too.

Launched in 2022, Godrej Gracia is a patented chemistry discovered and developed by Japan's Nisan Chemical Corporation and introduced in India through collaboration with GAVL.

N K Rajavelu, CEO, Crop Protection Business, GAVL said, "During the last season, almost 95 per cent of the Chilli crops were severely infested due to Thrips. However, with Gracia's quicker control against chewing pests and Thrips compared to peers, it is heartening to see the trust it has earned amongst the farmers in the short span of 14 months since launch."

Revealing the report of an independent study conducted in partnership with



CRISIL, GAVL said that 75 per cent of farmers repurchased the product after witnessing its impact.

The CEO informed that with pests impacting the yield of Chilli crop on an average by 35 per cent, Godrej Gracia exhibits control of chewing and sucking pests such as Larva, Caterpillars, and Thrips.

"At GAVL, it is our endeavour to introduce solutions that are not only suited for the Indian market but also enable farmer prosperity. We are confident of achieving the same through our innovation and creating awareness amongst the farmers by educating them on the benefits surrounding usage of authentic product in appropriate and recommended quantity," he further added.

'One block one product' set to give boost to agri, says Shahi

TIMES NEWS NETWORK

Lucknow: UP agriculture minister Surya Pratap Shahi on Monday said the state government will promote 'one block one product' on the lines of One District One Product (ODOP) scheme to boost the agricultural sector.

Addressing the UP Agriculture conclave organised at the Indira Gandhi Pratishthan in Lucknow, Shahi also said that the government is making all efforts to link agriculture with the modern technology to reduce the cost of farming and raise the income and living standards of farmers.

"The idea is to adhere to basics while making agriculture a tech-friendly sector. We have to improve the quality of agri-products," Shahi said. The conclave

was attended by agri-tech start-ups, Farmer Producer Organisations (FPOs), agri-investors and agri-economy players.

The minister said there has been a commendable increase in agricultural productivity in UP in the past six years. "Along with this, digitization is being done at every level to increase transparency in government facilities. Work is also being done on a new food processing policy to make the agriculture sector more profitable," he said.

Shahi underlined the need of integrating agriculture with water and soil conservation, fruits and flowers, fisheries, animal husbandry, dairy and other ancillary activities.

MoS horticulture Dinesh Pratap Singh said start-ups need to ensure that the tech-

nology developed for the farm-sector should be adoptable by the farmers and added that "farmers should be encouraged for quality produce."

Additional chief secretary, agriculture, Devesh Chaturvedi, said that if agrotech companies are successful in bridging the gap between agriculture and technology then the target of USD 1 trillion economy for UP would be easily achievable.

Many groups associated with agricultural production organized an exhibition based on their products. Economic advisor to chief minister KV Raju, secretary agriculture Raj Shekhar, director horticulture RK Tomar, director agriculture VK Singh, representatives of agri-tech companies and several farmers were among those present at the programme.



Govt ready to release White Paper on agri sector, asserts Kakani

Naidu's name has become synonymous with drought over the years and he is shedding crocodile tears for the farmers, says Agriculture Minister

The Hindu Bureau
VIJAYAWADA

Agriculture Minister Kakani Govardhan Reddy has asserted that the State government is ready to release a White Paper on the agriculture sector in Andhra Pradesh.

"Telugu Desam Party (TDP) president N Chandrababu Naidu, as Chief Minister, has no achievements to his credit to release a White Paper. But everything is documented under the present YSRCP government, and we can release a White Paper," Mr. Govardhan Reddy asserted.

Addressing a press conference at the YSRCP office in Tadepalli on Tuesday, Mr. Govardhan Reddy said that Mr. Naidu was shedding 'crocodile tears' on the condition of the agriculture sector.

"The TDP president should recollect his promises made to the people in the run-up to the elections in 2014. The farm loan waiver was not implemented as promised. The



The State witnessed a 12-year drought during the 14-year rule of Mr. Naidu. Drought has hit the State whenever he was at the helm of affairs. He used to declare more than 300 mandals as drought-hit

KAKANI GOVARDHAN REDDY
Agriculture Minister

TDP government should have waived off loans worth ₹1.11 lakh crore, including interest of ₹24,000 crore, availed by the farmers. That did not happen. Also, he opposed free power for the agriculture sector. There is no truth in Mr. Naidu's allegations that the

agriculture sector is on 'life support'. If it were true, how is Mr. Naidu getting a square meal?" the Agriculture Minister asked.

The YSRCP promised to pay ₹12,500 to each farmer and fulfilled its promise by paying ₹1,000 more, taking the total to ₹13,500 to each farmer. The State government is implementing free crop insurance, interest free loans, and is ensuring remunerative prices through market intervention schemes, the Minister said.

"Mr. Chandrababu Naidu's name has become synonymous with drought. The State witnessed a 12-year drought during the 14-year rule of Mr. Naidu. Drought has hit the State whenever he was at the helm of affairs. He used to declare more than 300 mandals as drought-hit, whereas, during the four-year rule of YSRCP, above normal rainfall was recorded. People, particularly the farmers, are well aware of how the agriculture sector would be handled under TDP rule," he said.

Korean trade body upset as PLIs stuck

KITA official points to arbitrary changes in Indian policy

Shashank Mittal &
Gulveer Aulakh

NEW DELHI

India has unfairly withheld from South Korean companies the incentives they were promised under the government's production-linked incentive (PLI) schemes, the New Delhi chief of a top Korean trade body said.

Arbitrary policy changes are a key concern for Korean companies investing in India, Lee Young-Ho, chief trade representative at the New Delhi office of the Korea International Trade Association (KITA), said in an interview. This is the first time that a Korean trade body has remarked on the challenges related to the PLI scheme.

"Another worry that Korean companies have had is the lack of stability of the policies of the government. For example, while the PLI scheme was very open in attracting foreign investment when it comes to the production process, there have been a lot of cases where companies have not received their incentives," said Lee, whose organization represents the interests of Korean global trade in India.

The development comes even as KITA has seen an uptick in interest

POLICY PUSH

India's 14 PLI schemes have attracted investments worth nearly ₹62,500 crore and led to exports worth ₹2.6 trillion as of 31 March

Type of PLI	Investments (₹ crore)	Production (₹ crore)	Exports (₹ crore)	Jobs created
Large-scale electronics manufacturing	6,600	300,000	190,000	60,000
Telecom	1,800	22,000	6,700	17,000
Pharma	20,000	90,000	57,000	50,000
White goods	2,000	4,200	NA	38,000
Food processing	7,500	25,000	64,000	124,000
Auto & auto components	8,900	22,500	NA	19,000

Data as of March 2023 | Figures are approximate

Source: DPIIT

PLI STATUS CHECK

733 APPLICANTS Approved under 14 schemes	₹62,500 cr Actual investment received	₹2,900 cr Incentives disbursed	176 MSMEs Direct beneficiaries
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SARVESH KUMAR SHAMAM/NT

from Korean firms looking to invest in India as part of a diversification strategy. Lee said Korean firms have found China's business climate increasingly difficult in recent years. Countries in Southeast Asia are expected to be prime beneficiaries as Korean giants diversify production away from China. "Policies change quickly and easily, and after coming in, the firms have not received the incentives promised," said Lee. This

could hold back investors, he added. Lee did not cite specific instances; but recent media reports said the government withheld incentives claimed by Samsung Electronics Co. Ltd in the first year of the scheme totalling ₹900 crore on the sales of about ₹15,000 crore, citing invoicing discrepancies.

Samsung Electronics was one of

TURN TO PAGE 6

Farmers should upgrade cultivation skills for quality crop output :V-C

Horti-university signs MoU with Lemon Chilli Farm to enhance yield, productivity of exotic vegetables

ESA BIN ABDUL REHMAN
RANGAREDDY

URGING farmers to upgrade their cultivation skills on a par with international standards, Dr. B Neeraja Prabhakar, Vice-Chancellor, Sri Konda Laxman Telangana State Horticultural University (SKLTSHU), said “vegetable crops grown on a par with overseas standards can promise a handsome profit for the State farmers.”

She was addressing the gathering after a memorandum of understanding (MoU) was signed between SKLTSHU and the Lemon Chilli Farm, Hyderabad, on Tuesday on the campus. University Director Y Janardhan Rao signed the MoU, while Ritish Velkuru endorsed the document representing the farm.

The V-C shed light on the programmes and initiatives taken up by the university in ratcheting up growing meth-



ods and standards of vegetables on a par with international standards that could help farmers raise veggies with promising profits, both in Indian and foreign markets. The MoU aims to provide technical guidance and inputs from the university, thereby enhancing the yield and productivity of exotic vegetable crops. It also offers due importance to maintain a quality produce through cooperation from the farm

in conducting horticulture industrial attachment programmes for the students.

University officials Dr. A Bhagavan, registrar and director of research, Dr. A Kiran Kumar, dean of horticulture, comptroller & director of extension, Dr. M Rajasekhar, dean of PG studies & dean of student affairs, Dr. Natarajan Senivasan, controller of examinations, and Dr. D Vijaya, dean of student affairs, SKLTSHU were present.



Will the Pusa 1121 basmati go off the export menu?

The iconic rice variety known for its long grain, aroma and high yield may be ejected by PB 1885

Prabhudatta Mishra
New Delhi

The darling of exporters — Pusa Basmati (PB) 1121 — is in danger of going off the export menu. The grain which took five years to get official recognition as Basmati in 2008 soon became a favourite of growers thanks to its higher yield, shorter duration and higher market price. Even before being notified as Basmati, it got into the export platter thanks to its unique features and aroma — it was the world's longest rice after cooking, upto 25 mm in length.

But now, A K Singh, Director of Indian Agricul-



HIGH ADAPTABILITY. The highlight of PB 1121 is that it can be grown in any part of the world

tural Institute (Pusa, and considered the “Basmati man” of India) has been pushing farmers to adopt PB 1885 in place of PB 1121, so that they save ₹2,000-3,000 per acre as there is no pesticides requirement since these varieties are resistant to

bacterial blight and blast.

“There are several advantages for the farmers when new varieties come. Also, reduction of chemical pesticides lowers cost of production for farmers and raises acceptance in global trade,” said Singh.

Singh was associated

with the development of PB 1121 under agricultural scientist Vijaipal Singh. Subsequently, he led the team of scientists in developing several other varieties — PB 1401, PB 1509, PB 1692, PB 1718, PB 1847, PB 1885 and PB 1886.

But there is a strong sentiment among rice exporters in favour of PB 1121, which has become quite a well-known brand. “A better version of PB 1121 is misconstrued as replacement by a section. PB 1121, the torch bearer export variety, cannot be phased out as it is a brand itself,” says S Chandrasekaran, who has authored a book on Geo-

graphical Indication of Basmati. The main feature of PB 1121 is such that it can be grown in any part of the world. For instance, after farmers in Dabra, Madhya Pradesh adopted PB 1121 a few years back, it is difficult now to find there a local paddy variety called ‘Kranti’. “Even Pakistan has been growing PB 1121 under Kainat. It has also been adopted by farmers in Turkey, Indonesia and Thailand,” said a trade source.

In its nearly 15-year journey, PB 1121 has risen to a commanding position — its export share is close to 95 per cent and only 4-5 per cent is left with traditional varieties.

Lok Sabha passes Jan Vishwas Bill to promote ease of business

Seeks to decriminalise minor offences

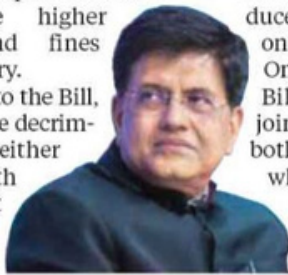
SHREYA NANDI
New Delhi, 27 July

The Lok Sabha on Thursday approved the Jan Vishwas (Amendment of Provisions) Bill, 2023, to enhance ease of doing business, decrease compliance burden for individuals and industry, and alleviate judicial load by decriminalising minor economic offences.

Spearheaded by the Department for Promotion of Industry and Internal Trade, the Bill proposes to revise 183 provisions across 42 laws under 19 ministries. Commerce and Industry Minister Piyush Goyal (*pictured*) introduced the Bill in the Lok Sabha. It will be tabled in the Rajya Sabha for approval, after which it will require the President's assent to become law.

Existing laws contain clauses for imprisonment for minor and procedural defaults, as well as lesser fines and penalties. This resulted in fear and mistrust towards the government. The intended changes of the proposed law aim to avoid unnecessary imprisonments and impose higher penalties and fines where necessary.

According to the Bill, offences will be decriminalised by either eliminating both imprisonment and/or fine; removing



THE ACTS PROPOSED FOR AMENDMENT

- Indian Post Office Act, 1898
- The Boilers Act, 1923
- The Agriculture Produce Act, 1937
- Public Debt Act, 1944
- The Pharmacy Act, 1948
- Environment Protection Act, 1986
- The Information Technology Act, 2000

imprisonment while retaining or increasing fines; or changing imprisonment and/or fine to penalties. Conversion of fines into penalties implies that court prosecution can be bypassed for punishment.

Addressing the Lok Sabha, Goyal said the government over the past nine years removed roughly 40,000 provisions and procedures, which had the potential to create problems for people.

The Bill was first introduced to the Lok Sabha on December 22, 2022. On the same day, the Bill was referred to a joint committee of both Houses, which submitted its report in the Lok Sabha on March 20, 2023.

Oppn leaders to visit Manipur; CBI to probe sexual assault case

A fact-finding team comprising Members of Parliament of the 26-party Opposition alliance, Indian National Developmental Inclusive Alliance (INDIA), will visit Manipur on Saturday. During its two-day visit, it will visit relief camps and meet leaders of all communities. Meanwhile, a top government functionary on Thursday said the Central Bureau of Investigation (CBI) would probe the case of sexual assault on two women who were stripped and paraded by a mob in Manipur. On Thursday, members of the INDIA boycotted a meeting of the Business Advisory Committee of the Rajya Sabha to protest Prime Minister Narendra Modi not making a statement on Manipur violence in Parliament. The Congress questioned how the Lok Sabha could transact other Bills when the Opposition bloc's no-confidence motion was pending.

BS REPORTER

MONSOON SESSION

IN THE HOUSE



Bill to amend offshore area minerals law tabled in LS

A Bill to provide a fixed 50-year production lease for offshore minerals was introduced in the Lok Sabha by Union Minister for Coal and Mines Pralhad Joshi on Thursday. The Rajya Sabha, on the other hand, passed the Cinematograph (Amendment) Bill with provisions of up to three-year jail term for making pirated copies of movies.

PTI

Seven airlines shut in 5 years

Seven airlines, including Heritage Aviation and Air Odisha Aviation, had been closed down in the last five years, the Lok Sabha was told. There are now 11 scheduled operators and 5 scheduled commuter operators. PTI

State to leverage agricultural waste

VIRENDRA SINGH RAWAT
Lucknow, 2 August

To provide an additional revenue source to farmers, the Uttar Pradesh government is looking to enrich the agricultural waste value chain for power generation and ethanol production.

Agricultural waste or biomass will be converted into biomass pellets to replace coal in the state's thermal power plants. The potential agricultural waste market in UP is estimated at

₹50,000 crore annually.

Some thermal power units run by the National Thermal Power Corporation (NTPC) and the UP power utility are already using biomass pellets along with coal.

Biomass fuel is derived from organic material. It is a renewable and sustainable source of energy to generate electricity, whereas pellets, solid fuel made of compressed biomass, could be produced from industrial waste, food waste, cow dung, crop residue,

untreated lumber, etc.

Apart from pellets, agri waste or biomass will also be utilised to produce ethanol for mixing in fossil fuel.

According to state energy minister R K Sharma, UP stands third after Punjab and Haryana in biomass generation, and the government will leverage the same for the benefit of farmers. While UP is a leading agricultural and horticultural producer, the state's biomass generation is estimated at 60 million tonnes (MT) annually.

GM crops replace organic farming as the new buzzword

Productivity Trumps Farmers' Interests

KP.Saikiran@timesgroup.com

Thiruvananthapuram: The Pinarayi Vijayan government seems to have taken a U-turn on its policy on genetic modification of crop seeds, with a reference report of the state planning board for government departments saying it is time to embrace

STATE PLANNING BOARD REPORT

new applications like gene editing in plant breeding. It also calls for restricting organic farming, which the state has been actively promoting, to niche products.

Interestingly, the LDF government had moved a resolution in the assembly against genetically modified crops on May 19, 2017 and it was passed by the assembly unanimously. The government moved the res-

POLICY SHIFT IN LDF GOVT'S STAND?

► The reference report of the state planning board, calling for new applications like gene editing in plant breeding, contradicts the government's stated stand on GM seeds. It also recommended restricting organic farming to niche crops



Representational Image

► The government had, in May 2017, moved a resolution

in the assembly against genetically modified crops and it was passed unanimously. The resolution had said that the genetically modified crops had not proven to have given more yields besides attracting more pests. The maintenance of such seeds is also an expensive affair

olution in the wake of the genetic engineering appraisal committee of the Centre giving clearance to GM mustard on May 11, 2017.

The Kerala Development Report, which was circulated among various departments last Tuesday to prepare a concept note in their respective subjects for an upcoming international seminar at Keralolsavam, has voiced this shift from stated policies. "Advanced research in plant breeding should help us to develop varieties and hybrids that systemically require less application of chem-

icals. New applications in cutting-edge areas of research, such as biotechnology, gene editing (CRISPR) and nanotechnology, promise not just to reduce the use of chemicals but also make available high yielding crop varieties resistant to viral diseases, acidity, alkalinity, salinity, flooding and high temperature. The state's agricultural research system needs to be geared up to meet this challenge," says a portion of the report on agriculture and allied activities.

► Continued on P 3

'Agri business cooperatives for every village to strengthen rural economy'

Greesh Chandra Prasad
greeshp@vsnl.com
NEW DELHI

The government will set up agriculture-focused cooperative societies in every village where one doesn't exist now, and will develop them into multi-sector units, giving a major fillip to the cooperative movement, NITI Aayog member Ramesh Chand said.

"A big movement toward rural cooperatives is happening. The government plans to set up one cooperative in agri-business in every village, where they are not

there. That is the target," Chand said in an interview. In the second stage, they will be expanded to multi-sector cooperatives dealing not only in farm produce, but also in other products. "They can go for storage of produce and they can export."

The idea is to strengthen the rural economy and achieve what the government calls "prosperity through cooperation". Chand said that strengthening farmer producer organizations is a priority for the government.

Prime Minister Narendra Modi launching on-boarding



NITI Aayog member Ramesh Chand

of 1,600 farmer producer organizations (FPOs) in Open Network Digital Commerce (ONDC) last month is a new initiative in this regard, he

said. "ONDC can revolutionise agriculture marketing. Through ONDC, FPOs can sell to any wholesaler, business or consumer. This is going to be a game changer," said Chand, adding that state-level agriculture produce marketing committee (APMC) Acts are not applicable to electronic transactions.

Chand explained that onboarding FPOs into ONDC does not require any budget allocation and that the capacity-building needed will be done by an agency under the agriculture ministry.

The measures are

expected to help in improving the incomes of farmers, a key goal of the NDA government.

The Centre is exploring ways of stepping up entrepreneurship among farmers and encourage community-based development through cooperatives at a time efforts to facilitate greater private sector investment in the farm sector through three new farm laws faced a setback due to farmer protests

in certain states. The Centre is currently working on creating a national database of cooperatives which will help to detect the gaps in their

geographical distribution and also aid in policymaking.

The government in May allowed the more than 100,000 farm credit societies having about 130 million farm-ers in the country as members to set up decentralized grain storage facilities to help farmers plan their sales better and

to reduce wastage of agricultural produce.

This scheme was announced keeping in mind the last-mile reach of cooperative societies and their role in the rural economy.

The government wants these entities to emerge as more financially sound and viable entities. Separately, the Centre has also given several tax concessions to the cooperative sector. New cooperative societies starting manufacturing activities by the end of March next year are eligible for a 15% corporate tax rate, at par with new manufacturing companies.

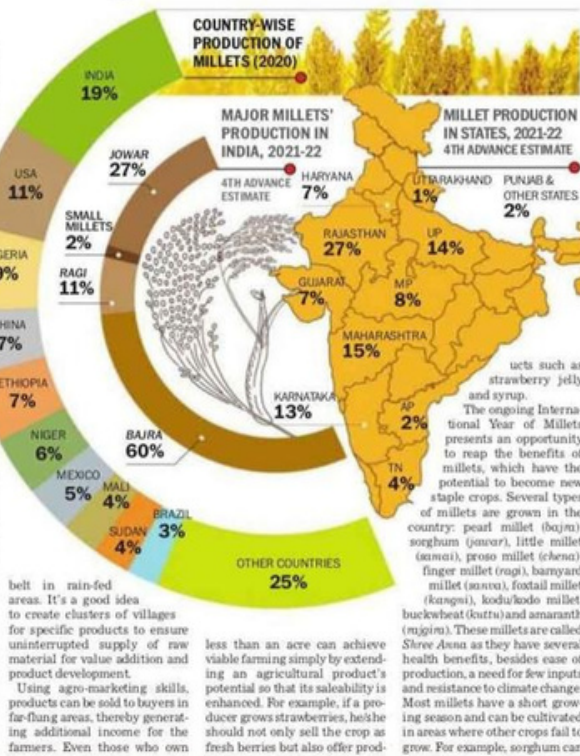
Chand said that strengthening farmer producer organizations is a priority for the government

Millets hold promise for boosting farm income

The absence of intensification of millet farming, lack of deployment of genetic tools for trait improvement and the challenge of optimisation of storage and supply chains are limiting crop production. A concrete roadmap is required to strengthen small millet cultivation, such as identifying varieties suitable for particular environments and targeting trait improvement using genetic & genomic approaches. Progressive farmers, producers and entrepreneurs must capitalise on the incentives being provided by the state and Central govts.

VP SETHI AND SS GOSAL

THE prolonged predominance of the wheat-rice cropping system has shifted the focus towards crop diversification and value addition in the agro-processing industry for additional income generation. Punjab has robust infrastructure for the agro & food processing (AFP) industry. A key government policy targets an investment of Rs 5,000 crore in the next five years. Several initiatives have been taken in this direction, such as the establishment of modern agro infrastructure and strong supply chain logistics, setting up of the Agri Business Promotion Facility (ABPF), bringing reforms in agricultural marketing, development of agri infrastructure and food parks in the state, providing special provision of Farmer Producer Organisations (FPOs), innovating value addition from agro-waste, establishment of a new cargo export centre for export promotion and the facilitation of meat processing in a focused manner. Several fiscal incentives have been offered by the government for existing/new MSMEs and large AFP units for purchasing raw material for up to 10 years in all categories of units. Existing big brands of the food processing industry can play a vital role in expanding/establishing their units in product-specific belts — tomato, potato, kinnow, strawberry, grapes, mango, lychee, vegetables, etc. Experts can identify or create even more such belts, such as the millet



belt in rain-fed areas. It's a good idea to create clusters of villages for specific products to ensure uninterrupted supply of raw material for value addition and product development. Using agro-marketing skills, products can be sold to buyers in far-flung areas, thereby generating additional income for the farmers. Even those who own

less than an acre can achieve viable farming simply by extending an agricultural product's potential so that its saleability is enhanced. For example, if a producer grows strawberries, he/she should not only sell the crop as fresh berries but also offer prod-

ucts such as strawberry jelly and syrup. The ongoing International Year of Millets presents an opportunity to reap the benefits of millets, which have the potential to become new staple crops. Several types of millets are grown in the country: pearl millet (bajra), sorghum (jowar), little millet (sanrai), proso millet (ehroli), finger millet (ragi), barnyard millet (saru), foxtail millet (kangni), kodo/kodo millet, buckwheat (kuttu) and amaranth (mrigim). These millets are called *Shree Asna* as they have several health benefits, besides ease of production, a need for few inputs and resistance to climate change. Most millets have a short growing season and can be cultivated in areas where other crops fail to grow. For example, sorghum can

be cultivated even in drought-like conditions. Jowar, a rain-fed crop (30-100 cm annually), can be grown in areas which barely need irrigation. Usually, minor millets require below 35 cm of rainfall. Ragi, bajra and jowar are sown as kharif crops so that their water and moisture requirements are met during the rainy season. In Punjab, there is a huge scope for extending the areas under millets for supplying them as raw material to the AFP industry. In addition to being consumed as food, millets can be used as fodder, bio-fuel and a raw material for a variety of industrial goods. They can be an excellent meal option for both healthy persons and those with diabetes, high cholesterol level and other medical issues because they are very nutrient-dense, have high fibre content and a low glycemic index. There can be variety of ways, such as processing, packaging, branding and product creation, with which value can be added to millets. They can be modified into flour, flakes, puffs and other products to create a variety of attractive food items. Millet flour can be used to make bread, biscuits, spaghetti and other baked items which can be eaten as millet flakes and puffs for breakfast or as a snack. Through processing techniques, the shelf life of millets can be enhanced; densification of their nutritional content can be obtained by adding vitamins and minerals (fortification) to use them as nutrient supplements for good health. Progressive farmers and food processing industries can look for new markets for millets suitable for human consumption. Millet flakes and puffs can be sold to supermarkets and snack producers; millet flour can be supplied to bakeries. Popped (pearl) puffs can be produced from pearl millet; roasted seeds of edible millets can be added to jaggery to make nutritious guchuk. Millets can be used as the main component of new products. For instance, granola bars, cookies and energy bars made from millet can be developed to attract health-conscious buyers. It is possible to produce and market millet-based baby food to parents looking for wholesome and nourishing options for their children. The absence of intensification of millet farming, lack of deployment of genetic tools for trait improvement and the need for optimisation of storage and supply chains are limiting crop production. A concrete roadmap is required to strengthen small millet cultivation, such as identifying varieties suitable for particular environments and targeting trait improvement using genetic and genomic approaches. Progressive farmers, producers and entrepreneurs must take advantage of the conducive environment and incentives being provided by the state and Central governments to reap maximum benefits so as to improve farmers' income, reduce unemployment by establishing newer units and save the ecosystem by promoting millet cultivation and value addition in the processing industry.

Sethi is Professor and Head, Department of Mechanical Engg, Gosal is Vice-Chancellor Punjab Agricultural University, Ludhiana

India should prepare exporters to deal with EUDR compliance norms

NEW DELHI

The regulation will hit India's agricultural exports worth \$1.3 bn to the EU starting December 2024, says think tank GTRI

INDIA should take measures such as increasing awareness among exporters and proper implementation of track and trace systems to deal with compliance requirements of the European Union's Deforestation Regulation (EUDR) as it would hit agri exports, a report said on Tuesday.

This regulation will hit India's agricultural exports worth \$1.3 billion to the EU starting December 2024,



think tank Global Trade Research Initiative (GTRI) said. "Indian exports may take a bigger hit than exports from other competing countries to the EU because of India's

higher deforestation rate," the report said, adding India's exports will also be affected by the complex compliance requirements of the EUDR and the EU's Foreign Subsidies Regulation (FSR). Even if the exporter is certain that a product is not grown on the deforested land, he/she still has to follow all elaborate compliance requirements, GTRI Co-founder Ajay Srivastava said.

Digi crop survey project to allow real-time monitoring

TIMES NEWS NETWORK

Lucknow: The Uttar Pradesh cabinet headed by CM Yogi Adityanath on Tuesday gave its formal nod to execution of Digital Crop Survey (DCS) project envisaging “real-time monitoring of crop cultivation and verification of agricultural plots owned by farmers through geo-referencing”.

The Centre had decided to initiate the DCS – funded by both the Centre and state government in a 60:40 ratio – in 12 states, including UP. State agriculture minister Surya Pratap Shahi said that the project would help the state in shoring up its gross domestic product (GDP) by streamlining key activities in the agricultural sector.

Briefing reporters after the meeting, Shahi said that the step will not only allow the state government in keeping a close watch of agricultural produce but also would help the farmers in availing various agri-benefits, including crop insurance.



The project is proposed to be initiated in 21 districts of UP including Varanasi, Gorakhpur, Deoria, Bhadohi, Jaunpur, Jhansi, Hamirpur, Pratapgarh and Sant Kabir Nagar. The survey would also be undertaken in 10 selected revenue villages of the rest 54 districts in the state. Shahi said the entire state is expected to be covered under the project by next year.

According to state government records, there are around 7.87 crore agricultural plots registered in the name of small, medium and big farmers. The survey has already been completed by the state revenue department. This would now be used as part of the DCS which will conduct a ‘khasra-wise’ crop survey, which would also be subjected to a third-

party verification – for which, the agencies would be selected by a committee headed by the chief secretary.

The agriculture minister said that the DCS will free the farmers from the hassles of getting their crop verified and authenticated multiple times to avail various benefits, including compensation as per the declared minimum support price (MSP).

Shahi said that the survey will specifically allow the farmers to get the idea of the kind of crops they need to cultivate depending on the geo-climatic conditions of that particular region. He said that the state government also plans to use the survey for setting up agriculture-based industries in the state.

In another decision, the Cabinet approved setting up Buddha Agricultural University in Sant Kabir Nagar. This will be the fifth agricultural university in the state and would cater to three divisions including, Gorakhpur, Azamgarh and Basti.

FCI using technology to bring transparency in its operations

NIKHIL VYAS
NEW DELHI, 4 AUGUST

The Food Corporation of India (FCI) is using technology for bringing further transparency in its operations with the development of procurement portal, automation of depot operations (DOS) to transform food supply management system, adoption of electronic file system (e-file), online financial accounting system (FAP), installation of CCTVs across its facilities and implementation of online human resource management software.

The procurement portal is developed to provide a one-window facility to the farmers to ensure transparency and timely payment of MSP to the farmers.

Talking to the Statesman, Sachindra Kumar Patnaik (IRSS-1997), Executive Director (North Zone), Food Corporation of India (FCI), Noida, said, “One of the objectives of the FCI is to provide the right value of its produce to the farmers. For which the FCI procures wheat and rice at MSP from the farmers and directly trans-

fers the amount in the farmers’ accounts.”

Patnaik explained the role and functioning of the FCI in serving the country by providing food security to the nation.

The FCI is the nodal agency for implementing the food policies of the GOI and its main function includes procurement from farmers at MSP, storage, movement of the foodgrains, its distribution under NFSA and other welfare schemes formulated to ensure food security to the nation.

The FCI is divided into five zones. Among them, North Zone is the largest in respect of area as well as operations like procurement, storage, distribution and movement of stocks to deficit regions to meet the requirement of foodgrains under PDS/OWS providing food security to the nation.

The FCI, North Zone situated at Noida controls the operations of ten states/UTs of North India namely Punjab, Haryana, UP, J&K, HP, Uttarakhand, Delhi, Rajasthan, UT of Chandigarh and Ladakh. The surplus foodgrains pro-

duced in the states of Punjab and Haryana not only feed the other states of North Zone but are also moved through road and rail to other parts of the country to meet requirements under NFSA/OWS.

Patnaik said the role of the FCI has become more important as “we are celebrating 2023 as the International Year of Millets”.

The Government of India had proposed to the United Nations (UN) that the year 2023 be declared the International Year of Millets (IYOM). The proposal of India was supported by 72 countries, and the United Nations General Assembly (UNGA) declared 2023 the IYOM. Most of the millets are native to India and are popularly known as nutri-cereals, as they provide most of the nutrients required for normal functioning of the human body.

Millets are gluten-free, highly nutritious, and rich in dietary fibre, making them easy for the body to absorb. Rich in micronutrients (Calcium, Iron, and phosphorus), all millets show high antioxidant activity, and some of



the millets are associated with the prevention of diabetes.

Patnaik said the FCI, North Zone is focussing on generating awareness amongst the general public regarding benefits of millets. He said state government agencies are being actively persuaded to introduce millets in various social welfare programmes with request to furnish requirements of coarse grains under NFSA, ICDS and MIDM.

The FCI executive director emphasised the usefulness of the ongoing OMSS (D)

10 mt and a maximum of 100 mt wheat and for rice, an empanelled party can buy a minimum of 10 mt and maximum of 1000 mt.

For details/updates on the tender floated and for subsequent such tenders, one can visit a FCI website, www.fci.gov.in, or mpjunction website mpjunction.fci.gov.in

The basic aim is to ensure availability of foodgrains at reasonable prices in the open market,” he said.

The focus of the FCI is quality control on foodgrains. Towards this end, Patnaik said that the FCI has directed setting up of a state-of-the-art laboratory under every zonal office of the FCI with the scope of testing of pesticide residues, mycotoxins, uric acid in foodgrains and level of fortificants present in fortified rice.

He informed that a state-of-the-art laboratory for North Zone is coming up at Parbhakula in Haryana. On the storage of foodgrains, he said the storage plan of the FCI is to ensure full-tilment of the storage requirements for maintaining nec-

essary stocks for smooth functioning of the Public Distribution System (PDS) and other welfare schemes undertaken by the government of India. Adequate number of scientific storages is necessary to fulfill the policy objectives assigned to the FCI for which the corporation has a network of strategically located own scientific storage depots.

“Storage systems are being further modernised by encouraging silos construction,” he disclosed.

He further said that the FCI through its own storage capacity, hired storage capacities from Central Warehousing Corporation, State warehousing corporations and agencies and private parties for short term as well as for a stipulated period under the Private Entrepreneurship Guarantee Scheme (PEG) and Private Warehousing Scheme (PWS).

To strengthen the provisions of NFSA in terms of accessibility, affordability and availability of entitled foodgrains for the poor and to ensure effective and uniform implementation of the Nation-

al Food Security Act (NFSA), 2013, the Central government has decided to provide free of cost foodgrains under PMKAY scheme to NFSA beneficiaries from January 1, 2023.

Further to overcome the problem of underweight, malnutrition, anaemia, etc. among children, the government of India had decided to introduce fortified rice in the MDM and ICDS schemes which are being extended to NFSA in a phased manner. Rice fortification is the process of addition of Vitamins and micro nutrients such as iron, folic acid and Vitamin B12 to rice to meet daily nutritional requirements of vulnerable sections.

It was informed that the FCI, Delhi Region is issuing fortified rice across all the schemes from March, 2023. The FCI has been involved in the entire exercise of capacity building for rice mills, quality control and spreading awareness to sensitise all stakeholders about the benefits of consuming fortified rice from the state down to the Fair Price Shops (FPS) and local beneficiaries.

In 2022-23, chemical fertiliser use in Punjab decreased by 4.69%

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Chandigarh: The utilization of chemical fertilisers in Punjab, among the leading users in the country -- has fallen by 1.85 lakh metric tonnes (LMT) in 2022-23, down 4.69% as compared to the previous fiscal.

Punjab's total fertiliser consumption was recorded at 39.46 LMT in 2021-22, but it came down to 37.61 LMT in 2022-23. This fiscal year, 13.41 LMT fertilisers have been consumed in the state up to July 26, according to the data furnished by the Union ministry of agriculture and farmers' welfare in the Lok Sabha on Wednesday in response to a question.

After Uttar Pradesh (103.11 LMT) and Madhya Pradesh (51.65 LMT), Punjab remained third highest consumer of chemical fertilisers in the country in 2022-23 with 37.61 LMT usage.

Central agriculture minister Narendra Singh Tomar informed the Lok Sabha on Wednesday that as such, there

DECLINE IN CONSUMPTION

Fertilisers	2021-22	2022-23	2023-24 (Up to July 26)
Urea	31.34	29.45	11.72
Di-Ammonium Phosphate(DAP)	6.27	7.17	1.51
Muriate of Potash(MOP)	0.64	0.41	0.12
Nitrogen, Phosphorus & Potassium(NPK)	1.21	0.58	0.06
Total	39.46	37.61	13.41

*(In Lakh Metric Tonnes)

Use of organic manures

ICAR has also developed technology to prepare various types of organic manures such as phosphocompost, vermi-compost, bio-enriched compost, municipal solid waste compost from various organic wastes. The council has also developed improved and efficient strains of biofertilisers specific to different crops and soil types under the network project on soil biodiversity- biofertilizers. Liquid biofertilizer technology with higher shelf-life has also been developed.

are no harmful effects of chemical fertilisers on soil health with balanced and judicious use. But investigations under All India Coordinated Research Project on 'Long Term Fertilizer Experiments' over

five decades at fixed sites indicate that continuous indiscriminate or overuse of chemical fertilisers may lead to multi-nutrient deficiencies affecting soil health and crop productivity. Recommended

doses of NPK with organic manure sustain good soil health and higher crop productivity.

But the Union minister also highlighted the possibility of nitrate contamination in groundwater above the permissible limit of 10 mg/L due to excessive use of nitrogenous fertilizers particularly in light textured soils that have consequences on human and animal health if used for drinking purposes.

The Lok Sabha was also informed that the Indian Council of Agricultural Research (ICAR) recommended a soil test based on balanced and integrated nutrient management through conjunctive use of both inorganic and organic sources of plant nutrients with 4 Rs approach --right quantity, right time, right mode and right type of fertiliser -- to ensure judicious use of chemical fertilisers in order to prevent deterioration of soil health, environment and contamination of groundwater.

Cabinet gives nod for Kerala Agro Business Company

The Hindu Bureau

THIRUVANANTHAPURAM

The Cabinet on Wednesday decided to form the Kerala Agro Business Company (Kabco) to promote the marketing of agricultural products.

Kabco will pave the way for processing and value addition of agricultural produce and formation of agri-parks and fruit parks in the State, said Agriculture Minister P. Prasad.

Kabco will be constitut-

ed in public-private partnership (PPP) mode on the lines of the Cochin International Airport Ltd (CIAL).

It will act as an independent company for running agro parks and linking farmers with the marketing network, he said.

The company will equip Kerala farmers to meet the requirements of the global markets, according to him.

The shareholding pattern in Kabco will have the State government holding 33% shares, farmers 24%,

and farmer collectives and cooperatives 25%. Primary agricultural agencies and financial institutions will also have shares in the company. The Agriculture Minister will serve as the chairman of Kabco.

The Principal Secretary (Agriculture), Agriculture Director, a representative of the Finance department and the managing director of the Kerala Agro Industries Corporation will serve on its director board in the initial phase.

RAJASTHAN

Technology boost set to propel agri output

ANIL SHARMA

Jaipur, 2 August

The state government is taking various steps to boost agricultural production by incorporating the latest technology.

A proposal to give 75 per cent subsidy to 10,000 farmers to use new-generation technology like auto sensors and fertigation has been approved by chief minister Ashok Gehlot.

An agriculture department official said that, according to the proposal, around ₹21 crore will be given as subsidy to the farmers to use improved technology.

It will provide them accurate information about the water demand of fruiting saplings and the management of nutrients for their agricultural land.

Fertigation is a technique of supplying fertilisers dissolved in water to the crops through irrigation systems, including drip.

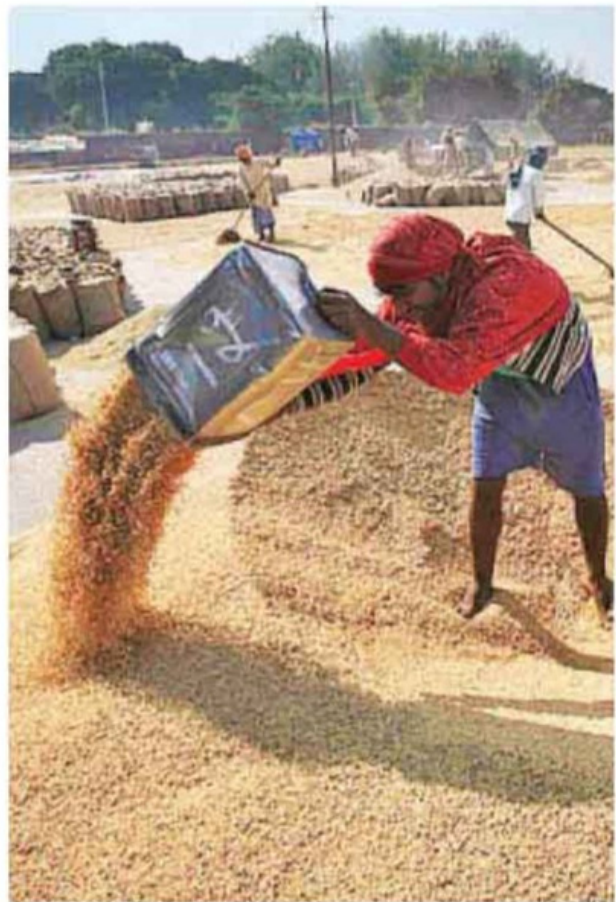
He said that this decision of Gehlot would help the farmers maintain the fertility of their lands and improve it.

After getting accurate information about the water demands for fruit-bearing saplings, the farmers can get better yields.

With this, the farmers can become technologically strong and their income will also increase, the official added.

The chief minister, in the 2023-24 state Budget, had announced these measures.

Meanwhile, the state government is making efforts, on a large scale, to promote organic farming.



Around ₹21 crore will be given as subsidy to use improved technology

Gehlot has approved a proposal to convert 120,000 hectares to organic. Under this, farmers will be provided organic seeds, organic fertilisers and organic pesticides.

During the current financial year, this land will be converted into organic so that farmers are benefited. On this, over ₹23.50 crore will be spent.

More aspirants than seats for agri courses in colleges

Diversification Has Opened Up Jobs In This Sector

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Pune: When most professional courses across the state are registering vacant seats in the respective colleges due to a higher intake capacity as compared to the students, bachelor's degree courses in agriculture and its allied fields are witnessing just the opposite.

For the 16,052 seats available for admission across the state, 22,946 students have registered on the admission portal.

US Kadam, director of education, at Maharashtra Council of Agriculture Education and Research, said that any course that provides employment is always preferred by students and parents.

Maximum students take up the course because there are many employment opportunities in the state government sector for agriculture graduates and their examination is also different from the regular examinations conducted by the Maharashtra Public Service Commission (MPSC).

"Secondly, there are several agro-based industries that require these graduates. Thirdly, banks also need students for agriculture finance. And lastly,

FROM THE FIELDS TO GREEN CAREERS

Pic: Aditya Walkul

“After the course, I will prepare for the state civil services examination. There is a special category for agriculture students. The final year of the agriculture course is completely dedicated to hands-on training. For six months, we work in different departments and then work in the fields outside the college

— **Pratima Ombase** | A FINAL-YEAR STUDENT



“In the third year, we have to select electives. Based on our performance in the last two years, ranks are decided and electives offered to students in the order of merit. I am taking economics and I plan to study for UPSC exams

— **Aditya Takawane** | A THIRD-YEAR STUDENT



“There are many opportunities after a degree in agriculture. I will be doing an MSc as I want to get into the teaching field. This is a field where theory is as important as practicals. It also helps us improve the lives of the farmers

— **Prarthana Rawal** | A FINAL-YEAR STUDENT

“I want to get into the agricultural research field. I am hoping to get into the Indian Council of Agricultural Research

— **Pratik Chavan** | A THIRD-YEAR STUDENT

“An agriculture graduate has many jobs available from the lowest grade to the uppermost grade in the government sector. Other than that, banks too have many jobs for agriculture graduates

— **Sanket Sonawane** | A THIRD-YEAR STUDENT

the corporate sector also recruits them to some extent,” Kadam added.

The first merit list for agriculture courses is expected to be uploaded online on July 31, followed by the first allotment list will be uploaded online on August 2. The students who have been allotted colleges in the first round can confirm their admissions in the respective colleges between August 3 and August 5.

Agricultural colleges are affiliated to four agricultural universities in the state. The government and government-aided colleges contribute to 3,362 seats while the private and permanently unaided colleges contribute to 12,690 seats.

“Actually, 27,000 students have applied but there are many whose forms had errors or they had failed to upload their documents. We have given them time to upload the same

so that they can participate in the centralized admission process,” Kadam said.

Once the first round ends, colleges will upload the cut-off marks list for each course online on August 6. The allotment list for the second round is expected to be released online on August 7 following which, from August 8 to August 10, students who have been allotted colleges can confirm their admissions in the respective places.

Tech-savvy Punjab farmers ready to give drone spraying a whirl

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Chandigarh: Known for their penchant for new-age agricultural practices, Punjab farmers are evincing interest in using drones for spraying pesticides on their paddy crops this season. Industry experts are touting this as a more effective way of dispensing pesticides.

While its current cost is Rs 300 per acre, the Indian Farmers Fertiliser Cooperative (IFFCO) has decided to provide 110 drones to the local cooperative societies to offer free services to farmers in the coming months.

IFFCO organised a demonstration of this in Bhagta Bhai Ka village of Bathinda on Friday while another was organised by Jaswinder Singh Brar, plant protection officer, in Dhaleke village in Moga a day prior to that.

Harmilap Singh Sidhu, state marketing manager, IFFCO, told TOI, "Farmers are very enthusiastic about the aerial spray of nano pesticides, but presently we have a limited number of drones. IFFCO has placed a purchase order for 2,500 drones to be used across the country, of which 110 drones will be set aside for Punjab. The equipment will be provided to the member cooperative societies in a phased manner and training from DGCA will be imparted to rural youth to operate these. A drone costs around Rs 15 lakh and we will take Rs 1 lakh as refundable security. We hope to implement the project before the next wheat crop. A similar



IFFCO has already started demonstrations in villages. It plans to provide 150 drones to local cooperative societies to offer free services to farmers in the coming months

project is being implemented by IFFCO in Gurugram."

While private pesticide companies are demanding Rs 300 per acre for spraying pesticides, IFFCO is giving Rs 100 subsidy to the farmers. The drones are being hired by these companies for agricultural use.

The Punjab Agricultural University (PAU) is also working on a project on agricultural use of drones. Dr Mahesh Kumar Narang, head of the department of farm machinery, said the varsity is also holding demonstrations for farmers, besides researching the benefits of aerial spray of pes-

ticides.

Meanwhile, Brar said the drones are an effective way of using pesticides as micron level droplets are pushed and flung out from rotary spraying nozzles to evenly adhere to the surface of crops more precisely without any risk of overdosing. "However, we will be studying the impact of the crops cultivated using drone technology and try to establish if the quality of the grains makes it worthwhile after the harvest of the paddy crop in November," he said.

"In advanced countries, drones are used for monitoring crop health with sensors to identify water stress and presence of weeds, besides nutrient deficiencies, pest attacks and diseases for timely interventions. Drone technology saves excess use and agrochemical, uniform spray, efficient use of spraying chemicals, quickly and with less labour," added Brar.

The drone has the capacity to carry 16 litres of pesticides that can be sprayed over two acre of fields. BKU (Khosa) president Sukhjinder Singh demanded that the rent for drones should be brought down to Rs 150 per acre to popularise it among farmers, who feel that the cost is still on the higher side," he said.

Balwinder Singh, a dairy farmer, who attended the demonstration in Moga, said he was keen on knowing the effectiveness of aerial spray of pesticides on maize crop, as it is sometimes difficult to spray it manually.

An official of a pesticide company said aerial spray led to better efficiency of the applied chemical, thereby reducing soil and water pollution. On the flip side, however, the agricultural use of drones faces constraints such as bad weather, limited flying time and high cost for small and marginal farmers.

Remove wheat import duty till Feb for food security: FCI

Wheat exports were banned after last year; non-basmati white rice exports prohibited in July

Puja Das & Ravi Dutta Mishra
NEW DELHI

Food Corp. of India (FCI) has recommended the finance ministry remove import duty on wheat till February 2024 till fresh arrivals start to maintain the country's food security and arrest rising food prices, a government official said.

This recommendation comes over a year after the government banned wheat exports due to brutal heat waves that damaged wheat crops, sparking concerns about wheat availability in the country.

Food prices have been on the rise globally against the backdrop of the Russia-Ukraine war but had begun showing signs of easing, thanks to the Black Sea grain deal under which Russia agreed to allow wheat to be exported from the three ports in the conflict-hit region.

However, prices have resumed the upward trend, with Russia pulling out of the deal last month, stating that the deal was only helping Western countries and not the African nations in need.

Soon after, India banned exports of non-basmati white rice on 20 July.

"We have proposed the elimination of duty on wheat as against a 5-10% reduction on the ground that the latter would only be beneficial till August.



There's 40% import duty on wheat since April 2019.

REUTERS

Russian wheat is cheaper than Australian produce and can be imported. Harvest season in Russia is currently going on, and this is the peak time for exporters to sign contracts," the official said.

and a tariff reduction on imports could help cool prices further. Inflation in wheat is currently above 12% even as the government has taken multiple steps, from banning exports to conducting open market operations.

"After Russian wheat is over, India will have to import from Australia, which is offering wheat at higher prices. This may push prices up domestically. Hence, FCI has suggested removing import duty on wheat till February. From February onwards, fresh arrivals will start," the official added.

The official further added that removal of import duty will not be sufficient and that stocking at port ware-

houses norms that are under the control of the agriculture ministry will also be required to be relaxed.

Earlier this week, Morgan Stanley said it expects India's retail inflation to accelerate to 6.2% at the end of the three months ended 30 September, against its previous forecast of 5.5%, due to higher food inflation.

The Consumer Price Index (CPI)-based inflation is, however, expected to moderate to a 5-6% range during the second half of FY24.

Food inflation measured by the Consumer Food Price Index, which accounts for nearly half of the overall consumer price basket, rose to 4.49% in June 2023 against 2.96% (revised) in May 2023.

Other economists have also cautioned that inflation could cross 5% in the next two months on a continued rise in prices of vegetables, pulses, and cereals. The International Monetary Fund (IMF) had estimated that Russia's exit from a deal allowing Ukrainian exports via the Black Sea could drive global grain prices up by 10-15%.

IMF chief economist Pierre-Olivier Gourinchas told reporters the Black Sea grain deal had been "very instrumental" in ensuring ample supplies of grains could be shipped from Ukraine, easing price pressures on food. Its suspension would likely put upward pressure on prices, he said.

Queries sent to the spokespeople for commerce, finance, and food ministry remained unanswered.

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EXPENSIVE GRAIN

FOOD prices have been on the rise globally against the backdrop of the Russia-Ukraine war

THE prices had started showing signs of easing, thanks to the Black Sea grain deal

BUT they have begun rising again since Russia pulling out of the deal last month

Notably, the current import duty on wheat is 40% and has been at this level since April 2019.

Experts said the global price of wheat is currently lower than domestic prices,

How this AI-IoT machine can transform the way we test soil

It can test the sample for 12 parameters and send a soil health card to mobile phones in flat 30 minutes

KV Kurmanath
Hyderabad

Artificial intelligence and Internet-of-Things (IoT) have been revolutionising several sectors such as manufacturing and retail. Here's one solution for agriculture that is going to radically transform the way soil is tested. This would help farmers and agricultural scientists to quickly identify the deficiencies, if any, and take corrective measures.

At the core of this fully automated system is an Android app. It is connected to the platform, which can conduct 12 key soil parameter tests and provide results in just 30 minutes. It will immediately send the summary of

results in a soil health card to the mobile devices of various stakeholders.

"Compare this with 3-4 hours of testing time that is in vogue," Brajendra, a Principal soil Scientist with IIRR, who is involved in the development of the system, said.

KEY FEATURES

The 12 parameters tested by the machine include pH value (acidity or alkalinity); electrical conductivity (a measure to test the ability of a substance to conduct an electrical current. In soil testing, EC is used to measure the amount of soluble salts in the soil); organic carbon, phosphorus, potassium, sulphur, nitrogen and zinc. The 45x37x44 cm machine



The Bhu-Vision is jointly developed by ICAR-IIRR and KrishiTantra. It weighs 12.55 kg and is priced at ₹2.12 lakh.

weighs 12.55 kg and is priced at ₹2.12 lakh (including a GST of ₹32,400).

The Bhu-Vision platform, which is also known

as Krishi-RASTAA Soil Testing Equipment, was launched by RM Sundaram, Director of the Indian Institute of Rice Research (IIRR), which is an arm of the Indian Council of Agricultural Research) here on Thursday.

Bhu-Vision (Krishi-RASTAA) is jointly developed by ICAR-IIRR and KrishiTantra, manufactured by HiMedia Laboratories, and marketed by BhoomiSeva (HCF Tech Services Pvt Ltd).

During the event, 25 Bhu-Vision devices have been handed to over the IIRR team by HCF Tech Services.

"There is a need to strengthen the relationship between private partners and the institutes to

develop and commercialise products that can benefit farmers not only in India but also in other SAARC and South-East Asian countries," Sundaram said.

P Muthuraman, a senior scientist with IIRR, said farmers need to be given training in testing the soil to identify its health. "The IIRR can serve as a platform to offer such initiatives," he said.

HCF Tech Private Limited Managing Director and Chief Executive Officer Melind Deshpande spoke about company's plans to take this technology forward. He illustrated a 'shop-in-shop' model adaptable by village-level entrepreneurs (VLEs).

Cotton arrivals nosedive in Punjab, courtesy past pest infestations

Only 8.7L Quintals Recorded by Punjab Board Till Aug 5, 2.5L Bales By ICAL

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Bathinda: With the cotton marketing season for 2022-23 almost coming to an end, kapas (raw cotton) arrivals in Punjab have been recorded at almost one-third of the previous year, 2021-22. Both Punjab State Agricultural Marketing Board (PSAMB), which records the arrival of various crops in mandis, and cotton-trading body Indian Cotton Association Limited (ICAL) have recorded similar arrivals, with little variation to each other.

As per PSAMB, the arrival of cotton in the 2022-23 marketing season has been recorded at 8.7 lakh quintal up to August 5 this year, while it was 28.89 lakh quintal for the entire 2021-22 season. ICAL has recorded the arrival of 2.52 lakh bales (1 bale=170 kg) up to August this year, against 7.19



CROP CHECK: Farmers and agriculture department officials check the cotton crop for any infestation at the initial stages, early this season

lakh bales for all of 2021-22. The area under cotton in Punjab remained almost the same at nearly 2.5 lakh hectares in 2021-22.

Usually, cotton arrivals are almost over by July 31. Arrivals in August and September are negligible. Cotton buying starts in October.

Past pest infestations, of white fly and pink bollworm,

are cited as the main reason behind the big fall in output. Poor quality of seeds and fertilisers too is being seen as a reason. Farmers also claim that the poor quality of insecticides supplied to them also failed to control pest attacks in the past.

Going by the infestations, reported consecutively for two years, the crop's sowing

fell below 2 lakh hectares, to hit 1.75 lakh hectares in the 2023-24 season. This happened even when the state government was stressing more on crop diversification and cotton was being seen as an alternative to water-guzzling paddy.

The bad days for cotton actually started in 2015, when a whitefly attack on the crop was reported for the first time. Nearly half of the crop was damaged at the time. Thereafter, area under cotton started declining and farmers continued suffering miseries with a small exception for a couple of years thereafter. Even cotton prices breaching the psychological barrier of Rs10,000 per quintal (much above the minimum support price) failed to entice growers.

"We had been growing cotton for a long time, but the successive pest attacks made us

return to paddy. No one wants to suffer continued losses," said a farmer from Sangat area of Bathinda. Many farmers think on similar lines in the cotton belt comprising Bathinda, Mansa, Fazilka and Muktsar, the main cotton-growing districts of Punjab.

To make matters worse, even the latest cotton crop on 1.75 lakh hectares faced its own set of problems. First, there was a pest attack on the crop in the initial stages of the season in parts of Bathinda, Mansa and Fazilka. Later, excessive rain caused problems for farmers.

An officer in the Punjab agriculture and farmer welfare department, who did not wish to be named, said efforts were being made to save the crop from pest attacks and farmers were being advised to use sprays when the need was felt.

No end in sight? Food price hike may disturb inflation maths

Prices of the majority of food items, led by tomatoes and other vegetables, have been on an upward trajectory since the past few months.

Incessant rains in major growing areas in July, that inundated fields and damaged standing crops, affected vegetable supplies in the urban and semi-urban areas.

But the price rise has not been limited to vegetables. Infact, wheat, rice, spices, and even edible oil rates have shown an upward movement off late.

The bad news for several of the food items, especially vegetables, is that traders and market players say a quick turnaround should not be expected.

Anil Malhotra, a former member of Azadpur APMC and chairman of Vegetable Traders Association, said that tomato prices won't get down until the new crop from main growing regions of Maharashtra namely Sholapur, Nasik and from Ratlam in Madhya Pradesh starts hitting the market.

"We will get a price of

₹30 per kg for tomatoes only after two months," Malhotra said.

A report by Bank of Baroda (BoB) said that though the current tomato spike might bottom out in the coming months with the July-November arrival of harvest, one needs to be watchful of the onion price shock before the arrival of October-December harvest.

For tomato, much of the pass through has happened from wholesale to retail chain as the gap between the two has touched a high of ₹19.7/kg in July 2023. But for onions, the pass through is much lower (gap at ₹6.5/kg in July 2023).

"Against this backdrop, we see significant risks to the underlying H1 inflation trajectory. The second half of the year might get some comfort with the usual reversal in vegetable prices. For July 2023, we expect CPI to settle 5.8 per cent. The RBI in its coming policy would be continuing with its hawkish pause and might revise its inflation projection for Q2 upwards," the report said.

SANJEEB MUKHERJEE



ADDING TO WOES

Price of food items in the wholesale markets of Delhi and adjoining areas in last one month (in ₹/qtl)

	Jun 3	Aug 5	% change
Onion	1,563	1,456	-6.8
Potato	1,234	1,282	3.9
Tomato	6,400	9,475	48.0
Brinjal	2,300	2,200	-4.3
Bottlegourd	2,150	1,150	-46.5
Capsicum	2,400	7,000	191.7
Mango*	2,319	3,463	49.3
Bananas**	1,500	1,800	20.0
Chana Dal	5,750	6,150	7.0
Urad Dal	10,250	10,700	4.4
Turmeric	10,200	17,500	71.6
Jeera	66,000	67,500	2.3
Dhaniya	12,000	14,000	16.7
Rice#	3,360	3,400	1.2
Wheat#	2,520	2,600	3.2
Atta (wheat flour)#	3,170	3,300	4.1
Mustard oil (pkd)	11,941	12,088	1.2
Soya oil (pkd)	11,721	11,868	1.3

Note: *Dusheri variety; **Khandesi variety; #According to prices in Karnal wholesale market. Data for some items is till August 3; Karnal wholesale market has been considered for grains as it is a big wholesale market near Delhi

Source: Department of Consumer Affairs, Agmarket.gov.in, iGrain India and others

Bhutan reaches out for rice amid export ban, India likely to offer it

British demands on data related issues, duty concessions on dairy out of India-UK FTA

Developing world more vulnerable to El Nino risks

In India, a dry spell in August-September may impact standing crops. The risks cannot be overlooked

G Chandrashekhar

After three successive years of La Nina conditions, the world now faces the risk of an opposite phenomenon called El Nino that occurs as a result of warming of the ocean surface in the central and eastern tropical Pacific Ocean.

While La Nina usually results in above-normal rainfall in South and South-East Asia, the southern hemisphere, especially South America, usually faces less-than-normal precipitation. Now with El Nino, West Africa, South-East Asia and South Asia face the risk of below-normal precipitation.

The World Meteorological Organization has reckoned there is a high probability (as much as 90 per cent chance) of El Nino occurrence in the coming months. Yet, it is less clear how severe or mild the El Nino phenomenon would turn out to be.

South America is critical for the world agricultural market. Interestingly, the impact of El Nino on South America shows regional variation. While northern regions of South America face drier weather, the southern parts of South America face wetter weather.

More importantly, during periods of El Nino, North America more often than

not witnesses excellent spring weather that boosts agricultural production.

Given the likely geographic impact, the crops most vulnerable to El Nino include sugar, cocoa, coffee, rice and palm oil. In other words, the market for these commodities faces upside price risk. We are already witnessing price spikes.

For instance, cocoa prices continue to skyrocket to multi-year highs. The most active forward contract in New York, with a September maturity date, has reached \$3,400 a tonne, highest level since December 2015. Trading at about Ringgit 3,700 a tonne, crude palm oil is set to spurt towards Ringgit 4,000 a tonne in anticipation of El Nino driven lower production two quarters from now. Other crops too show rising price levels.

INFLATION WORRIES

While inflation has generally shown signs of easing with tighter monetary conditions, any likely damage that El Nino would cause to these crops may slow the decline in inflation. If anything, developing countries are more vulnerable to the adverse effects of El Nino.

Dry weather that this phenomenon brings reduces the harvest size, tightens availability and pushes food prices up. Also in tropical countries, El



PADDY SOWING. Crucial period
MUSTAFAH K

Nino-induced reduction in rainfall may result in reduced hydropower generation. If that combines with higher global energy prices (crude oil, natural gas) the emerging economies may face a double whammy of food inflation and energy inflation.

Which are the crops most likely to be impacted by El Nino? In West Africa, cocoa production in Ivory Coast and Ghana is at risk. In Asia, sugar production in India and Thailand, coffee in Vietnam and Indonesia as well as rice in the Philippines and Thailand may be vulnerable.

These are countries where agriculture contributes to a significant part of the GDP. So, Central bankers should be a worried lot. Untamed inflation is likely to deter them from

cutting interest rates. For India, four months from June to September are critical for Kharif crop cultivation. Paddy, pulses, oilseeds, cotton and coarse grains are key crops of the season. Sugarcane, a long duration crop, is also affected by monsoon.

This year, we saw late onset of the southwest monsoon and tardy progress until mid-July. After lagging until early July, progress of crop planting has just caught up, except for pulses. If anything, the window for sowing is rapidly closing. Even by last week July, several meteorological sub-divisions covering Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh and Rajasthan showed deficient rainfall.

If dry conditions kick-in during August-September, crops can wither at the time of harvest. These risks cannot be overlooked.

The inflation situation may worsen as we progress into the second half of the calendar year. World crude oil market is set to tighten with supplies forecast to trail demand by 2 million barrels a day.

The political implication of the emerging scenario cannot be wished away. It is time for policymakers to be ready with responses that would limit the damage.

The writer is a policy commentator and commodities market specialist. Views are personal

The challenge of making farming profitable



DEVINDER SHARMA
FOOD & AGRICULTURE SPECIALIST

SOMETIMES, silence speaks louder than words. A heart-wrenching video clip of a vegetable vendor breaking down at the Azadpur mandi in New Delhi has gone viral. When asked whether he would go back with an empty cart if he couldn't afford to buy tomatoes at the inflated price, the vendor is lost for words and unable to control his tears — his silence gives a powerful reply.

The short video clip hit the sensibilities of a nation that otherwise remains engrossed in new car models hitting the market and the latest electronic gadgets flooding the supermarkets. With regular TV shows about the latest in automobiles as well as what's new in electronic gadgets, and with reports every now and then of a fast-growing economy, it is only once in a while that a video clip shakes the middle class out of its stupor, bringing it face to face with harsh realities.

The clip of Rameshwar, the vendor from New Del-

hi, was one such instance. His economic distress was clearly evident from the tears he found difficult to hold back. When asked as to how much he earned, he said it was not more than Rs 100-200 per day. His reply also laid bare India's poverty levels and the explosive rise in inequality.

Not many would, however, know of a 45-year-old sugarcane farmer and labourer from Thikpurli in Maharashtra. The farmer, Bharati Patil, told a research platform: "Over the last five years, our wages have remained largely unchanged. Before demonetisation, they were Rs 100 per day and now, if we work till 5 pm, we get Rs 150 a day." In other words, going by what the marginal sugarcane farmer claims, daily wages in Maharashtra's sugar belt have increased by a paltry Rs 50 in five years. With the prices of all necessities having gone up, it is difficult to comprehend how the marginal farmers and farm labourers survive with the same low wages year after year.

The increase in real wages, when adjusted for inflation, therefore, must be close to zero, and not looking up in any meaningful way. In fact, some studies have pointed to the real wages either falling or remaining stagnant between 2013 and 2017.



VITAL: As livelihoods predominantly depend on agriculture, rebuild it by incentivising rural entrepreneurship. FILE PHOTO

The Centre for Monitoring Indian Economy (CMIE) had, in April 2022, said that the majority of the country's 900 million workers were so disillusioned with the available employment opportunities that they had stopped looking for jobs.

It is primarily for this reason that the farm sector's share in the country's employment, which stood at 45.5 per cent in 2021-22 as per the Periodic Labour Force Survey, did not drop to the pre-pandemic levels, when the share of the farming population was relatively lower at 42.5 per cent of the workforce.

Following the outbreak of

Reconstruct small-scale farming and ecologically sustainable agriculture to usher in reforms and reduce inequality.

the Covid pandemic, a sizeable proportion of an estimated 100 million workers who had trudged back to their villages after the lockdown was imposed did not return to the cities.

Similarly, in Bangladesh, employment in agriculture has shown an increase this year. As per the Bangladesh Bureau of Statistics, most of the job generation in the April to June 2023 quarter and seen on a year-to-year basis has been in agriculture. Some economists think it is not a good sign as it indicates the lack of formal employment opportunities in the cities.

Let's first see how

depressing inequality is turning out to be. At the global level, the World Inequality Report has tracked the worsening inequality, with the latest report saying that the richest 10 per cent of the global population own 76 per cent of all the wealth whereas the bottom half of the people own hardly 3 per cent of the wealth. In India, Oxfam International tells us that the top 1 per cent own 40.5 per cent of the country's wealth.

The economic design is so woven that the rich continue to amass wealth, whereas the poor are driven up the wall. The capitalist system is so well entrenched that despite the big talk of ending inequality, the top 500 super-rich globally added \$852 billion to their wealth in the first six months of 2023.

Using the World Bank matrix of assessing the proportion of the population of the BRICS countries living on an income of less than \$4 a day, India tops the chart. With 91 per cent of the population below that benchmark — far ahead of South Africa, which is a distant second with 50.3 per cent of its people living on less than \$4 a day — the aspiration for a decent living would be much higher among the people who are left behind.

Considering that agriculture is the largest employer, the best way to reduce the gnawing inequality is to put the resources where the actual need is. Instead of continuing with the failed trickle-down economics, the task should be to shift the focus to lift the bottom and middle levels.

Since the majority of the livelihoods in India and Bangladesh are dependent on agriculture, mainline economists should accept the challenge of making farming profitable by incentivising rural entrepreneurship. Instead of sucking wealth from the bottom, provide more income in the hands of farmers even if it means defying the dominant economic framework. A vibrant agriculture is the crying need of the times. There is no other way to wipe the tears of every farmer and wage-earner.

My suggestion would be to devote the next five years to rebuilding agriculture. Provide as many resources, incentives and economic stimuli to agriculture as we have given to the industry ever since the reforms were unleashed. Reconstruct small-scale farming and ecologically sustainable agriculture to usher in the next stage of reforms that are healthy, wealthy and regenerative. Just five years — that's all I am asking for.

Beneficiaries of PM Kisan plan drop 63% in 3 years

RUCHIKA M KHANNA

TRIBUNE NEWS SERVICE

CHANDIGARH, AUGUST 6

In just over three years, the number of farmers in Punjab, getting financial aid under the PM Kisan scheme, has come down by a whopping 63 per cent.

According to figures available with *The Tribune*, the number of beneficiaries getting the financial aid under the scheme has reduced from 23,01,313 in the December 2019-March 2020 to just 8,53,960 in April-July 2023, reportedly because they have been found to not comply with the laid-down norms for availing the assistance under the scheme by the Government of India, or they were unable to electronically complete their KYC.

Initially, by early 2022, 5,41,512 farmers had been removed as beneficiaries under the Pradhan Mantri Kisan Samman Nidhi Yojana. The farmers had been rejected by the Government of India for availing the Rs 6,000 per annum assistance because they could not verify their credentials as being in accordance with the norms laid in the scheme.

Farmer leader Balbir Singh Rajewal said this was a huge cut in the number of beneficiaries. "It is quite possible that rather computer illiterate farmers have not been able to upload their credentials online and have been rejected. But they are in extreme need of this assistance. That

THE REASON

Farmers had been rejected by the Government of India for availing the ₹6,000 per annum assistance as they could not verify their credentials in accordance with the norms laid down in the scheme.



BIG DROP

YEAR	BENEFICIARIES
DEC 2018-MARCH 2019	11,81,102
DEC 2019-MARCH 2020	23,01,313
DEC 2020-MARCH 2021	18,71,649
DEC 2021-MARCH 2022	17,13,808
DEC 2022-MARCH 2023	8,60,366
APRIL 2023-JULY 2023	8,53,960



FARMERS ILLITERATE, COULDN'T UPLOAD DETAILS

“It is quite possible that computer illiterate farmers have not been able to upload credentials online. But they are in extreme need of this assistance. That is why we insist that the Central Government believes only in helping corporates, whose loans are written off, but small and marginal farmers get no assistance. Balbir Singh Rajewal, FARMER LEADER

is why we say that the Central Government believes only in helping corporates, whose loans are written off, but small and marginal farmers get no assistance,” he rued.

The Tribune has learnt that 17.59 lakh beneficiaries under this scheme, popularly called PM Kisan, have received up to 12 instalments of Rs 2,000 each. The instalments are given thrice a year. However, before the 13th and the 14th instalment was to be distrib-

uted, many of the registered beneficiaries were found to be either ineligible or removed for failing to upload their KYC. Though the number of beneficiaries have been reducing since August 2021, the first big cut in the number of beneficiaries was observed when the instalment for December 2021- March 2022 was to be distributed.

Punjab Director, Agriculture, Gurbinder Singh told *The Tribune* that the cut in

the number of beneficiaries now was mainly because of the farmers not being able to complete their e-KYC online or link their Aadhar with their bank accounts. “Some could also have been deleted from the list of beneficiaries because of being large farmers. But the department is making all-out efforts to help the genuine farmer beneficiaries by collecting data and helping them upload it,” he said.

'INDIA COULD RECONSIDER BAN ONCE GLOBAL DEMAND FALLS'

Agricultural economist and member of NITI Aayog **Ramesh Chand** says that as long as India exports 20-22 million metric tonnes (MMT) of rice a year, there will be no impact on domestic food security. In an interview with **Shantanu Nandan Sharma**, he says India had to ban non-basmati white rice as the global demand had skyrocketed, with policymakers estimating that India may end up exporting over 30 million tonnes if no restriction was imposed. Edited excerpts:

Why did the government ban the export of non-basmati white rice?

After the outbreak of the Russia-Ukraine war last year, food prices started rising. Prices remained high for a year or so before getting stabilised and started declining sharply. But rice has been an exception. During the last 6-7 months, prices of rice and to some extent sugar have been rising in the global market. The demand for rice globally is so high that if we don't impose any restriction, India will end up exporting over 30 million metric tonnes of rice this year (as against 22.2 MMT in 2022-23). It would have an impact on the domestic market. There is no issue as long as we export 20-22 MMT a year. Even today, the government-to-government export of non-basmati will continue. Because of high demand, India may still export 20 million tonnes despite the partial ban. Also, we are not sure of the monsoon or any El Nino effect on rice production this year. There has been a late sowing in many places. So, any responsible government will be cautious.

How long do you expect this export ban to stay?

It will depend on the international market. India could reconsider white rice

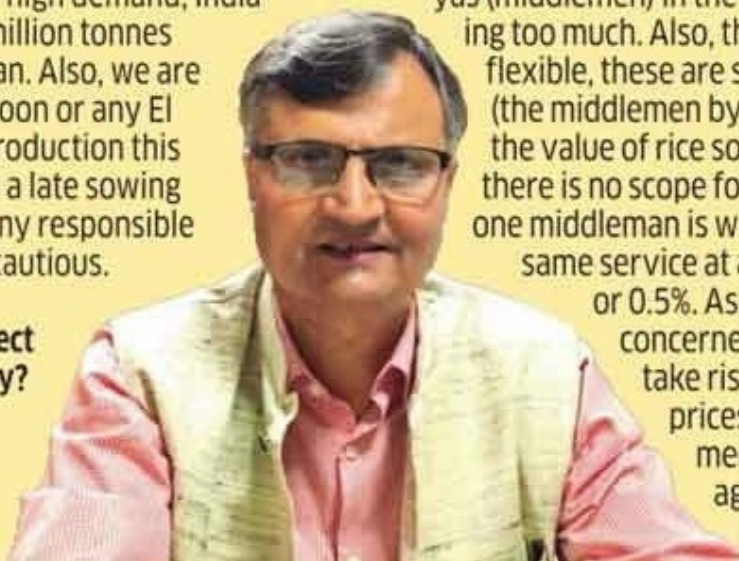
export ban once the global demand reduces. It may also depend on this year's yield which we will be able to estimate by September-October.

In the global market, will non-basmati consumers shift to basmati?

Non-basmati rice is now exported to countries such as the US and the UK, too. So, there is a possibility that some loyal rice consumers may shift to basmati as the price difference between the two has come down over the years.

Is there a way to minimise the role of speculators and middlemen in the rice mandi?

In any marketing chain, there will be a cost to a service provider. The problem is that the arthiyas (middlemen) in the rice trade are charging too much. Also, the charges are not flexible, these are statutorily decided (the middlemen by law are paid 2% of the value of rice sold in a mandi). So there is no scope for competition even if one middleman is willing to provide the same service at a lower price, say 1% or 0.5%. As far as speculation is concerned, some traders do take risks and manipulate prices. But the government takes action against such manipulators.



Excessive pesticide use weighing down agri sector

About 52,466 metric tonnes of chemical pesticides were used in agriculture across the country in 2022-23. Presently, 299 pesticides and their 792 formulations of various types are registered in India. Several studies indicate that pesticide poisonings have been rising sharply for years. There is a dire need to take judicious decisions on the use of hazardous chemical pesticides which are being unsuspectingly consumed by us in our food.

HARENDER RAJ GAUTAM

THE presence of pesticide residue in food is considered to be a worldwide public health concern. Despite a low per-hectare use (290 gm) of pesticides in India, their injudicious use imperils the health of farm workers and consumers. Earlier this year, the Supreme Court asked the Union Government to explain the reason behind banning merely three pesticides, said to be highly carcinogenic even as expert committees constituted for the purpose had recommended a ban on 27 such pesticides. The court made these observations while hearing a bunch of petitions challenging the February 2023 order of the Centre banning three pesticides. One of the petitioners had earlier approached the court after the pesticide poisoning incidents that were reported in Vidarbha region of Maharashtra in November 2017. The Ministry of Agriculture and Farmers' Welfare had on May 18, 2020, issued the draft order on banning 27 pesticides that it considered harmful for animals and humans. The original notification had listed the cause for banning each of the 27 pesticides — ranging from endocrine disruption, carcinogenic impurities, being highly toxic, being toxic to aquatic organisms, birds and honey bees, contamination of dichloro diphenyl trichloroethane (DDT) and other reasons. The decision to ban the 27 pesticides had been taken after a four-member expert committee led by Anupam Varma reviewed a

STATES WITH MAJOR CONSUMPTION OF CHEMICAL PESTICIDES

State	Consumption (metric tonnes)	Per-hectare consumption (kg in 2016-17)		
	2018-19	2020-21	2022-23	
UP	11,049	11,557	11,824	0.39
Maharashtra	11,746	13,243	6,814	0.57
Punjab	5,543	5,193	5,130	0.75
Haryana	4,015	4,050	4,066	0.62
All India	59,670	62,193	52,466	0.29

MINISTRY OF AGRICULTURE AND FARMERS' WELFARE AND MINISTRY OF CHEMICALS AND FERTILISERS

total of 66 pesticides currently in use before submitting its report in 2018. The report recommended a complete ban on 13 pesticides, and a review of 27 others in 2018, and phasing out of six by 2020, among other measures. However, the petitions contended that even the Verma Committee's mandate was narrowed by the government to 66 pesticides, when there are at least 99 pesticides being used in India which have been banned or restricted elsewhere in the world. In April 2018, the Supreme Court directed the Centre to take a decision on banning 18 pesticides within two months. Consequently, the Central Insecticides Board & Registration Committee deliberated on the Verma Committee's recommendations and reiterated the same. Consequently, the ministry issued a

notification on August 8, 2018, to invite objections to the move to ban 18 pesticides. However, no further action in the matter was taken. In 2020, the ministry set up another expert committee, headed by SK Khurana, to have a relook into the issue; this panel, too, recommended banning of 27 pesticides. However, all the three reports were not acted upon by the government. In 2022, the government set up another committee, headed by TP Rajendran, that recommended the banning of only three pesticides — dicofol, dinocap and methomyl. About 52,466 metric tonnes of chemical pesticides were used in agriculture across the country in 2022-23. Presently, 299 pesticides and their 792 formulations of different types are registered in India. Several studies indicate

EFFECTS AND RISKS REPORTED IN SOME COMMONLY USED CHEMICAL PESTICIDES/FUNGICIDES IN AGRICULTURE

Pesticide	Ill-effects, risks and observations
ATRAZINE	Banned in 37 countries, including EU. There are reports pertaining to its endocrine disruption potential; the product is toxic to aquatic organisms, including fish.
CARBENDAZIM	The product is foetotoxic and teratogenic and poses a risk to pregnant women. Carbendazim is an active component of thiophanate methyl and benomyl, which are already banned for use in the country.
CAPTAN	Banned in six countries. The product is toxic to aquatic organisms, including fish. While registering, data relating to toxicity and carcinogenicity not submitted.
CARBOFURAN	Banned in 63 countries, including EU. Extremely toxic and a 'red triangle' pesticide. It is also toxic to honey bees, aquatic organisms and birds.
MANCOZEB	Banned in Saudi Arabia. Product is toxic to aquatic organisms, including fish.
ZINEB	Banned in 32 countries, including EU. Product is toxic to aquatic organisms, including fish.
MONDROTOPHOS	Banned in 112 countries, including EU. Extremely toxic and a 'red triangle' pesticide. Toxic to honey bees and aquatic organisms.

SOURCE: MINISTRY OF AGRICULTURE AND FARMERS' WELFARE (AS REPORTED IN CASITILE NOTIFICATION OF BANNING OF PESTICIDES DATED 08/08/2018)

that pesticide poisonings have been rising sharply for years. In 1990, a WHO task force estimated that about one million unintentional pesticide poisonings with severe manifestations occurred annually, leading to around 20,000 deaths. Now, the cases of unintentional poisoning have increased to 385 million, probably due to the intensified pesticide use across the globe. The number of fatalities around the world from unintended pesticide poisonings are estimated at some 11,000 per year. Most of the victims live in developing countries, where environmental, health and safety regulations are often the weakest; 60 per cent of the deaths related to pesticide poisonings occur in India. Further, the use of highly hazardous pesticides is also a reason for the high poison-

ing rate. The five largest producers of chemical pesticides sell only 12 and 11 per cent of highly dangerous pesticides out of total pesticide sales in Germany and France, respectively, in comparison to 50 per cent sales of highly dangerous pesticides in India. In 2022, the US Environmental Working Group found that over 70 per cent of non-organic fresh produce contained residue of potentially harmful pesticides. The European Food Safety Authority, in its 2020 report, found that 29.7% of the produce contained pesticide residue equal to or below the permitted limit, while 1.7% exceeded the limit. In Europe, soil analyses revealed that more than 80 per cent of 317 agricultural top soils tested contained pesticide residue. A review of nearly 400 published studies

found that pesticides harmed organisms, including bacteria, fungi and soil fauna — vital for maintaining soil health — in over 70% of the experiments included in this review. Pesticide residue in soil is also associated with a decline in the growth of earthworms, microorganisms and symbiotic mycorrhizal fungi which provide nutrients to plants. In India, between April 2014 and March 2019, 1,18,062 samples were collected and analysed; residue in 2,923 (2.5%) samples was found exceeding the Maximum Residue Levels (MRLs). In another study in India, residue of 56 pesticides were detected in vegetable, with the highest percentage of positive samples in capsicum (69.7%), followed by brinjal (36.6%), cucurbits (34%) and tomato (30.3%). Aerial spraying of endosulfan in the cashew estates of Kasaragod, Kerala, caused severe health hazards and deaths. The Supreme Court, in its order in May 2011, observed that right to life was of paramount consideration, even as it banned pesticide endosulfan in the country after the horrible consequences of its effects were seen in Kasaragod. In October 2018, around 40 farmers died and 800 were hospitalised in Maharashtra due to alleged poisoning with monocrotophos, a pesticide banned in scores of countries. There is a dire need to take judicious decisions on the use of hazardous chemical pesticides which are being unsuspectingly consumed by us in our food.

The author is a former Professor and Head, Dept of Plant Pathology, Dr YS Parmar University of Horticulture and Forestry, Nauni, Solan

Farmers in districts urge Central, State govts. to fulfil their demands

They wanted the Central government to fix the minimum support price for copra at ₹150 per kg; they appeal to the State government to procure raw coconut for ₹40,000 per tonne and also sought lifting on ban on toddy

The Hindu Bureau
ERODE

Urging both the Central and State governments to fulfil their 10 important demands, farmers in large numbers submitted petitions to the district administration during the weekly grievances redress meeting at the Collectorate here on Monday.

Listing out their demands, farmers, under the banner of Tamilaga Vivasayigal Pathukappu Sangam, urged the State government to lift the ban on toddy, procure coconut, groundnut and other oil seeds from farmers directly and sell it through ration shops replacing palm oil.

They wanted the Central government to fix the minimum support price



Farmers staging demonstrations in front of the Collectorate in Erode and Krishnagiri (right) on Monday. M. GOVARTHAN & N. BASHKARAN



(MSP) for copra at ₹150 per kg and wanted the State government to procure raw coconut for ₹40,000 per tonne.

Based on the report of the National Commission on Farmers, MSP should be fixed for all agricultural products and the government should procure it, they urged.

Their other demands

were workers under the Mahatma Gandhi National Rural Employment Guarantee Scheme should be used for all farm activities, licence for farmers to hunt down wild boar that damage crops, withdrawal of the Electricity Amendment Bill 2022, annual subsidy for farmers as given in Odisha, Telangana and a few other States, and im-

plementation of Pandiyaru - Punnampuzha scheme.

In Krishnagiri, Tamizhaga Vivasayigal Paadhukappu Sangam staged a protest demonstration over a 10-fold charter of demands at the Collectorate. The farmers' association called for employing MGNREGS labourers for farm work only. They also demanded a compensation of ₹5 lakh

to the farmers killed by wild animals.

In Salem, around 100 farmers belonging to Tamizhaga Vivasayigal Pathukappu Sangam submitted a petition to the Collector urging the government to fulfil their various demands, including completion of the Mettur water surplus scheme in the district.

Bayer partners Shell, GenZero to cut emissions in rice cultivation

Vishwanath Kulkarni

Bengaluru

Bayer in collaboration with GenZero, a Temasek-owned investment platform company focussed on accelerating decarbonisation globally, and Shell Energy India Private Ltd and other experts announced efforts to develop a robust model to showcase the scalability of methane emissions reduction in rice cultivation.

The proposed approach will include training, support, and guidance for smallholder farmers while utilising Measurement, Reporting & Verification (MRV) mechanisms incorporating remote sensing technology. The project aims to set a benchmark for similar efforts in the rice decarbonisation space, Bayer said in a statement.

DSR SYSTEM

Bayer over the last two years

Beyond greenhouse gas reduction, the programme is expected to save water and improve soil health

has already done the necessary groundwork and initiated a pilot Sustainable Rice Project across India.

It started with an aim to generate carbon reductions by encouraging rice farmers to switch from the current practice of transplanting by continuously flooding fields to Alternate Wetting and Drying (AWD) that involves controlled and intermittent flooding and Direct Seeded Rice (DSR) that involves no transplanting operations and very limited flooding.

With this collaboration in place, the programme in its first year aims to significantly

scale up its coverage to 25,000 hectares of rice cultivation during the kharif 2023 and rabi 2023-24 seasons. Any success achieved during this first year will pave the way for the implementation of an even larger-scale sustainable rice project. Beyond greenhouse gas reduction, the programme is expected to generate other benefits such as water savings, soil health improvement, and enhanced community livelihoods for smallholder rice farmers.

Simon-Thorsten Wiebusch, Country Divisional Head, Crop Science Division of Bayer for India said, "With this programme, we aim to get more insights into how regenerative agricultural practices can contribute to mitigating climate change by way of methane emission reductions, water conservation, soil health improvements and drive sustainable development of smallholder farmers".

3 bizmen smuggle insecticides from China, route it via Dubai to evade ₹10cr duty; held

Ahmed.Ali@timesgroup.com

Mumbai: Three businessmen who smuggled insecticides under the guise of 'inexpensive chemicals' from China and routed it via Dubai to evade customs duty of Rs 10 crore, were arrested by the Directorate of Revenue Intelligence (DRI).

The DRI Mumbai unit arrested Rajan Bhansushali, Dinesh Ratanshi Bhanusali and Bhavik Dand, and are looking for their accomplices who aided and abetted them

in the crime. Officials said that on the specific intelligence, they intercepted a consignment on August 6, belonging to Shagrikka Import and Export for smuggling insecticides restricted under Insecticides Act, 1968. The syndicate imported 15MT of insecticides and evaded duty of Rs 10 crore.

In the past, too, the same company had imported various consignments by way of mis-declaration and had diverted them in the local market by fraudulent means

which resulted in massive evasion of customs duty.

During investigations, it transpired that Bhavik Dand had forwarded his Import Export Code (IEC), and was fully aware that importer Bhanusali did not have the license to import insecticides. A key conduit, Shailesh Vyas, sent import documents like invoice, packing list, analysis report and airway bill to Vicky Mehta, who in turn sent it to Bhansushali. Bhanusali stated that the consignment originally was from China but

was routed through Dubai to remove suspicion as many consignments of insecticides from China have been seized in the past. He further said that he sent cash to Delhi for the consignment through angadia. Officials said the accused had made a Whatsapp group through which they communicated with each other regarding the consignments. He was earlier booked in two cases of smuggling in 2014 and 2015, for false declaration of vitamin-C products and e-Cigarettes.

'Exports, per capita income doubled in five yrs, UP will achieve \$1 trillion goal by 2027'

UP chief minister **Yogi Adityanath** is a man on a mission to achieve a trillion dollar economy goal for UP by 2027. After identifying nine sectors to focus on, he has put a dedicated team to chase the dream. In a free-wheeling interview with **TOI's Pravin Kumar**, he shared his plans and vision...

The state's current GDP is ₹20 lakh crore (approx. 250 billion dollars) and it needs to cross ₹60 lakh crore to meet the target of USD 1 trillion by 2027. Going by the current growth rate, the government is staring at a stiff challenge. How do you propose to do this?

■ The per capita income of Uttar Pradesh has grown almost 100% in the past 5-6 years. This even though almost three years of this duration were consumed by Covid. In the previous financial year, our Gross State Domestic Product (GSDP) grew by over 30%, which is a positive step towards our goal. And now that we have identified the sectors to focus on - four core and five enabling - I think we are well on target. It should be achieved in the remaining period.

Which are the sectors where UP is currently doing well?

■ We have made tremendous progress in terms of infrastructure. Roads, expressways, air and waterways, all have seen unprecedented growth in the past six years. The connectivity has pushed economic activities in a big way. UP is developing into a hub of multi-modal transport. Combined with the newly developed freight corridors, the state will establish itself as an export hub.

Besides, the agriculture and MSME sectors are doing extremely well. At present, UP is exporting agri products worth ₹19,000 crore per year. We will double it next year. We recently sent Landga mangoes and green chillies to Dubai and Doha. UP government is giving subsidy of 15% on cargo facility and the eastern region has already emerged as an agri export hub sending fresh vegetables to London via New Delhi and fresh mangoes to Dubai and London. Besides, fresh vegetables from Mirzapur, Ballia and other districts are being sent directly to Dubai, regional rice to Qatar and black rice to Australia.

The state has enormous potential. It's probably the only state in the country where 85-90% land is irrigated. Farmers are confident of the government support that they would be protected from the vagaries of weather. Over 24 crore farmers of the state are covered under the PM Kisan Samman Nidhi, which comes as an additional help to them. It's another way of employment generation.

We have 86 lakh MSME units running in the state at present. Our One District One Product (ODOP) scheme is linked to the MSME sector, which has played a key role in over 100% growth in our overall export in the past five years. Our total export was approximately worth ₹86,000 crore, which has grown to ₹1.25 lakh crore now.

Besides, rapid urbanisation has opened new doors to investment. Service sector has seen exponential growth. The arrival of 10 crore tourists in Varanasi, and 7 crore in Mathura-Vrindavan has given a fillip to the local trade. It has been made possible only because vastly improved facilities.



The TOI Interview

Target \$1 Trillion JOIN UP'S TRILLION DOLLAR JOURNEY

If you have a plan or even an idea that can boost Uttar Pradesh in the quest to take its economy to the target of \$1 trillion, mail it to us, along with your contact details at tolucknow@gmail.com

Which sectors require intervention from the government? Where do you see the most scope for improvement?

■ All the identified sectors are on the job. We are trying our best to use new technologies to produce best results. Speed is the key. We will use single-window system as far as possible to achieve it.

UP's aspirational districts have done well in the past five years. Now the same model is being replicated in 'aspirational blocks'.

How does this help?

■ In 2018, NITI Aayog launched the aspirational districts programme to

monitor the growth of 112 districts of the country which had shown retarded growth on key social economic indicators. Five broad areas - medical and nutrition, education, agriculture and water resources, financial inclusion & skill development and basic infrastructure - were identified to monitor their development and rank them on the basis of their progress. Eight UP districts made it to the list - Balrampur, Siddhartnagar, Sonbhadra, Chandauli, Fatehpur, Chitrakoot, Bahraich and Shravasti.

In the beginning, all eight were below 100 out of 112 districts on socio-economic indicators. But we worked hard on these districts. For this, no extra funds were allocated, but already available funds and manpower were put to optimum use. Now in the latest ranking released by the NITI Aayog, five UP districts are in top 10 and all eight are in top 20.

The same model is being replicated in 100 blocks of UP. CM fellows have been placed in all these blocks to monitor the progress and everything is being supervised through a dashboard in Lucknow. All these efforts have raised the living standards of the people in these blocks and districts. An unprecedented number of people have come out of poverty. Recently, the NITI Aayog came out with data which showed UP had the maximum 5.5 crore people rising above multi-dimensional poverty in the past five years.

Regional imbalance has always been a nagging issue in the state. You have opened up Bundelkhand and Purvanchal for development by linking these areas with road and air connectivity. However, they still carry the weight of having been UP's most backward areas. How will you leverage these areas to meet the USD 1 trillion goal?

■ Bundelkhand and Purvanchal have an immense potential for development. We

YOU JUST ADVISED YOUR OFFICERS ABOUT VILLAGE MALLS? HOW FEASIBLE IS THE CONCEPT?

■ It will be another move to transform the village economy. We would link this concept of 'Vishwakarma Sankul' to our Vishwakarma Shram Samman, under which we provide tool-kit training to workers pursuing 17 traditional professions, like barbers, cobblers, ironsmith, goldsmith, mason, sweetmeat-maker, etc. In this 'sankul', or village mall, which could be set up in a large village or a cluster of small villages, they would be given space to open a small shop and display their products. It will not only enhance their earning but also give them a wider clientele. Recently a high-profile hair-dresser, who came to see me, told me that he gets ₹1,000 to ₹2,500 for a single haircut. Imagine, for the same work, a barber working beneath a tree gets just ₹20-30. But, if he enhances himself and sets up a small saloon, he can charge ₹100-150 or even more. Such transformations not only increase income but also free these professions from the shackles of caste. Now, you will see people from other castes taking traditional caste-based professions. There is no dearth of employment opportunities, one only needs to know how to work hard.

We have trained our special focus on these regions. Purvanchal Expressway and Bundelkhand Expressway have brought these two areas closer to the state and national capitals. We have special bodies to focus on development needs of these

WHAT CHANGES HAVE BEEN BROUGHT IN THE LABOUR LAWS?

■ Earlier, we had laws which would pit labourers against industry. But can labourers survive without industry? What will happen to them if industries get shut? A section, out of vested interest, had painted this anti-labour picture of industries. So, we changed certain laws to ensure that while on one hand interests of labourers are safe-guarded, on the other hand, reforms are not stopped. Besides, it ensures that workers have the freedom of working hours and they get benefits. All these reforms were welcomed by both industry and the workforce.

When is the first ground-breaking ceremony scheduled to be held? You have set a target of groundbreaking projects worth ₹10 lakh crore. Is availability of land an issue?

■ We are preparing for this. There is no shortage of land. In fact, we have identified a huge tract between Kanpur and Jhansi and are planning to develop a new industrial development zone on the pattern of Noida. It will have smooth connectivity to other parts of the state and the country through Bundelkhand Expressway and two link expressways, and give a great impetus to development activities in the entire Bundelkhand.

What are the 25 sectoral policies that have been made or tweaked?

■ Along with broader policies for key areas, like industrial development, logistics, textile, pharmaceuticals, pharma and IT-ITES, we have developed customised policies to facilitate industries like defence and aerospace. We have single-window approval for new proposals. Apart from this, we have a policy to allow any new entrepreneur to start operations without any approval with a 1,000-day window to get all clearances.

You have schemes like ODOP, CM Fellows etc to your credit. Does the government have another pathbreaking idea up its sleeve to give the much-needed push to the economy?

■ We are going to push our PM-CM Internship Scheme in a big way. It will provide employment opportunities to over 7.5 lakh youths of the state, who will get exposure to the industry and will get a stipend for the duration of their internship in both public and private sectors. The amount would be shared by the government and the establishment concerned. Besides, our 'Tablet-Smartphone scheme' would link over 2 crore youths to new technology and make them more employable.

Temple will be ready for January launch but is Ayodhya ready to handle the rush?

■ Development works are being carried out on a war-footing. The temple town would be ready well in time. Its international airport would be operationalised much before the inauguration of the temple.

What's the status of Noida Film City?

■ Technology is changing fast and we are working to develop a place which addresses all challenges. I have instructed officials to hold sessions with directors, producers and actors to understand their concerns and incorporate their suggestions. Once it comes up, professionals would get all facilities to make films, serials and reality shows under one roof.

UP has emerged as an 'Expressway Pradesh'. When will we have the

complete network ready?

■ Most of these, including the Ganga Expressway connecting Meerut and Pragraj, would be ready before Kumbh 2025.

UP has witnessed unprecedented demand for power - from 11,500 MW to 28,000 MW in 10 years. How will the government meet this challenge? There are complaints of a power crisis.

■ There is no crisis. We have adequate power. Sometimes planning and distribution is an issue which we are addressing.

While many other states are following the 'Bulldozer Model' of enforcing law and order, recently a judge of Calcutta high court made this unconventional remark to borrow 'Yogi's Bulldozer' to demolish encroachment.

■ Whatever actions we have taken are as per law. We have razed constructions which were illegally raised. In none of the cases, our actions have been challenged in a court of law.

We have been hearing reports about possible expansion of your ministry which has vacancies. Will newly invited allies be accommodated?

■ It will be known soon.

What impact will the opposition alliance INDIA have in 2024 LS polls? SP, Cong, RLD are coming together in UP.

■ They have been together in the past several elections. Nothing happened then, nothing will happen now.

Neighbouring CM Nitish Kumar is planning to contest from UP.

■ Koi bhi an jaye (whosoever comes). Nothing will change.

UP has an onerous responsibility for BJP to pull it through in the 2024 LS polls. Even if the party does better in UP, what about other states? Where will the numbers come from?

■ The opposition alliance is not a leader. It's a boat without a sailor and would meet the fate such a vessel is destined to. BJP and allies have Modi ji as their leader and our PM has no parallel. When it comes to Lok Sabha elections, Modi ji is the number one choice for the entire country.



Awareness programme for chilli farmers

BB BUREAU
VIJAYAWADA

BEST Agrolife Ltd, India's leading agrochemicals company, conducted a farmer's training programme meon chilli nurseries in Chirala region of Marturu. The event garnered sig-

nificant attention and participation from the local farming community. Attended by over 300 farmers, the programme was designed to educate and empower them with the latest techniques and innovations in chilli cultivation.

AGRI-DRONES TO PUSH WOMEN SHGs: IFFCO

New Delhi, Aug. 15: Cooperative major IFFCO and industry players on Tuesday said the government's decision to provide agri-drones to women self-help groups will go a long way in modernising the farm sector through use of the latest technology.

Addressing the nation, Prime Minister Narendra Modi said 15,000 women self help groups (SHGs) would get agri-drones, as well as training for operating the unmanned aerial vehicles and repairing them.

IFFCO MD U.S. Awasthi termed the announcement a great example of women empowerment.

He said IFFCO is also purchasing 2,500 agricultural drones as a spray solution for Nano liquid urea and Nano DAP.

Secretary General of industry body Assocham, Deepak Sood said the decision has reaffirmed the government's commitment to women empowerment, ease of living and leveraging the power of technology for holistic development.

Use of drones is catching up among farmers for spraying pesticides, nano-fertiliser, and crop management. — PTI

'Improved irrigation has mitigated impact of deficient monsoon on farm output'

Suresh P. Iyengar
Mumbai

The deficiency in the South-West monsoon will not impact major kharif crops as most States have augmented the irrigated land coverage.

While the impact of the monsoon rainfall is statistically significant, its adverse effects on farm production have been mitigated by improved irrigation sources, said RBI's latest monthly Bulletin.

It said they States have augmented irrigation facilities to reduce their dependence on the monsoon. The country's total annual useable water resource through rivers and groundwater is estimated at 1,121 billion cubic metre (BCM).

SOWN AREA UP

Almost all States have seen an increase in the net irrigated sown area over the last three decades.

Among the 17 major States, nine have over 50 per cent of net irrigated sown area compared to only three States in 1990, it said. Of the overall



arable land, the growth in irrigation in Punjab has increased from 85 per cent in 1990 to 100 per cent in 2020, while that of Haryana and Uttar Pradesh rose 20 percentage points to 95 per cent and 85 per cent, respectively. In Tamil Nadu, it was up from 43 per cent to 58 per cent, said the Bulletin.

RAINFALL DEVIATION

With improvements in irrigation facilities, the relationship between rainfall deviation and the production of major crops does not appear to be

direct. In the last three decades, the trends in rainfall deviation from normal and growth in rice production show that several States have increased output despite deficient rainfall.

For instance, the South-West monsoon was 0.7 per cent below the long-period average at all India level in 2021 but kharif foodgrains production increased by 3.2 per cent during the year.

Since 2016, overall foodgrain, and rice, production has continued to expand every year despite lower-than-normal rainfall in four of the last six years. However, production of coarse grain, pulses and oilseeds remained volatile during this period, said the Bulletin.

Coarse grain production has continued to decline over the years, notwithstanding deficient or surplus rain, possibly owing to crop substitution.

Yet, the South-West monsoon remains important for kharif crops and for rabi foodgrains by improving moisture levels and augmenting reservoir storage.

Need to adopt modern as well as traditional methods in agriculture: Rupala



STATESMAN NEWS SERVICE
NEW DELHI, 18 AUGUST

Union Minister of Fisheries, Animal Husbandry and Dairying Parshottam Rupala on Friday stressed that there is a need to adopt modern as well as traditional methods in agriculture and animal hus-

bandry as this will make the rural areas of the country more prosperous. Prime Minister Narendra Modi is constantly working for the welfare of stock farmers, the Union Minister said while addressing a symposium here.

"This is the reason why

fisheries, animal husbandry and dairy have been given the status of separate ministries and because of this change is visible," he said while addressing the symposium organised by industry body CLFMA of India.

CLFMA of India is a livestock association and an Apex Chamber which represents the dynamic Animal Agriculture in India. Rupala, who inaugurated the programme as the chief guest, urged the CLFMA to explore the possibilities of getting rid of the problem of 'Parali' and using it as animal feed, so that the problem of straw can be solved and also cheap fodder can be available for animals. During the event, the Livestock Survey Report 2023 was also released. Suresh Deora, Chairman, CLFMA addressed the event and shared the future plans of CLFMA.

ICAR's research expansion: Fertilizer and pesticide centres urgently needed, say scientists

Prabhudatta Mishra
New Delhi

Amid the government's efforts to make India self-sufficient in fertilizers, there is now a need to open two separate dedicated centres under the Indian Council of Agricultural Research (ICAR) to undertake research in fertilizers and pesticides as none exist now, said agriculture scientists. Research on fertilizer and pesticides are currently done in several of its centres, including the Pusa Institute. The main research of ICAR has been confined to developing new seed varieties, while there are also some milestones achieved in the dairy and fisheries sectors.

As there has always been resistance about funding for opening new centres, ICAR never pushed for separate bodies for fertilizers and pesti-



cides in the past, sources said. "Not only the expenses for separate centres, the research on fertilizers and pesticides itself requires huge investment which large multinational companies undertake as they have scope to market their innovative products across the globe," said a former deputy director general of ICAR in charge of natural resource management (NRM) division. Sources said due to objection from Finance Ministry, ICAR has not been able to

open a new centre for research on honey bees, and the proposal has not seen the light of the day despite efforts in past few years.

CENTRE FOR MILLETS

Currently, research on honey bees is conducted through the All-India Coordinated Research Project, the sources said. On the other hand, after months of continuous persuasion, the sources said a new national centre for millets is said to have been approved for Rajasthan, the largest bajra producer. "It is only as election is scheduled for Rajasthan later this year that the proposal has been approved, otherwise it was once rejected earlier. So, the funding needs to be seriously pumped in to expect results," a source said. The Fertilizer Ministry has also been trying to set up a separate centre or university for research on fertilizers with in-

dustry's support, sources said.

Admitting that there was no proposal moved to create separate centres for fertilizer and pesticides research during his tenure (2016-2022), former director general of ICAR Trilochan Mohapatra said there are already centres like Bhopal-based Indian Institute of Soil Science and Indian Agricultural Research Institute (IARI), commonly known as the Pusa Institute, which have been carrying out research on agro chemicals. Even research on fertilizers is being undertaken by institutes like Jodhpur-based Central Arid Zone Research Institute, he added.

However, he agreed that there is a need for separate centres as new molecules have to be found, whether it is bio-pesticides or chemical pesticides, and private companies may also be partnered in funding the research.

Pest attack likely to grow if monsoon weakens

Crops like cotton, paddy, and pulses most vulnerable to pests and diseases

SANJEEB MUKHERJEE
New Delhi, 23 August

The long dry spell in August, which was broken recently, is adding to farmers' woes as the crops have become vulnerable to pest and insect attacks, and this may result in loss of yield or higher expenditure.

According to industry players, crops such as cotton, paddy, and to some extent, pulses are most vulnerable to pests and diseases if the monsoon remains patchy for the rest of the season.

The agricultural input survey data shows that at an all-India level, around 38.8 per cent of the irrigated area is treated with pesticides while the figure is 36.1 per cent for unirrigated areas.

The area treated with pesticides was the highest in case of cotton, followed by arhar, jute and paddy.

According to industry sources, the situation so far this year hasn't reached the stage yet where the possibility of pest attacks is manifold.

However, all eyes are on the mon-



soon trajectory over the next few weeks when several crops enter their early maturity stage.

Overall, sales of pesticides and insecticides have been robust during the 2023 kharif season despite the delayed onset of the monsoon in several parts of the country and late sowing of crops.

The southwest monsoon has been almost 36 per cent below normal till August 21. This comes after the rains were 5 per cent more during July.

"The 2023 kharif season has

shown a rather intriguing pattern. Following a period of dryness, the subsequent good rains in July have ensured timely completion of sowing activities, with only a marginal drop in crop areas. One remarkable development has been the significant growth in herbicide consumption across key kharif crops like rice, soybean, groundnut, cotton, and pulses." Tirth Shah, executive director, GSP Crop Science, told *Business Standard*.

Shah, however, warned that due to the recent dry spell, there have

been some instances of insect infestations and fungal diseases in soybean, groundnut, and pulses.

"If the expected revival in rains fails to materialise, then cotton could be most vulnerable to pest attacks, closely followed by soybean and pulses," Shah said.

Region-wise, Shah said that the cotton crop in Maharashtra, Gujarat, Telangana, and Rajasthan is most susceptible to pest attacks if rains don't turn out according to forecast.

Similarly, soybean in Maharashtra, Madhya Pradesh, and Rajasthan is another crop, which is vulnerable. This is followed by groundnut in Gujarat and pulses in Madhya Pradesh, Rajasthan and Gujarat. Also, at risk of pest infestation is rice in West Bengal, Jharkhand and Chhattisgarh if the rains become weak, said Shah.

Rajesh Aggarwal, managing director (MD), Insecticides (India) Limited, said he did not expect any fall in sales due to the late onset of monsoon this year.

"Areas with good and moderate rainfall are showing good prospects and demand (for pesticides and insecticides) is high in these areas," Aggarwal said.

He said in most places of the country, there has been fair rainfall during this season and incidents of pest infestation has been normal.

Meanwhile, NK Rajavelu, chief executive officer (CEO), crop protection business, Godrej Agrovet, feels that if the dry spell extends beyond a tolerable limit, it could affect the health of the kharif crops.

"There could also be chances of flower drops, failure of pollination and fruit set. The increased crop weed competition may further deteriorate the crop," Rajavelu said.

He said critical kharif crops like cotton, soybean, groundnut, maize, and rice are currently in their flowering stage.

"This stage requires optimal moisture levels, making the prolonged dry spell a concern due to its potential to directly impact yield through increased pest incidence, flower, and fruit drop. And, in severe cases, it can lead to complete plant desiccation," Rajavelu said.

He said in some parts, chili and tomato seedlings — ideally suited for transplantation after 30 days — have been delayed to nearly 40 days due to the dry conditions.

Farmers are awaiting the first showers after the spell to transplant these seedlings.

Grape farmers in Nashik are also grappling with the possibility of drought, leading to withheld pruning and spraying activities, which could affect the subsequent flush and yield.

Govt to curb subsidized urea diversion to industry

NEW DELHI

THE government has prepared a comprehensive action plan to crackdown on diversion of highly-subsidised urea to plywood and other industries, and violators could even face a jail term, according to official sources.

The Union chemicals and fertilisers ministry will coordinate with other central ministries as well as States to curb the diversions and plans are also afoot to launch joint operations to prevent the diversion of agriculture-grade urea, the sources in the know said. Earlier this week, Union Chemicals and Fertilisers Minister Mansukh Mandaviya asked states and Union Territories to curb diversion of agriculture-grade urea to industries. Neem-coated urea is provided by the central government to farmers at a highly subsidised rate of Rs 266 per bag (of 45 kilograms), which is

The Union chemicals and fertilisers ministry will coordinate with other central ministries as well as States to curb the diversions



Department of Fertilisers will monitor the total supply, both domestic production and imports, of technical-grade urea as well as keep a tab on the total goods produced by industries that need urea as a raw material

much cheaper than technical-grade urea meant for industrial use. In this backdrop, there are instances of diversion of agriculture-grade urea to industries that make resin/glue, plywood, crockery, moulding powder, cattle feed and industrial mining explosives.

The Department of Fertilisers has prepared the "comprehensive action plan"

to stop diversion of urea meant for farming to prevent leakages of subsidy and ensure that farmers' interest do not get hampered, the sources said. "There will be zero tolerance towards diversion of agriculture grade urea to industrial use," one of the sources said. The sources said there have been instances of the neem coating of agriculture-grade

urea being removed through some chemical process and then used for industrial purposes. As per the action plan, the department will coordinate with different ministries, including finance and commerce, as well as the state governments to crackdown on industries using agriculture-grade urea instead of technical-grade urea. It will take help from the Directorate General of Goods and Services Tax Intelligence (DGGI). A joint operation by the central government and states will also be launched soon, the sources said.

Further, the department will monitor the total supply, both domestic production and imports, of technical-grade urea as well as keep a tab on the total goods produced by industries that need urea as a raw material.

Hopeful of consensus on 5 key trade issues: Goyal

Says there are realities on which consensus is not possible

SHREYA NANDI

Jaipur, 23 August

Amid continued differences in positions on the Russia-Ukraine conflict, India is hopeful of a consensus among the Group of Twenty (G20) nations on the five key trade and investment issues that countries have been deliberating since the beginning of the week in Jaipur.

"There is a possibility of a 'good outcome document'," Commerce and Industry Minister Piyush Goyal said, adding that there are realities on which consensus is not possible.

In the past, the G20 Foreign Ministers' Meeting, two meetings of the Finance Ministers and Central Bank Governors Meeting, as well as the Energy Transition Meeting in July, ended without a joint communiqué due to diplomatic tussles between the West and Russia over the war in Ukraine.

"We are confident that tomorrow (Thursday) and the day after the ministerial meeting, we will come up with a concrete, actionable agenda that will help the world withstand any future shocks," the minister told reporters.

The two-day G20 Trade and Investment Ministerial Meeting, starting Thursday, is being held in Jaipur. The meeting was preceded by the fourth and final Trade and Investment Working Group meeting under India's G20 Presidency on August 21-22.

Government officials told Business Standard that even as the meeting of the officials from all the G20 nations has been making good progress, uncertainty continues regarding whether there will be a joint communiqué at the end of the ministerial meeting on Friday, considering past trends. During the working group meetings that started in March, five priority areas were identified: trade for growth and prosperity, resilient trade and global value chains (GVCs), integrating micro, small, and medium enterprises (MSMEs) into world trade, logistics for trade, and World Trade Organization reforms.

"We have been able to come up with significant consensus among member

"WE HAVE BEEN ABLE TO COME UP WITH SIGNIFICANT CONSENSUS AMONG MEMBER COUNTRIES INVOKING A JAIPUR 'CALL FOR ACTION', THAT WILL HELP PROMOTE INDUSTRY"

PIYUSH GOYAL,
Commerce and
industry minister



Goyal meets WTO DG, France, UAE counterparts on sidelines of meet

Commerce and Industry Minister Piyush Goyal on Wednesday met with World Trade Organization (WTO) Director-General Ngozi Okonjo-Iweala, who emphasised rules-based, open, inclusive multilateral trading systems. The meeting took place on the sidelines of the Group of Twenty meet and also comes ahead of the WTO's 13th Ministerial Conference, scheduled to take place in Abu Dhabi in February next year. "During WTO's inception, the thought was that decisions should be made keeping in mind the principle of common but differentiated responsibilities, which means that countries should be given responsibilities according to their growth potential," said Goyal. Besides, it is important to revive the dispute settlement mechanism that has been dysfunctional for several years. The minister also held bilateral meetings with his counterparts from Brazil, France, Switzerland, the United Arab Emirates, and Bangladesh. Goyal is also expected to hold talks with UK Trade Secretary Kemi Badenoch, European Union's Executive Vice President and Commissioner for Trade Valdis Dombrovskis, United States Trade Representative Katherine Tai, Minister of International Trade, Export Promotion, Small Business and Economic Development in Canada Mary Ng, among other key ministers. **SHREYA NANDI**

countries, invoking a Jaipur 'Call for Action'. It will help promote the industry, the MSME sector, upgrade the global trade helpdesk, and bridge information gaps for MSMEs to help them expand their business and trade," said Goyal.

There have also been deliberations on formulating high-level principles for the digitalisation of trade and trade facilitation since technology has profoundly impacted the way cross-border trade is undertaken. In this regard, India has been advocating for a paperless trading system to further

reduce transaction costs, make smaller shipments more cost-effective, and enable the internationalisation of operations at a lower cost.

G20 nations also aim to remove bottlenecks that impede the integration of MSMEs in international trade. Furthermore, as 70 per cent of the world trade occurs through GVCs, the trade and investment working group has been deliberating on developing a mapping framework that could make GVCs resilient towards future shocks.



Centre Asks SC to Withdraw Order against GM Mustard

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New Delhi: The government on Tuesday asked the Supreme Court to vacate its November order that restrained environmental release of genetically modified (GM) mustard, saying “the huge policy implications involved deserve early resolution” of the matter as the growing season is fast approaching in September and October.

A bench led by Justices BV Nagarathna asked the petitioners, including Gene Campaign and a group of activists led by Aruna Rodrigues, to file their objections to the Centre’s application seeking discharge of its statements made to the court. The government said the assurance given by its counsel that the process would not be taken forward was not intended to halt the entire process of research and testing.

The petitioners had last year sought a moratorium on the commercial release of GM mustard after it was cleared in October by the government. The apex court then asked the parties to maintain status quo on the cultivation of the oil seed and sought a status report from the government on the pro-



duction of GM mustard.

The case will now be taken up for hea-

The government on Tuesday told the SC that a post-release monitoring committee under the chairmanship of PK Chakrabarty, a former member of the Agricultural Scientists Recruitment Board, did not report any non-compliance of stipulated conditions in regard to the environmental release of the GM mustard hybrid. DMH-11.

The committee observed that the trial was in excellent condition, with the required agronomic practices at each site being followed, the government said, adding the panel had even noted that there was no evidence to indicate any legitimate scientific concern against the decision of conditional approval granted by the government.

CONGRATULATING INDIA ON CHANDRAYAAN-3, SOUTH AFRICAN PRESIDENT CALLS IT MOMENTOUS OCCASION FOR BRICS

Modi, Ramaphosa Decide to Add Fresh Momentum to Defence, Agri, Trade Ties

Willing to donate more cheetahs, should you need, you have come to the home of cheetahs: Ramaphosa to Modi

DipanjanRoy.Chaudhury
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New Delhi: Prime Minister Narendra Modi met South Africa's President Cyril Ramaphosa on the sidelines of the 15th Brics Summit in Johannesburg on Wednesday and discussed ways to strengthen bilateral cooperation in defence, agriculture, trade and health, among other areas.

Both leaders reviewed the progress made in bilateral relations and expressed satisfaction at the progress achieved in various fields, including defence, agriculture, trade and investment, health, conservation and people-to-people ties, according to an external affairs ministry readout.

Both sides also exchanged views on continued coordination in multilateral bodies and regional and multilateral issues.

Ramaphosa expressed support for India's G20 presidency and appreciated New Delhi's initiative to give the African Union full membership of the G20. He conveyed that he looked forward to visiting New Delhi for the G20 Summit.

Modi congratulated Ramaphosa on the successful hosting of the Brics Summit and accepted Ramaphosa's invitation for a state visit to South Africa.

During the Brics Plenary session, Ramaphosa said he wanted to congratulate India for the Chandrayaan-3 mission. "I would like to congratulate India, particularly as you



HAILING INDIAN ROLE

SA President Ramaphosa appreciates India's initiative for giving the African Union full membership of G20

speak about the need for cooperation in space, in a few hours India's spacecraft Chandrayaan-3 will be landing on the moon. We congratulate you. This for us, as the Brics family, is a momentous occasion and we rejoice with you. We join you in the joy of this great achievement..." Ramaphosa said he was "willing to donate more cheetahs to India".

Modi Picks Up Tricolour Placed as Marker on Stage

Johannesburg: Showing respect to the Indian flag, Prime Minister Narendra Modi on Wednesday immediately picked up the Tricolour placed on stage at a Brics meeting here to mark the standing place of every leader so as not to step on it. A video of the meeting showed South African President Cyril Ramaphosa acknowledging the PM's gesture and picking up his country's flag after stepping on it. While Ramaphosa handed over his flag to an official, Modi kept the Tricolour with him. -PTI

"Should you need more cheetahs, you have come to the home of cheetahs," he told Modi. Earlier this year, 12 cheetahs were translocated from South Africa to India under an

agreement signed between the two nations.

The MoU facilitates cooperation between the two countries to establish a viable and secure cheetah population in India; promotes conservation and ensures that expertise is shared and exchanged, and capacity built, to promote cheetah conservation. This includes human-wildlife conflict resolution, capture and translocation of wildlife and community participation in conservation in the two countries.

Commercial relations between the two nations have flourished since the establishment of diplomatic relations in 1993. Major Indian exports to South Africa include vehicles and components, transport equipment, pharmaceuticals, engineering goods, footwear, dyes and intermediates, chemicals, textiles, rice, and gems and jewellery, among other items. Major Indian imports from South Africa include gold, steam coal, copper ores and concentrates, phosphoric acid, manganese ore, aluminium ingots and other minerals.

The South African Indian origin community numbers around 1.5 million and constitutes about 3% of South Africa's total population. About 80% of the Indian community lives in the province of KwaZulu Natal, about 15% in the Gauteng (previously Transvaal) area, and the remaining 5% in Cape Town.

South Africans of Indian origin are well-represented in the government, businesses, media, legal and other professions.

High costs & dwindling returns trouble Bt cotton farmers: Study

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Hyderabad: A recent study conducted by researchers from King's College, London, has shed light on substantial losses farmers face in Telangana's Nalgonda district due to Bt cotton cultivation.

The study unveiled that erratic monsoons increased failures of Bt cotton crop yields. Published in the 'Climate and Environment Journal' by researcher Ambarish Kar-machedu.

"Farmers across diverse caste and class divisions found themselves trapped in

ERRATIC MONSOONS TO BLAME

- Erratic monsoons increased failures of Bt cotton crop yields in Nalgonda
- 40% of India's Bt cotton produced in T'gana, Maharashtra
- Telangana second-largest Bt cotton producer in India
- Worst-hit were Scheduled Castes and marginal farmers
- Farmers subsequently compelled to reinvest in Bt cotton due to limited alternative cash-earning avenues



ling monsoons. Among the worst-hit were Scheduled Castes and marginal far-

financial losses," observed Ambarish. "Bt cotton was projected as a technological

economic risks for ryots escalate due to the heightened input costs associated with Bt cotton cultivation, often financed through indebted relationships with market intermediaries," he said.

The focus was on Kavarrampur in Nalgonda, which receives 80% of its annual rainfall during the monsoon season. The village, with a population of other Backward Castes, Scheduled Tribes and Scheduled Castes groups, was home to 155 households. In this context, 85% of farming households owned less than two hectares of land. Bt cotton farming emerged as

GCC for resuming FTA talks

First two rounds of discussions were abandoned

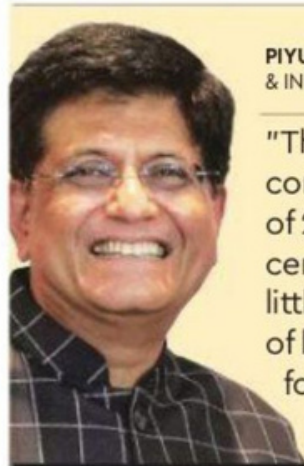
MUKESH JAGOTA
Jaipur, August 24

THE SIX-NATION GULF Cooperation Council (GCC) has approached India to restart negotiations on the free trade agreement (FTA) while some members of the grouping have also individually sought agreements, commerce and industry minister Piyush Goyal said on Thursday.

India and the GCC had agreed to explore an FTA in 2004 but after two rounds of discussions in 2006 and 2008, the process was abandoned. The GCC, headed by Saudi Arabia, has five other members — Kuwait, the United Arab Emirates, Qatar, Bahrain and Oman.

With the UAE, India already has an FTA, which came into force on May 1, 2022. It is the second-largest export market for India and fourth biggest for imports.

Since the FTA, India's exports to the UAE went up to \$31.6 billion in FY23 from \$28 billion in FY22. Imports in FY23 were \$53.2 billion, from \$44.8 billion in FY22. Among the economic regions, GCC is the top source of imports. Imports from GCC countries were \$133 billion in FY23, up 20.3% on year while exports were up 16.7% to \$51.3 billion. "Our relations with West Asia are on a growth trajectory. We are in dialogue with many of the GCC countries for greater



PIYUSH GOYAL, COMMERCE & INDUSTRY MINISTER

"The EU is a conglomeration of 27 countries so certainly it takes a little longer in terms of building and forging consensus (on FTA).

TRADE WINDS

India's trade with West Asia-GCC Region (\$ billion)



engagement in trade. We have large investments coming from the region," Goyal said.

With the EU also, the fifth round of negotiations are in progress right now. "We have had wonderful dialogue with the EU so far. It is a conglomeration of 27 countries so certainly it takes a little longer in terms of building and forging consensus among all the nations on their side."

"Similarly, we have to access various aspects of the trade agreement with the lens of 27 different countries with whom we are effectively entering into an agreement. So, that will be a little longer-drawn process but both the EU and India are committed to this agreement," Goyal added.

The minister would also be having bilateral discussions with the EU officials post the G20 meeting, which gets over on Friday.

Continued on Page 7

G-20 to reach broad consensus on trade issues, says Goyal

THE G-20 MINISTERS OF trade and investment would be able to agree on a broad consensus on all trade issues looking at the nature of talks at the sessions, commerce and industry minister Piyush Goyal said on Thursday, reports Mukesh Jagota.

"I have the confidence that we can all come out with a strong outcome document and chairs text reflecting the desire of the whole world to see greater prosperity across continents," Goyal said. ■ Page 2

Crop protection companies to reap bumper Q2 harvest after dismal Q1

Global agrochem business to remain subdued this year

RAM PRASAD SAHU
Mumbai, 27 August

After being underweight on domestic agrochemical companies and preferring global plays, brokerages see the former performing better in the quarters ahead.

Domestic crop protection companies have faced multiple headwinds over the past year and a half, given high inventory costs, pricing pressures, lower realisations in the generic segment, increased stocks due to lower infestations, and demand-led hits to volumes.

Some of the overhang from previous quarters was reflected in the April-June quarter (first quarter, or Q1) of 2023-24 (FY24) as well, with aggregate revenues and operating profit for the sector falling 12 per cent and 27 per cent, respectively. Nuvama Research says that a poor start to the monsoon, the initial fear of El Niño, falling raw material prices, and dumping from China, which added pressure on end-product realisation, led to inventory



PROFIT PRESSURE

	Q1FY24 figures in ₹ crore		
	Sales	Y-o-Y chg (%)	Ebit*
BASF India	543.8	-2	140
Bayer CropScience	1,739.6	4	393.3
Coromandel International	547.5	-17	55
Dhanuka Agritech	369.1	-6	39
Insecticides India	640	14	38.8
PI Industries	1,910	24	398
Rallis India	782	-9	85
Sharda Cropchem	637.8	-23	-117.9
Sumitomo Chemical India	724.2	-27	67.2
UPL	8,963	-17	637

*Ebit: Earnings before interest, and tax

Source: Kotak Institutional Equities

destocking by trade, and liquidation of high-cost inventory. This led to losses and margin pressures.

Rohan Gupta of the brokerage prefers domestic agri-business companies.

"We believe domestic agri-input players will witness a significant pickup in subsequent quarters, led by a pickup in monsoon in July and August. With the bottoming of input prices, we expect margins to witness gradual expansion," he adds.

Kotak Institutional Equities also expects India to fare better,

with the recovery in global markets taking place at a gradual pace.

"Looking ahead, the agrochemical market may outperform overseas markets Q2 of FY24, even as a break in the monsoon rainfall in August-September remains a key risk," say analysts of the brokerage, led by Abhijit Akella.

The global agricultural input segment remains worse off than the domestic market, with multinational agrochemical majors downgrading their revenue guidance for calendar year 2023 (CY23).

Germany's Bayer AG has cut its

CY23 revenue guidance (in May) from 1.5 per cent growth to a fall of 5 per cent (in August) for its crop protection business due to a sales decline in glyphosate, a broad-spectrum herbicide. Sales of the herbicide were down 61 per cent for Bayer AG in the June quarter due to pricing issues, retail channel destocking of inventory, and reduced demand due to dry weather in key markets.

US-headquartered FMC Corporation believes that there could be volume pressures in the second half of CY23 due to channel

destocking as higher inventory costs and a wait-and-watch approach lead to ordering delays.

The company expects the global crop protection market to fall at a high single-digit or low double-digit rate in CY23, against the previous estimate of a low single-digit decline rate.

Another US-based agri-major, Corteva Agriscience, has downgraded its CY23 outlook (and lowered its revenue growth guidance) due to lower volumes in the North American market and purchase delays because of the drought sit-

uation in Latin America. The second half of CY23 is expected to be muted, with a recovery in calendar year 2024.

Among Indian companies (UPL, Anupam Rasayan, and Rallis), the international business also remained challenging due to an inventory build-up and a pricing pressure on major generic active ingredients, observes IIFL Research.

While PI Industries' custom synthesis and manufacturing business reported strong revenue growth, management remained cautiously optimistic as the end-user industry faced global headwinds, says the brokerage.

Among pure-play exporters, Sharda Cropchem reported the sharpest decline in sales and gross profit of 23 per cent and 73 per cent, respectively. The company was the only crop care company to post a loss at the operating level of ₹69 crore.

The weak global outlook is also reflected in stock prices.

While the UPL stock recently hit its 52-week low and is down 16 per cent from its high in June, Sharda Cropchem has shed a quarter of its value from its high in July.

In Q1, domestic crop protection revenues for PI, UPL, BASF, and Rallis were under pressure. With rainfall improving, sowing has picked up in Q2 and should trigger agrochemical liquidation and consumption.

Given the muted global outlook, Nuvama Research advises investors to avoid global players such as UPL and Sharda Cropchem.

Agri exports dip 14% amid weak demand, ban on cereal export

Zia Haq

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NEW DELHI: India's agricultural exports declined 14% on year in the April-June quarter of the current financial year on the back of weak global demand and a ban on cereal exports, official data reviewed by HT show.

To be sure, the country's overall merchandise exports too declined by 22% in this quarter, largely a result of economic headwinds in Europe.

Overall, the country exported farm produce worth \$6.23 billion in the first quarter of the current fiscal, nearly half of which, in value terms, came from cereals worth \$3.06 billion, which is lower by 25% compared to exports in the same quarter last year.

India halted wheat exports in May 2022 over a slump in output and high domestic prices.

The export of basmati rice grew nearly 13% to \$1.29 billion, but shipments of non-basmati variety of the grain dropped 2.7% to \$ 1.53 billion. India shipped horticulture produce worth \$470 million, a growth of 16%. India effected a ban on exports of non-basmati rice on July 20, roiling international markets. The country accounts for 40% of the rice exported.

India's agriculture exports outpaced merchandise exports during the pandemic period despite a sharp slowdown in the global economy. However, a strengthening dollar, lower demand for some products and export curbs have slowed down

shipments. The country is the world's largest producer of fruits and vegetables, second largest grower of wheat and the largest producer of milk.

In 2022-23, India's agricultural exports added up to \$43.37 billion, 9.6% of total merchandise exports of \$447 billion in the year.

Analysts expect India's merchandise exports this year to dip, although some are confident that services exports, \$322 billion in 2022-23, will make up. This was 26% growth over the previous year.

"In the current year, agricultural export could be far less because of the ban on rice export and duties of 40% on onion," Abhishek Agrawal of Comtrade said.

According to Agrawal, basmati exports could go up because more farmers have moved to the premium rice variety because of a ban on export of white rice.

India targeted to export nearly 12 million tonnes of wheat exports in 2022-23, significantly higher than the previous year's record export of 7.2 million tonnes.

But a heat wave trimmed yields, forcing the government to cut its output estimate to 105 million tonnes. India is the world's second largest wheat producer behind China. The smaller crop led to a 53% fall in government purchases to 18.8 million tonnes, fuelling wheat inflation.

This year, inclement weather is likely to have affected the rice crop.

Agrochem cos worry over rain, dam levels

Ujval Jauhari

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NEW DELHI

After a weak Q1 performance, agrochemical manufacturers are staring at challenges in Q2 as well owing to a slowdown and uneven distribution of monsoon, deficient reservoir levels and flat crop acreage.

The monsoon season had started on a promising note and increased activity in July raised hopes of sowing and good acreage that could have led to a higher usage of agrochemicals. However, a weakened monsoon in August is adding to the challenges of farmers as well as agrochemical manufacturers.

Himashu Binani, senior analyst at Prabhudas Lilladher said that the monsoon pattern in the last 15 days has impacted liquidation of inventory. The crop acreage has largely been flat and the impact of El Nino effect on the rainfall activity during September will be crucial for the sector.

The July-September quarter remains important for the liquidation of inventory at the retail level in the domestic arena for agrochemical manufacturers following inventory placements beginning in the June quarter. These companies have been struggling in the past few quarters. Global demand has been impacted due to higher channel inventory, unfavourable weather, declining crop prices and recessionary environment.

The opening up of China led



Weak monsoon in Aug is adding to the challenges of farmers and agrochemical manufacturers. **BLOOMBERG**

to increased supplies of agrochemical intermediates, which, in turn, had meant regular and steep decline in raw material prices. Companies carrying higher cost raw material inventory saw pressure on margins. This impacted the financial performance of producers in the past few quarters.

Analysts said Q1 remained a challenging quarter for the agrochemicals sector, with year-on-year (y-o-y) performance being severely impacted. Although it was expected that raw material decline had stabilised, the decline continued during Q1 as dumping by China exacerbated the situation, said Rohit Nagraj, research analyst at Centrum Institution Research. Analysts at Kotak Institutional Equities said most agrochemical companies—in India and overseas—reported weak results for the recently-concluded June quarter amid pressure from channel destocking and generics oversupply.

State-of-the-art plant clinic, seed production centre inaugurated at ICAR-IIHR

FTA to ensure key minerals for India, says Oz minister

SEASON IS NEAR YET NO DECISION ON ITS COMMERCIAL RELEASE

No u-turn, govt seeks SC's direction to take forward GM mustard sowing

DHIRENDRA KUMAR

NEW DELHI: With the sowing season for mustard approaching and there is no decision yet on commercial release of GM Mustard, the government, through a petition, has sought direction from the Supreme Court to take forward the mustard sowing during the upcoming rabi sowing season.

In a plea, submitted before the top court, the Environment Ministry has stated that despite the matter being heard on several occasions subsequently, arguments by the parties could not be concluded and the interlocutory application filed by the petitioners is pending before the court.

However, the Centre, in its application, said, "The oral statement made on behalf of the Union of India on November 3 was in the specific context of the present matter being listed for final hearing the following week.

This was not intended



to halt the entire process of research/testing under the conditional approval by the government (on October 25) for an extended period of time."

The Centre further informed the court that the second growing season under the conditional approval granted by the Ministry of Environment, Forest and Climate Change (MoEFCC) is also approaching in the months of September and October this year.

The application requested the court to "consider discharging the Union of India from the oral statement made on November 3".

Explaining about the government's application, a senior official said, "The application is regarding seeking clear direction from the Supreme Court. It's not an U-turn as what has been reported in a section of the media. The government, through an oral submission, had assured the court it would not continue sowing GM Mustard seed to any other identified location after the case was heard in the court on November 3 last year."

Till the time of hearing, sowing of GM mustard seed was already done at eight out of ten locations, the official said, adding that no further

Till the time of hearing, sowing of GM mustard seed was already done at eight out of ten locations

sowing was done after the oral submission.

So, in the application, the government has withdrawn that oral submission, the official said, adding that the Post Release Monitoring Committee (PRMC) has also stated in its report that the trial was in excellent condition and a clear direction of the court would help in expediting the mustard sowing process as the concerned agencies need some time for making available GM mustard seeds to identified farmers.

The centre also stated that mustard is the most important edible oil and seed meal crop of India.

Piyush Goyal quizzes Chinese trade minister on dumping of goods

ASIT RANJAN MISHRA
New Delhi, 25 August

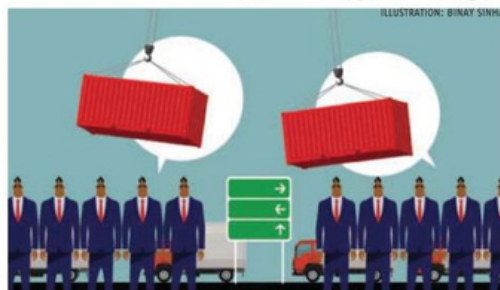
The audience at the B20 event was in for a surprise on Friday as Trade Minister Piyush Goyal decided to play the moderator and devil's advocate at the G20 trade ministers' session, posing some tough questions to his counterparts.

He asked Chinese trade minister, Wang Shouwen, whether China regretted that India did not join the Regional Comprehensive Economic Partnership (RCEP).

Shouwen replied: "The China-India trade relationship is growing very fast. Last year, our bilateral trade reached \$130 billion. If there had been an FTA (free trade agreement), either bilaterally or in RCEP context, the trade potential between the two countries would be much further tapped. It would benefit our two peoples. It is your decision whether or not you will join RCEP, but our doors are always open."

Goyal quipped that his concern was slightly different.

"We are already concerned about bilateral trade, even though \$130 billion is largely skewed in favour of China. Indian industry feels, if we had entered into RCEP, our trade deficit would also have risen further along with the increase in trade. We just can't seem to understand the pricing. The cost at which you are supplying goods is a matter all ministers would like to know. How can



you supply goods at less than the raw material cost?"

Shouwen avoided giving a direct reply, saying: "I would like to congratulate you for being a very successful trade minister for India because even though you are not able to balance your trade with each of your trading partners, you have been successful in maintaining a global trade balance overall for your country. It is natural that you will have a trade deficit with countries like China, but you will also have trade surpluses with other countries."

Speaking to US Trade Representative (USTR) Katherine Tai, Goyal remarked that of the three USTRs he had worked with, his working relationship with Tai was the best. He asked Tai whether other countries should also use the template set by

India and the US for resolving WTO (World Trade Organization) disputes bilaterally.

The two countries recently agreed to settle six of their seven WTO disputes out of the court.

"In terms of trade disputes, trade frictions, trade disagreements, they happen all the time. When it comes to dispute settlement, the critical moment in every disagreement is the point where there is a political alignment of will to resolve the issue as much as possible. What we have done together is to demonstrate that commitment, and that alignment of political will. What we have done is, I agree, a template that breaks the pattern of partnership between the US and India," Tai replied.

To the EU Trade Commissioner Valdis Dombrovskis, Goyal asked

whether the Carbon Border Adjustment Mechanism (CBAM) would be a threat to open borders and expanding trade.

"When we were designing this measure, we were putting a lot of attention to make sure that it was WTO-compatible and hence non-discriminatory. We are putting the same price of carbon on imported goods that we are putting on domestic producers, and any price of carbon paid in other countries will be deducted," he added.

To the Switzerland State Secretary for Economic Affairs Helene Budliger Artieda, who is leading the talks for an FTA with India on behalf of the four-nation European Free Trade Association (Efta) grouping, Goyal said India could help Swiss companies produce pharma products faster, and make medicines available for the whole world at more competitive price.

Switzerland is very strong in research and innovation, particularly in the pharma sector. "So we would look forward to more innovative partnerships with your companies," Goyal added.

"It is very difficult to pitch Efta to Indians, but it is very easy to pitch India to Switzerland. Everybody sees the opportunities. This is my fourth visit this year, and that shows we are highly interested. We are hopefully racing to the finishing line. I am counting on an excellent office on your side," Artieda said.

PAU tells farmers to watch out for pink bollworm attack on Bt cotton

TRIBUNE NEWS SERVICE

LUDHIANA, AUGUST 25

In the wake of attacks of pink bollworm on Bt cotton, experts from Punjab Agricultural University (PAU) have urged cotton growers to remain alert. They have been advised to contact Krishi Vigyan Kendras or farm advisory service centres in case of pest attack.

To provide timely solutions for the management of pink bollworm, Dr GS Buttar, Director of Extension Education, PAU, accompanied by a team of extension experts of Krishi Vigyan Kendra (KVK), Muktsar, made a whirlwind tour of Daula, Malout, Karamgarh, Ratta Tibba, Mohalan, Panni



PAU scientists inspect cotton crop. TRIBUNE PHOTO

Wala, Samme Wali, Lakhe Wali, Balamgarh and Maur villages of Muktsar.

Dr Buttar said that at present, the cotton crop in the district was in a good condition and that the pest attack was

under control.

He urged growers to monitor the crop regularly for the formation of bolls and appearance of rosette flowers, which may be destroyed when noticed.

Punjab Aims at Reducing Farm Fires by 63%, Haryana Targets Zero Burning

16.32 MT of 19.55MT straw should be managed ex situ in Punjab; 3.23 MT may still be burnt, say officials

Anubhuti.Vishnoi@timesgroup.com

New Delhi: All eyes will be on Punjab as the Delhi-NCR annual 'pollution season' inches closer and paddy fields get ready for harvest and fresh sowing.

A 63% farm fire reduction target is set for Punjab while Haryana is aiming at a zero-stubble target this year in latest central government reviews, ET gathers.

The big focus is, however, on Punjab. The Aam Aadmi Party ruled state is considered the biggest contributor to stubble fire caused air pollution in Delhi-NCR.

ET gathers that the State is aiming to double ex situ (off field) stubble management target from 1.8-million-ton paddy straw in 2022 to 3.47 million ton this year, as per information shared in central reviews.

This it is hoped will bring down stubble fire counts from near 50,000 in 2022 to under 25,000 this year across the 23 districts of Punjab—a near 63% reduction target.

Special focus will be on the seven districts that report over 70% farm fires—Amritsar, Sangrur, Firozpur, Gurdaspur, Kapurthala, Patiala and Tarn Taran. A 50% reduction target is aimed at for them in 2023.

AAP GOVT RESPONSIBILITY



With AAP in power in both Punjab and Delhi, there is now heightened pressure on it to check farm fires

In all, there is a stubble management plan in place for near 16.32 million tons of paddy straw vis a vis 19.55-million-ton straw expected to be generated this year in Punjab.

This means that nearly 3.23-million-ton straw may still end up being burnt on fields.

While this is no consolation, officials say that the closing gap shows the efficacy of

steps being taken and it is bound to help minimise air pollution levels considerably this year. With AAP in power in both Punjab and Delhi, there is now heightened pressure to check farm fires and wheels have begun picking pace.

Latest estimates show that both—total paddy cultivation area and paddy straw generation in Punjab will stay around the same figures as last year—at 31 lakh hectares and 19.55 million tons respectively.

It is planned that 11.5 million tons of paddy straw will be managed in situ—through combine harvester machines and bio decomposers while 3.52 million tons will be managed ex-situ—transportation of paddy straw and their conversion to pellets that can be used to co fire thermal power plants. Another 1.3 million tons is expected to be used as fodder.

The state will also double the bio decomposer application area—up from 4,674 acres in 2022 to 8,000 acres in 2023.

Haryana, on the other hand, is expected to register an increase in paddy cultivation area— from 13.90 lakh hectares in 2022 to 14.82 lakh hectares in 2023.

It is estimated that paddy straw generation will also rise commensurately from 7 million tons in 2022 to 7.31 million tons in 2023.

'Cotton growth story in TS hinges on innovations'

BB BUREAU
HYDERABAD



INTERNATIONAL cotton expert and Vice President of Agricultural & Environmental Research at Cotton Incorporated, US, Dr Kater Hake, and Dr M Ramasami, Chairman of Rasi Seeds said that Telangana's cotton fields hold tremendous potential and its farmers lead the country by displaying remarkable resilience. They suggested that to push the productivity gains of the State, and ensure cotton growers continue their strides, High Density Planting System (HDPS) should be replicated on a wide scale.

As the third-largest cotton producer in India, following Gujarat and Maharashtra, and the second-largest in South India, Telangana is setting its sights on leveraging its latent strength. With HDPS, the density of cotton plant populations is significantly increased, potentially quadrupling the number to 26,000 plants per acre. This innovative approach holds the potential to escalate both cotton production and overall productivity by an estimated 30-40 per cent, mark-

ing a substantial increase from the current lint yield of 450 kg/ha to a promising 750 kg/ha.

Dr Ramasami underlined the significance of HDPS in revolutionising the State's cotton industry. "Empowering farmers is our goal. HDPS, optimizing plant density and land use, paves the way for greater cotton productivity," he affirmed highlighting why this is critical now.

Despite the world's biggest acreage of cotton, India's global rank in productivity languishes at a modest 44th place. Factors such as shifting weather patterns, pest challenges, and the slow adoption of advanced technologies have hindered growth, resulting in a plateau in productivity over the last 5-7 years. This stagnation impacts over 6.5 million cotton farmers and the textile industry, which employs a staggering 45 million individuals.

NGT raises questions on pesticide unit in Tiruvallur

The Hindu Bureau
CHENNAI

The Southern Bench of the National Green Tribunal (NGT) has raised doubts on a pesticide and insecticide unit in Tiruvallur district that may have been operating without necessary approvals.

A petition filed by Rajesh Khanna alleged that the factory had been operating without consent from the Tamil Nadu Pollution Control Board (TNPCB) and that it caused pollution.

As per reports filed by the TNPCB before the tri-

The company applied for Consent to Operate on March 12

bunal, the pesticide company had applied for Consent to Operate (CTO) on March 12 and subsequently, the consent was given after inspection.

"However, it is said that the trade effluent generated from wet scrubber is disposed of into the solar evaporation pan which had the capacity to discharge three litres daily.

This raises a doubt that the unit might have been in operation even before ob-

taining the Consent to Operate," the Bench observed.

The Bench said in one of the product pamphlets of the unit, the manufacturing date was printed as December 2022 and the expiry date as November 2024.

"If the unit was not in operation prior to the issuance of the Consent to Operate in March 2023, how was the production done and labelled," the Bench said in its order on August 22.

It directed the unit to file its response. The TNPCB has been asked to verify the observations.

Agrochem cos worry over rain, dam levels

State-of-the-art plant clinic, seed production centre inaugurated at ICAR-IIHR

Area under paddy up 4.4%, pulses down 8.3% this kharif season: Agricultural Ministry data

NEW DELHI: Area under paddy crop increased by 4.4 per cent to 384.05 lakh hectares so far in the ongoing kharif season despite a lag in Andhra Pradesh and Karnataka, according to data released by the Ministry of Agriculture on Friday.

However, pulse acreage was down 8.30 per cent at 117.44 lakh hectares as on August 25 as against 128.07 lakh hectares in the year-ago period.

Tur, urad and moong acreage, too, remained lower. Kharif (summer) sowing begins with the onset of the southwest monsoon in June, while harvesting starts in October.

Paddy is the main kharif crop as more than 80 per cent of the total rice production is grown during this season.

"We are quite comfortable in



paddy area coverage. Sowing is still underway and the window is till September 15," Agriculture Commissioner P K Singh said.

Paddy acreage has increased to 384.05 lakh hectares as of August 25 in the ongoing kharif season as against 367.83 lakh hectares in the year-ago period.

Maximum increase in paddy coverage was reported in Bihar

at 34.88 lakh hectares, up from 29.8 lakh hectares, followed by Chhattisgarh (37.47 lakh hectares, up from 33.22 lakh hectares) and Telangana (20 lakh hectares, up from 17.36 lakh hectares) in the said period.

The paddy coverage was lagging in Andhra Pradesh at 9.49 lakh hectares as on August 25, lower than 10.69 lakh hectares in the year-ago period.

Similarly, sowing in Karnataka remained lower at 5.77

lakh hectares as against 7.49 lakh hectares in the said period.

According to the ministry's data, coarse cereal sowing area increased slightly to 178.33 lakh hectares so far this kharif season as against 176.31 lakh hectares in the year-ago period. Oilseeds coverage was slightly lagging at 188.58 lakh hectares as against 190.38 lakh hectares.

Among cash crops, area sown to sugarcane rose slightly to 56.06 lakh hectares on August 25 of this kharif season compared with 55.59 lakh hectares in the year-ago period.

Cotton and jute coverage have also remained lower at 122.56 lakh hectares and 6.56 lakh hectares, respectively.

Total area covered under all kharif crops, though, was higher at 1,053.59 lakh hectares as on August 25 as against 1,049.96 lakh hectares in the year-ago period.

States must act on perishables inflation



**SIRAJ HUSSAIN
KRITI KHURANA**

Respectively, former Union agriculture secretary, and doctoral scholar, BITS Pilani, Hyderabad
Views are personal

The Centre has initiated a series of steps, but a more meaningful response would need states to set up their own Price Stabilisation Funds

THE UNION GOVERNMENT HAS gone all out on managing food inflation. The latest step is the 20% export duty on parboiled rice (till October 15) and minimum export price of \$1,200 per tonne on basmati rice (through APEDA). These steps have been taken despite rice stock (including un-milled paddy) of 40.9 million tonnes (mt) in the central pool on July 1, 2023, while the buffer norm is 13.5 mt. So, why is the government so worried?

Consumer Food Price Index (CPI)-based inflation, which accounts for nearly half of the inflation basket, surged to 11.5% in July 2023 from 4.49% in June. This is largely due to untimely rains in April and the erratic monsoon so far (June and July) across India.

Vegetables inflation jumped to 37.34% in July from (-)0.93% in June, driven by prices of tomatoes. The government announced the import of tomatoes from Nepal, but only 670 tonnes has been imported.

The government's proactive action to announce sale of tomato at ₹40 per kg through the National Cooperative Consumers' Federation of India Ltd (NCCF) and the National Agricultural Cooperative Marketing Federation of India Ltd (NAFED) in Delhi and adjoining areas in the NCR calmed the market and the retail prices have since come down.

The spike in tomato prices was fol-

lowed by a rising trend of onion prices in the wholesale markets in Maharashtra. It was only ₹13.25/kg in July 2023 in the state's Lasaigaon *mandi*. By August 19, the wholesale price of onions had risen to ₹20.50 per kg. It was not unusually high but it persuaded the government to impose a 40% export duty until December 2023.

In anticipation of a price crash, the onion farmers started agitating and the Union government announced that two lakh tonnes of onions would be procured at ₹24.10/kg. The purchase has not started in right earnest and the *mandi* prices are generally ruling lower than this.

The all-India monthly retail price of onions on August 18 was ₹30.50 per

kg, compared to last year's average price of ₹25.50 per kg (August 2022 to July 2023). The average retail price in the last five years was ₹30.40 per kg. The price rise in onions is nowhere close to the 50% envisaged under the now repealed, Essential Commodities (Amendment) Act, 2020.

In case of vegetables, import at short notice is not a viable option. Moreover, there are phytosanitary issues involved, which hinder imports.

The Union government has no means to sell vegetables at cheaper rates across India. For the states too, managing the sale of perishable vegetables is not easy. In the past, the Centre has been able to sell cheaper onions (and tomatoes this year) in Delhi by using Mother Dairy booths which are

present in almost every locality.

In 2015-16, the Union government asked the states to inform about the demand of onions and a small quantity was imported from Egypt. By the time the consignments arrived, the domestic prices had fallen and the many states did not lift the imported stock.

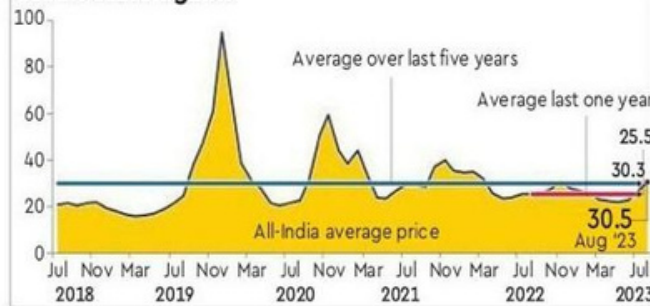
In 2019-20 too, the government imported 34,000 tonnes of onions but it was not pungent enough for Indian tastes and the states did not lift it.

In 2015-16, the Modi government set up a Price Stabilisation Fund (PSF) for purchasing non-MSP produce at market rates. States were also enabled to set up their own PSFs.

For setting up state-level PSFs, the Union government provides a one-time interest-free advance to the states/UTs. This advance is released into a revolving fund account to which the state/UT has to contribute an equal amount. In case of northeastern states, the states share is only 25%. To check food inflation, the states can then sell the procured produce when the market prices are higher. However, only a few states have set up PSFs. We could not find information on items and their quantities procured and distributed by them.

Thus, the burden of checking inflation in perishables has fallen on the shoulders of the Union government. The states producing inflation-prone commodities will do well to set up PSFs in order to check food inflation.

Onion tears again?



Tropical Agro to focus on products for organic farming

Subramani Ra Mancombu
Chennai

Chennai-based crop protection and plant nutrition firm Tropical Agrosystem (India) Pvt Ltd (Tropical Agro) plans to focus on organic range of products based on seaweeds and microbes.

"We will tap the local biodiversity to develop these products. These are solutions that will add value to the soil microbiome. They are critical for developing the yield potential of indigenous cropping systems," said VK Jhaver, Chairman, Tropical Agro.

The products of the company, founded in 1969 and part of privately owned "The Jhaver Group", will include bio-stimulants based on seaweed and a few other plant nutrients in easy-to-apply formulations aligned with FCO

(Fertilizer Control Order) requirements.

BIOSTIMULANT PATENT

The Chennai-based firm, which earlier this year got a patent for its biostimulant composition NASA and its method of preparation, has set up a separate vertical to promote exports of its products.

"In the past, our focus has been more on India, while we have exported to a few countries in West Asia, West Africa and Brazil. From 2022, however, we have instituted a separate vertical to focus specifically on exports," said Jhaver.

Since the company's products are inputs for agriculture, it has sought permission from various governments as part of its plan to enter new regions.

Dwelling on NASA, the Tropical Agro chairman said the biostimulant is used for in-



VK Jhaver, Chairman,
Tropical Agro

creasing the yield and quality of all crops. "It improves tolerance against stress and is safe for humans, animals, non-target organisms as well as the environment," he said.

2011 RESTRUCTURING

The product does not leave any residue behind and is compatible with chemical pesti-

cides and fertilizers. The biostimulant can be used across all crops including cereals, wheat, paddy, sugarcane, cotton, oilseeds, pulses, vegetables, fruit crops, and plantation crops.

Millions of farmers are using this product, commercialised in May 2012, the company's chairman said, adding "many patent products are in the pipeline and in different stages of development."

Though Tropical Agro began its journey in 1969, it was in 2011 that the company rationalised its product portfolio and restructured the organisation.

"Some of our key initiatives were venturing into bio-organic farming solutions, launching a new business vertical for residue-free farming, adding plant nutrition and post-harvest verticals, forging global partnerships, strength-

ening distribution network across the country and improving the supply chain efficiency through marketing tie-ups," the company's chairman said.

Today, the company has built an effective value chain reaching over 8 crore farmers through its 20,000 distributor and retail partners.

Tropical Agro has set up seven state-of-the-art manufacturing units including at Sikandrabad in Uttar Pradesh, in Coimbatore and suburban Ambattur in Chennai - both in Tamil Nadu. Other units are in Bengaluru in Karnataka, Sanand in Gujarat, Kishangarh in Rajasthan, and Loni in Ghaziabad, Uttar Pradesh. All the seven manufacture various formulations from pesticides to insecticides to fungicides to biostimulants, biofertilizers and biocontrol agents.

Greece — India's gateway to EU

HUGE POTENTIAL. A trade route to Europe via Greece, apart from north-south and the Suez Canal routes, is on the cards



RAM SINGH AAQIB CHAUDHARY

Prime Minister Narendra Modi's visit to Greece is significant in the context of establishing an India-Europe Commercial Corridor, especially when India and the EU are negotiating a free trade agreement (FTA). The corridor has the potential to reshape trade dynamics between the Indian Ocean Region, West Asia and Europe.

This corridor is a result of normalisation of geopolitical relations between the Arab world and Israel under the 'Abraham-Accord' coupled with India, the US, the UAE and Saudi Arabia proposing to establish a railway network connecting the UAE, Saudi Arabia, Jordan and Israel's Haifa port with India's Mumbai Port.

Modi's visit was also partly aimed at exploring a maritime gateway to Europe via Piraeus, Greece. This will allow much faster shipment of Indian goods to markets in the entire Eurasian region. Jebel Ali Port of the UAE will act as a crossroad to Indian goods to these markets, offering them quick access to Eurasian markets.

India is exploring greater access to markets of Eurasia and Africa and, accordingly, is banking on this corridor along with the existing North-South Transport Corridor, which is aimed at central Asian and East European markets with Chabahar port being an important node.

Hence, India will have three access routes to Eurasian markets — the North-South Economic Corridor, Suez Canal and India-Europe Commercial Arch (see figure).

ECONOMIC INTEGRATION

India's potential to assume a pivotal role in shaping the 21st century commercial landscape hinges on its adeptness in fostering the manufacturing value chains within the commercial arch. In this context, access to Piraeus Port in Greece can be a game-changer. It offers India avenues for seamless value chain integration. This potential arises out of synergies between India's trade endeavours with its West Asian



associates and its growing economic ties with Israel and the EU.

The corridor's emphasis on connectivity to the Eurasian markets holds significant promise for India's global aspirations. For instance, India intends to establish a West Asia Food Processing Corridor with close

The geostrategic landscape of the India-EU commercial corridor favours us as we enjoy cordial relations with the countries of the region.

collaboration with the countries involved to enhance food production and processing capabilities. This could involve technology transfer, knowledge sharing, and investment to boost agricultural productivity, ensure food security, and minimise post-harvest losses. By leveraging India's expertise in agriculture, Gulf countries' investments and Israel's agricultural technology, the proposed commercial corridor can contribute to stable food supplies for the region.

Also, this commercial arch is vital to India's energy security. India is actively pursuing energy security through strategic engagements with countries across West Asia.

By collaborating with countries like the UAE, Saudi Arabia, Qatar and even beyond with Iraq and Russia, India aims to strengthen its energy resilience and contribute to its sustainable development goals. In this bargain, the integration of Piraeus port completes the commercial arch between India and Europe offering us key markets for exportable products as well as energy needs.

India is also looking at the vast green energy markets of West Asia. Accordingly, India's commitment to expanding its renewable energy capacity aligns with West Asia's potential as a hub for solar and wind energy production.

India is actively forging partnerships in West Asia and Europe in the knowledge sector as well. Leading in this effort are India's collaboration with Israel. Enhanced economic ties through

the proposed India-EU FTA will open doors to vibrant markets, showcasing India's knowledge prowess. These alliances will leverage innovation and technology exchange, and create a strong knowledge-based economy.

India's innovative ties with the UAE and Israel pave the way for trilateral cooperation, while strengthening bonds with Greece completes the commercial framework.

Through partnerships with the UAE, Israel and Greece, India could establish multilateral production facilities in the India-EU commercial arch.

GEOSTRATEGIC LANDSCAPE

The geostrategic landscape of the India-EU commercial corridor favours us as we enjoy cordial relations with the countries of the region. India has deep understanding with the origin (UAE) and destination (Greece) nodes of the arch. Initiatives like I2U2 (India-Israel-UAE-USA) and the India-Egypt-West Asia-Arab Allies grouping support the security architecture and, most importantly, each stakeholder enjoys mutual and shared benefits.

Resultantly, they are committed to the growth and development of this corridor, to access the vast and growing market of India. However, India must remain committed to the other economic corridors such as the North-South Transport Corridor and the Suez Canal.

Singh is Professor, and Chaudhary is a research scholar, at IIFT, New Delhi. Views are personal

India clears non-Basmati rice exports to Bhutan, Mauritius, Singapore

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India on Wednesday permitted exports of limited quantities of non-basmati white rice to Bhutan, Mauritius and Singapore, according to a notification by Directorate General of Foreign Trade.

Bhutan will get 79,000 tonnes, Mauritius 14,000 tonnes and Singapore 50,000 tonnes, even as the export ban imposed on 20 July remains in place.

The export will be done through National Cooperative Exports Ltd, a government export body which was set up

under the Multi-State Cooperative Societies (MSCS) Act, 2002 to export agriculture produce and allied items.

"Though monsoon has been deficient during August, Indian government agreed to allow export to the needy countries totally on humanitarian ground. It will surely benefit exporters but will further add to food inflation in India, considering less than normal expected production of kharif crop," said Suraj Agarwal, CEO of Rice Villa Brand.

Mint on 23 August first reported in an exception for two key diplomatic partners, India will supply 14,000 tonnes

of non-basmati white rice this year to Mauritius and 79,000 tonnes to Bhutan under humanitarian operations.

On 20 August, it had reported Singapore had asked for around 110,000 tonnes of rice.

Mint on 1 August reported cargos and containers full of rice were lying at Indian ports, unshipped after the government announced export restrictions.

Tuesday's decision brought relief to several exporters as well as ship chartering agencies.

"We are thankful to the government of India for this much



mint DATED 24 AUGUST 2023

in our breakbulk ships at Kandla port," Rajesh Bhojwani, said co-founder and managing director of RSCPL (IFSC) Pvt Ltd, a 100% subsidiary of Singapore-based RBB Ship Chartering Pte Ltd.

The firm's three vessels containing around 110,000 tonnes of rice are berthed at Kandla port in Gujarat.

Retail inflation in rice rose to 12.96% in July from 12% in June and 4.3% in July 2022. Amid a surge in retail infla-

tion to a 15-month high, India has taken various measures, including export curbs, to control escalating food prices.

"To ensure adequate availability of non-basmati white rice in the Indian market and to allay the rise in prices in the domestic market, the government of India has amended the export policy from 'free with export duty of 20%' to 'prohibited' with immediate effect," the government announced on 20 July, clogging ports with the

grain. On 29 August, the government issued a new notification allowing exports of non-basmati rice consignments that had been handed over to the customs before 21:57:01 hours on 20 July and been registered in custom systems. It also allowed other consignments with similar caveats. The period of exports will be up to 30 October this year. In his Independence Day speech to the nation, Prime Minister Narendra Modi pledged to bring down inflation as he readies to fight general elections, due by May, for a third term in office.

The latest decision brought relief to several exporters as well as ship chartering agencies

PLI likely for chemicals, not petchem

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The finance ministry is considering introducing a production linked incentive (PLI) scheme for the chemicals sector, but there aren't any proposals yet for such a scheme for the petrochemical industry, two senior officials told *Mint*.

A PLI scheme for the chemicals sector is currently being considered by the finance ministry, but it hasn't been approved yet, said the first person mentioned above, who spoke under the condition of anonymity.

Since funds for PLI schemes are limited, the government can make funds available only to sectors that really need such schemes, the person said. Allocating funds to specific sectors for the scheme is decided by the Niti Aayog, the person added.

The government is expected to lay out ₹13,000 crore in FY24 to firms that are seeking benefits under the PLI schemes.

A finance ministry spokesperson didn't respond to queries.

Finance minister Nirmala



Finance minister Nirmala Sitharaman said in July that govt will consider PLI for chemicals and petrochemicals. PRADEEP GAUR/MINT

Sitharaman told a global chemical and petrochemical industry forum in July that the government will consider PLI schemes for the chemicals and petrochemicals industry as India pushes to become a manufacturing hub.

Sitharaman also said that while the chemicals and petrochemicals sectors are crucial for the economy, they face major challenges that need to be addressed.

These challenges include

issues related to pollution control regulation, rising labour costs, collaterals, skill development, sustainability and the reduction of carbon emissions, she said.

"Net Zero cannot be achieved unless each industry contributes to it," she said.

Under the PLI scheme, the government offers companies incen-

tives on incremental sales from products manufactured in domestic units. It is aimed at boosting India's manufactur-

Since funds for PLI schemes are limited, the govt can make funds available only for sectors that really need it

ing prowess and reliance on imports.

At present PLI schemes are available in 14 sectors -- mobiles, medical devices, telecom/networking products, automobiles and auto components, drones and drone components, specialty steel, electronic products, solar PV modules, advanced chemistry cell battery, white goods, pharmaceuticals, drugs, food products and textile products.

"The strategy behind the scheme is to offer companies incentives on incremental sales from products manufactured in India, over the base year," the ministry of commerce and industry said in a statement in April 2021, after PLI schemes for nine sectors were approved.

"They have been specifically designed to boost domestic manufacturing in sunrise and strategic sectors, curb cheaper imports and reduce import bills, improve cost competitiveness of domestically manufactured goods, and enhance domestic capacity and exports," it had added.

The government constantly reviews its PLI schemes to add new sectors to its ambit to address structural issues of the economy.

The bans on futures trading in farm products should go

MADAN SABNAVIS



is chief economist, Bank of Baroda, and author of 'Banking Trends and Controversies'

When the commodity derivatives market was opened up in 2002, which led to the creation of new online multi-commodity exchanges, the goal was to enable better price discovery. The focus was on agricultural commodities where it was believed that a vibrant futures market would provide the right signals to farmers on what to grow and when as well as where to sell.

It is known in the field of agriculture that there exists the cob-web syndrome. Farmers choose the crop to sow based on prices received in the previous season. Hence if the price of soybean was high in 2022, there would be an inclination to grow more of this crop. The result is over-supply, which depresses prices. Ideally, farmers should be looking at the futures prices, and if possible, sell the crop in advance if the price is favourable. Deliveries are enabled if the parties so desire or the contracts can be reversed before due date. Either ways, the price has been hedged. It has been observed that

farmers often switch crops that require similar geographic and soil conditions.

It was with this objective that the Forward Markets Commission (now merged with Securities and Exchange Board of India, or Sebi) regulated the contracts, and commodity exchanges facilitated them among traders. NCDEX became the preferred exchange for farm products while MCX dominated the energy, metals and bullion markets. To begin with, progress was remarkable as NCDEX got in the value-chain participants to trade in products such as oilseeds complex, pulses, sugar, wheat, spices (jeera, chili, turmeric and dhaniya) and guar. While the goal was to reach out to the farmers ultimately, given access issues, price signals were picked up through intensive price dissemination processes set up by the exchanges. Subsequently, with Sebi formally taking charge of oversight of these markets, the push was given to bring in the farmer producer organizations (FPOs) to educate and enable them to play the role of aggregator to participate on these platforms.

However, there have been too many vested interests, which have led to political decisions being taken to ban futures trading. This has been a major setback for the markets because useful price signals have been

lost. What started off as bans on tur and moong, have now been widened to cover chana, soybean, soy oil, mustard seed and wheat. In all these cases, there were robust price-discovery processes in place. Frequent bans lessen the credibility of the market as players tend to lose money when such decisions are taken.

In fact, deliveries have been robust in India unlike in other countries, even though delivery is typically an expensive proposition. But this has lent credibility to the system as it brings value-chain members on board. It also confirms that it is not a speculative market, as has been made out often by lobby groups. Ensuring deliveries has led to the development of a transparent logistics ecosystem, which includes systems of grading and standards, weighing, warehousing, assaying, among others. This has helped the government develop the electronic national agricultural market (eNAM), which is an electronic spot market.

The results of the series of bans has nar-

rowed the basket of commodities that are now available. Volumes of trading in farm products for NCDEX had peaked at ₹16.64 trillion in 2011-12. Subsequently, there was a sharp and continuous fall to ₹8.70 trillion in 2014-15. An improvement followed in 2015-16 to ₹5.96 trillion, after which the downward descent resumed to ₹2.02 trillion in 2022-23. There is a need to reconsider these bans.

Derivatives enable efficient price discovery and send signals that aid better decisions by all participants

One thing which has been established by Sebi and the exchanges is that the regulatory processes are in place and are being followed to ensure that there is no scope for manipulation of the markets. There are position limits in place to ensure that there is no cornering of the market and the price limits control volatility. Curiously, every time there has been a ban which bans futures trading for price increases, the exchanges have proved that the link does not exist, and also that after the ban, prices continue to move up as the supplies are low.

Agriculture continues to be an area that is

vulnerable to shocks. Even a normal monsoon does not preclude certain areas and hence crops from receiving less rainfall, thus running the risk of lower production. The futures market picks up these signals. This is useful not only to farmers and value-chain participants, but also the government. A rise in futures prices before harvest indicates an expected shortfall in output and can trigger an appropriate response from the government in the area of imports or exports.

Therefore, there is strong reason to revoke the ban on futures trading in all products, which range from pulses to cereals and oils, to ensure that there functions a market-oriented system that provides the right signals. This will help the farmers, hedgers (value-chain players) and the government. Price hedging by farmers will also be useful for banks, which run the risk of building up bad loans if crops fail. Vested interests should not be allowed to prevail and politics should definitely be kept out of it. The farm sector is in need of booster reforms and removing the ban can be a good first step. The market players also need to be assured that while trading norms can be altered (depending on the conditions, limits on prices and positions), the edifice will remain intact. This is too good a system to lose.

Bt cotton's India entry delayed as committee seeks fresh inputs

Civil society alleges GEAC coercing states to give field trial nod

SANJEEB MUKHERJEE
New Delhi, 6 June

Farmers' wait for the next generation of Bt cotton might have got a bit longer because the regulator, Genetic Engineering Appraisal Committee (GEAC), in its latest decision has asked its developer, Mahyco, to present a fresh dossier about the hybrid's claims of efficacy against certain targeted pests and also a new socio-economic analysis of them.

This, industry players said, could further delay the commercialisation of the updated variant of Bt cotton (BG-2 Round Up Ready, or BG-2 RRF), and that too at a time when illegally grown Bt has been flooding the market.

Cotton sowing is expected to start in the country with the onset of the monsoon, largely in Maharashtra, Gujarat, Punjab, etc. The GEAC held a meeting last month, and its minutes were made public a few days ago.

The regulator, though, has approved field trials of another event of a genetically engineered cotton hybrid having the cry2Ai gene for resistance against



Cotton sowing is expected to start in the country with the onset of the monsoon, largely in Maharashtra, Gujarat, Punjab, among other states

pink bollworm, but here too progress has been limited because states where such trials are to be conducted are reluctant to give the mandatory no-objection certificate (NoC). Field trials are to be conducted in Telangana, Maharashtra, Gujarat, and Haryana. And, according to the minutes of the meeting of the GEAC, none of the states was very forthcoming in allowing field trials of this new event of Bt cotton.

"The Department of Biotechnology (DBT), Indian Council of Agricultural Research (ICAR), and Ministry of Agriculture may jointly organise capacity building activities with regard to GM crops for (apprising) states and Union

Territories about the technology involved and regulatory framework in place for evaluating these GM crops, thereby enabling informed decision making by the states and UTs," the GEAC said in response to the apprehension expressed by states to the field trials.

The NoC from states was made mandatory for field trials as early as 2010, when the Central government did so while renaming the GEAC from "Genetic Engineering Approval Committee" to "Genetic Engineering Appraisal Committee".

Civil society activists, meanwhile, under the banner of the Coalition of GM-Free India, in a letter to Envir-

onment Minister Bhupendra Yadav said when state governments such as Telangana and Gujarat had declined to provide the NoC, the GEAC was forcing them to provide reasons for it.

"Why should a statutory regulator be (pressuring) state governments in this manner? It has also been recorded that some activities will be taken up with state governments to enable informed decision-making by state governments," the coalition said.

It has said in its various meetings the GEAC HAS recorded agriculture is a "state subject", and state governments' involvement is essential for compliance monitoring and therefore, the NoC system must be followed.

Bhagirath Choudhary, founder and director of the South Asia Biotechnology Centre, Jodhpur, said: "Revisiting the biosafety dossier of BG-2 RRF cotton at this stage is a regressive step ... It will delay the approval process of next-generation stacked trait Bt/HT cotton in India at least by two years. The additional requirements for changing pest dynamics and socio-economic consideration are evolving in nature and would continue to change with time and space and hence they should have been made part of conditional approval for BG-2 RRF. Moreover, opposition by NGOs will fuel the sale of illegal BG-2 RRF cotton."

Punjab finds it hard to shun high stubble-producing paddy variety

Likely to be sown over 7-10 lakh acres of the total 75 lakh acres this season, PUSA-44, a water-guzzler, takes a month longer to mature and is a key contributor to farm fires every year

Vishal Joshi

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BATHINDA : With paddy sowing in Punjab set to start from June 10, the government is facing a stiff challenge in dealing with the highest stubble-producing variety of PUSA 44.

This unrecommended non-basmati, water-guzzler variety is tagged as an environmental hazard as it takes a month longer to mature and is also considered a key contributor to farm fires every year. But it is popular among rice cultivators in Punjab due to its higher yield, say experts.

The PUSA-44, developed by the Delhi-based Indian Council



Since it matures late, PUSA-44 leaves a short window for wheat sowing in the rabi season and hinders best practices for paddy stubble management, say officials.

HT FILE

"Since it matures late, PUSA-44 leaves a short window for wheat sowing in the rabi season and hinders best practices for paddy stubble management," said director of extension education at Punjab Agricultural University Gurmeet Singh Buttar.

Paddy residue management holds significance as stubble burning in Punjab and Haryana is a major reason behind the alarming spike in air pollution levels in the national capital in

the next crop is short.

Ferozepur chief agriculture officer of Tejpal Singh said PUSA-44 takes 145-150 days to mature which is 30 days more than the other varieties of recommended parml rice.

"PUSA-44 gains notoriety for requiring 5-6 extra cycles of irrigation. It generates about 30 quintals of straw per acre which is 5-7 quintals more than the other varieties," he said.

In 2022-23 kharif cycle, this long-duration variety was sown

Agriculture officials estimate that this year, PUSA-44 is likely to be sown over 7-10 lakh acres of the total 74 lakh acres in Punjab.

PUSA-44, which is largely grown in Barnala, Sangrur, Ferozepur, Patiala and Moga districts is notorious for producing more organic waste than other paddy varieties.

Punjab agriculture director Gurdvinder Singh said this year a drop of 3-4 lakh acres is expected under PUSA-44 as the department has intensified a drive against the water-intensive variety.

"Following a recommendation of Punjab to phase out the unwanted variety, the central government withdrew PUSA-44 from the seed chain last year. Now, its production cannot be done by in the public and private sectors. Farmers having personal seed banks will continue sowing it this year. But the certified seeds of PUSA-44 will not be available for the 2024-25 kharif sowing season and we hope to get rid of it from next year," the agriculture director said.

"Higher yield calculation is a misnomer. Farmers do not col-

long-duration variety, it remains more exposed to pest attacks. PUSA-44 is a water guzzler and PAU strictly voices against it," said Buttar.

Haryana bans sowing of long-duration variety

The neighbouring Haryana has banned the sowing of PUSA-44 from this season. "In 2022, the Haryana government launched a campaign to discourage farmers from sowing this variety. But from the current kharif season, sowing of PUSA-44 is prohibited," said the director of Jind-based State Agricultural Management and Extension Training Institute (HAMETI), an autonomous public-sector body in Haryana, Karam Chand.

A progressive rice cultivator from Dhanaula in Barnala district Harvinder Singh blames the state authorities for failing to sensitise farmers about the field success of short-duration paddy varieties. He said 5-7 quintals of more yield of PUSA-44 is the biggest attraction for farmers.

"Our joint family has about 65 acres and we have been sowing PUSA-44 and other long-duration varieties for the last sev-

S Chandramohan

India's food requirement is likely to go up from the present level of 330 million tonne (mt) to more than 500 mt by 2050, even as supply is expected to fall 16 per cent due to water and heat stress. Hence, in order to meet the growing demand for food amidst shrinking land size, there's a need to focus on precision farming.

This involves leveraging digital tools such as artificial intelligence, machine learning, and the Internet of Things to optimise crop yield and quality while minimising costs and resources. Quality estimation of the seeds to be cropped along with well-prepared soil and precise seeding advisory are needed to increase the efficiency of the input resources.

Based on the soil health analytics, the amount and type of micro/macro nutrients can be decided and added to the soil. IoT enabled soil sensors combined with remotely sensed data through drones/satellites and fast processing can determine what is needed by the soil. And this can either send a notification to the farmer's phone or through a central server.

CROP SURVEILLANCE

Crop surveillance is the only way that a farmer can ensure a timely harvest, especially when dealing with seasonal crops. Any errors at this stage can result in crop failure. It also helps in understanding and planning for the next farming season. Through effective inspection of the field with infrared cameras and based on their real-time information, farmers can take active measures to improve the condition of plants in the field.

PEAT, a tech start-up, has developed an AI-based application called Plantix that can identify the nutrient deficiencies in soil including plant pests and diseases by which farmers can also get an idea of the precise quantity of fertiliser to use, which will help improve the harvest quality. This app uses image-recognition-based technology. The farmer can capture images of plants using smartphones.

Data-based harvesting decisions are the next important step that can increase the efficiency of farming decisions. IoT and analytical tools can identify the parameters for harvesting in real-time and allow the farmer to decide whether the crop is ready to be harvested. Presently, this is done based on physical attributes of the crop, such as colour, size, and shape.

Through digital tools, farmers can estimate when the nutritional content is highest in the crop and determine the correct time of harvesting. For example, the harvesting of sugarcane crop can be done based on sugar content in the plant and not by its size. Post the harvesting stage, digital tools can enable farmers with price, storage, transportation and logistics information, which is of utmost importance to the farmer. Traceability in supply chain, particularly in exports, is gaining importance where the precision technology can play a useful role.

Precision farming vital to meet food demand

FARM TO FORK. This involves using digital tools such as AI and IoT to optimise crop yield and quality. But adoption has been slow due to lack of centralised data



DIGITAL AGRICULTURE

The primary factor behind the slow uptake of digital agriculture is the prominence of segregated smallholder farms in the country, which makes data gathering a complicated activity. Additionally, data of different geographical locations, markets, weather, soil types, crop types, and of many other parameters are needed to make a viable advanced technology-based model. At present, there isn't a centralised repository of different varieties of data stacks to be used in agriculture.

An efficient analytical model requires high quality weather, soil, cadastral, and several other data types. While satellite data is available to a certain extent, finding matching levels of other data

Through digital tools, farmers can estimate when the nutritional content is highest in the crop and determine the correct time of harvesting.

sets is an issue. Cadastral data with administrative boundaries and geo-coded soil data must be made available through public sources to improve the analytics and insight generation capabilities. At present, only few States have GIS maps of cadastral boundaries, which limits the potential of wide scale implementations of digital solutions.

There are several disparate sets of rich data that exist across various parameters. For instance, Soil Land and Use Survey of India captures data on soil and land characteristics that are made available for watershed-based soil and water conservation and soil health management. The soil health card database is another rich source of data on micronutrient status of soil. These data sets are again disparate and not interoperable, limiting analytics and value creation.

WAY FORWARD

The solution towards scaling up of digital agriculture in India is partnerships. Learnings can be drawn from several successful examples of partnerships between stakeholders

within India and internationally to bring digitisation to the farm and impact the sector.

In the recent Budget, the government had announced development of digital public infrastructure for farmers covering all areas from input to output. While one is not still aware of the type of infrastructure expected, it is a great initiative as it might help several start-ups in the country not to replicate their efforts and focus more in connecting the farmers to the market.

The farmers in our country cannot afford to pay for the technological interventions. They need the government to subsidise the cost of technology or to help through the custom hiring route to enable them move towards digital technology, which would significantly enhance farm productivity and, in addition, improve the environment.

There's also the need to ensure creation of carbon credits for the farmers which would give a boost to the adoption of precision agriculture.

The writer is Director & Group President (Finance & Investment), TAFE Ltd. The views are personal

'India-Bangladesh bilateral trade potential is immense'

Deputy High Commissioner of Bangladesh in Chennai interacts with Madurai-based entrepreneurs on medical tourism, education, joint trade ventures, business opportunities; there is a strong bond between people of the two countries, he says

The Hindu Bureau
MADURAI

With a view to improving bilateral trade, business opportunities and relationship between India and Bangladesh, an interactive session was organised with entrepreneurs in the city at the Mepco Mini Auditorium of Tamil Nadu Chamber of Commerce and Industry in Madurai on Monday.

Speaking on the occasion, Deputy High Commissioner of Bangladesh in Chennai Shelley Salehin said that India and Bangladesh shared a lot of commonalities with respect to culture, economy and geography.

Terming it as one of its kind in the global context, Mr. Salehin said that the two nations also shared a strong people-to-people contact. He said that there was a strong bond between people of India and Bangladesh.



New avenues: Deputy High Commissioner of Bangladesh in Chennai Shelley Salehin speaks at a function organised by Tamil Nadu Chamber of Commerce and Industry in Madurai on Monday. R. ASHOK

He said that in 2021, the Bangladesh Deputy High Commission was established in Chennai - the first in South India and the sixth diplomatic office in India. Strong ties had been established through medical tourism, education, sports and culture.

Mr. Salehin said that there were ample opportunities and potential to promote bilateral trade and business opportunities between the two nations and he was looking at opportunities, diverse production and possibilities.

Speaking about Madu-

rai, he said the city, famous for its temples, was a centre for manufacture of agro-based products. He interacted with Madurai-based entrepreneurs who discussed medical tourism, education, joint trade ventures and business opportunities bet-

ween the two countries.

Earlier, Tamil Nadu Chamber of Commerce and Industry president N. Jegatheesan, in his welcome address, said that Bangladesh was one of India's biggest development partners. The trajectory of the bilateral relations showed how the two countries had accrued mutual benefits. He said Madurai, a trading centre, was poised to become a hub for education.

This region had good business potential in agribusiness and food processing, education, automotive components, rubber, chemicals and textiles.

India was one of the first countries to recognise Bangladesh and establish diplomatic relations immediately after the country became independent. The relationship between the two nations goes far beyond a strategic partnership, he said.

Secretary J. Selvam proposed the vote of thanks.

PAU third in agri sector category

TRIBUNE NEWS SERVICE

LUDHIANA, JUNE 5

It was a proud moment for Punjab Agricultural University, Ludhiana, today as it broke into the top 100 institutes in the country by ranking 74th in the overall category

in the NIRF rankings. Among universities, it bagged the 54th rank and was placed third in the country in the agriculture and allied sectors category.

Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, has been

ranked 21st in the agriculture and allied sectors category.

Dayanand Medical College has improved its rank to 35 from 40 last year. Christian Medical College has, however, slipped six positions to 42. Last year, it was ranked 36.

{ IISER STUDY }

Compound to reduce pesticide use in eggplant farming found

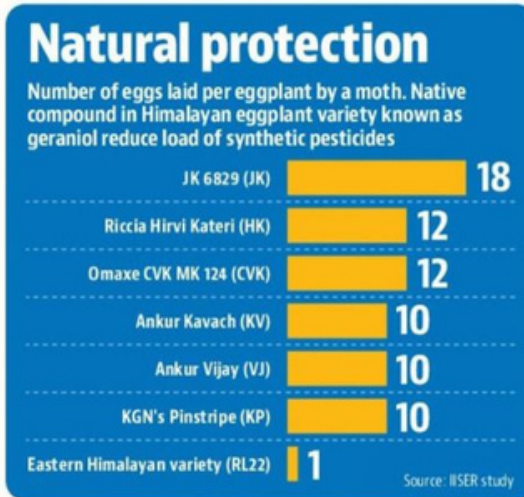
Farmers growing eggplants can use geraniol-emitting devices that will protect the produce from the shoot and fruit borer

Gayatri Vajpeyee

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PUNE: Using metabolomics, scientists from the Indian Institute of Science Education and Research (IISER) Pune have identified a natural compound known as 'geraniol' in a Himalayan eggplant variety which is capable of reducing the load of synthetic pesticides. Metabolomics is defined as the scientific study of the set of metabolites present in an organism, cell or tissue.

The research – first published in the 'New Phytologist Journal for Plant Science' in March 2023 – found that moths flew away from plants laced with geraniol such as the Himalayan eggplant variety, RC-RL-22 (RL22). Most other eggplant (Solanum Melongena) varieties suffer severe losses due to a multi-insecticide resistant lepidopteran pest called the shoot and fruit borer (SFB). Whereas the researchers



found that gravid (carrying egg/s) SFB females do not oviposit (lay egg/s) on RL22 due to the presence of geraniol. In any case, eggplant varieties other than RL22 have to be sprayed with combinations of heavy pesticides for SFB control which in turn renders the eggplant risky for human consumption. The researchers concluded that geraniol-emitting devices may reduce pest infestations if installed in eggplant farms. The IISER Pune research team included Dr Sagar Pandit, Ritupama Ghosh, Dennis Metzger, Sur-

hud Sant, Maroof Shaikh, Ashish Deshpande and Dryaneshwar M Firake.

Pandit, associate professor at IISER Pune, said, "Eggplant or brinjal is the third most consumed solanaceous vegetable in India after potato and tomato. Brinjal is one of the highest pesticide-applied plants in India. Shoot and fruit borer moth (*Leucinodes Orbonalis*) attacks can cause 45 to 100% loss in crop yield.

Moreover, the heavy use of synthetic pesticides causes serious damage to human health

with cancer being one of the hazards. This discovery will not only help farmers in protecting their eggplant crop but will also eliminate the harm to human health as this is a completely edible component."

Moving ahead with this research, farmers growing eggplants can use geraniol-emitting devices on their farms that will protect the produce from the SFB. Another option is to breed this specific plant variety that can emit geraniol, Dr Pandit said. Farmers all over the world have been carrying out intercropping which involves growing crops among plants of different kinds, usually in the space between the rows. It means that if you are growing eggplants, you can grow something else in the middle of the eggplant field. Whenever the farmers grow marigolds, coriander or geranium in combination with eggplant, the incidence of eggplant borers is reportedly less. Reason being marigolds, coriander and geranium all emit geraniol which keeps the SFB away. Dr Pandit said that our ancestors may have known about this but it wasn't traced scientifically till now.

How the research was conducted

The Eastern Himalayan variety (RL22) and six popular (Indian

eggplant varieties including Ankur Kavach (KV), Ankur Vijay (VJ), JK 6829 (JK), Riccia Hirvi Kateri (HK), KGN's Pinstripe (KP) and Omaxe CVKMK124 (CVK) were used in the research.

All seven varieties were planted in a field of the IISER Pune as an experiment. The plants were arranged inside a nylon mesh (160 µm) tent with a distance of 30 cm between the plants.

One shoot and fruit borer (SFB) female, which had mated 18 to 24 hours before the assay, was released in this tent and allowed to oviposit for 10 hours. A cotton wick dipped in a sucrose solution was provided to the shoot and fruit borer (SFB) female for feeding during the assay. The assay was repeated 20 times with a different randomised host plant arrangement every time to negate any host plant positional effects and using 20 different female SFBs.

"At the end of each assay, the eggs on each plant were counted. The moths did not land on the RL22 filter paper but laid eggs on the other six eggplant varieties. Gas chromatography and mass spectrometry helped pinpoint geraniol as the deterrent.

The moths laid less than 10 eggs per plant after geraniol application where they were earlier laying 100 eggs," the scientists said.

KHARIF | SEASON

Farm inputs should have been made available at RBKs by now, says ex-MLA

Farmers yet to receive seeds, fertilisers: TD

DC CORRESPONDENT VISAKHAPATNAM, JUNE 4

Former MLA and Telugu Desam leader Gandhi Babji has alleged that farmers in Andhra Pradesh are yet to get seeds, fertilisers and other inputs though the Kharif season is fast approaching.

Addressing a press conference in Visakhapatnam on Sunday, Babji maintained that these farm inputs should have been

made available at Rythu Bharosa Kendras (RBKs) across the state by now.

He recalled that the government promised to pay Rs 13,500 to each farmer under Rythu Bharosa, which amounts to Rs 54,000 each during the past four years. But it is not known how many farmers have got the Rythu Bharosa amounts.

"Under Telugu Desam rule, each farmer got an amount of Rs 1.15 lakh,"



File photo of seeds and fertiliser.

the former MLA pointed out. He said during the last four years, Andhra

Pradesh has witnessed nine cyclones, which caused losses over 54 lakh acres. But the YSRC government has not paid any compensation until now.

Accusing Chief Minister Y.S. Jagan Mohan Reddy of lying, Babji said the YSRC government had promised to complete Polavaram project by 2022. But the Chief Minister has not yet answered what is causing the delay.

He underlined that

though AP should have got Rs 35,000 crore from the Centre for Polavaram, state government seems to be satisfied with Rs 10,000 crore it has received.

The former Telugu Desam MLA said the Jagan Mohan Reddy government has put a burden of Rs 2.4 lakh on each farmer of AP on an average. It stands second in the country in suicides by tenant farmers, he underlined.

Eco-friendly push can raise farmers' income

With effective implementation, a solar energy setup can be rewarding for farmers. Renewable energy and the farm sector can be a winning combination. This can also be a new channel that can help in improving the quality of the crop yield, cutting overhead costs and improving efficiency of farm processes. With the advancements in photovoltaic technology and solar industrialisation, the cost of installing and managing a solar energy setup has decreased tremendously.

VP SETHI AND SS GOSAL

Line with the UN's Sustainable Development Goals, India's power generation mix is rapidly shifting towards a more significant share of renewable energy. Today, India is the world's third largest producer of renewable energy, with 40 per cent of its installed electricity capacity coming from non-fossil fuel sources. Sunlight, wind, water and biomass are common sources of renewable energy.

Solar energy is an important source that can be converted into heat, mechanical energy and electricity. Its main applications are photovoltaic-driven pumps for irrigation, drying of fruits/spices, ice-making and cold storage (through absorption or heat-driven refrigeration). Micro hydro energy (MHE) can be converted into mechanical energy and electricity. MHE can be directly used in mills and electrical motors. Biomass energy can be converted into heat, electricity, liquid bio-fuels and biogas. It can be used in dryers (fruits, herbs, spices), combustion motor or electric motor (fuels such as ethanol and biodiesel for transportation), anaerobic digester, biogas for lighting, cooking and heating and industrial biogas for decentralised electricity. Biomass is organic material used to generate electricity, produce heat or biofuels for transportation. Bioenergy is derived from wood, agricultural crops, residues, animal byproducts or agro-industrial byproducts. Punjab produces about 185 lakh tonnes of paddy straw every year. Nearly half of it is managed in situ (mixing the residue in the soil) and rest is st (used as fuel) and the rest is st

POWER GENERATION FROM RENEWABLE ENERGY SOURCES IN INDIA (1947-2020)



PM-KUSUM SCHEME FOR ENSURING FARMERS' ENERGY & WATER SECURITY

Pradhan Mantri Kisan Ujja Suraksha evam Utthaan Mahabhayan (PM-KUSUM) has three components.

- Component A:** Installation of aggregated 10,000 MW capacity of small solar power plants, each of capacity up to 2 MW, on barns/fallow/pasture/meshray/cultivable land of farmers.
- Component B:** Installation of 20 lakh standalone solar water pumps.
- Component C:** Solarisation of 15 lakh existing grid-connected agriculture pumps.

ablage. There is a huge scope for using paddy straw bales in the privately owned biomass plants — consuming about 8.8 lakh tonnes of paddy straw — to increase farmers' income. More such units can be installed for higher straw consumption. The government needs to fix the cost of bales and lifting charges so that farmers can save money from the whole process. Thermal power plants can also use stubble pellets as 5-10 per cent of their total fuel consumption. Entrepreneurs or progressive farmers, with the support of the government, can install pellet units to earn additional income. Seven industrial units manufacturing paper, cement, sugar and edible oil are using stubble as a fuel with a consumption of 3 lakh tonnes. More such industrial units need to be set up for managing paddy straw. Overall,

Punjab needs an infrastructural push to switch to ex situ methods such as more biomass-based power plants, pellet-making industry and bio-CNG plants, along with faster and cheaper transportation to take stubble from the farms and storage godowns for off-season use. An estimate shows that about 80-90 per cent of the country's irrigation is through groundwater. The demand is being met through 12 million electricity connections and 9 million diesel pumps sets to extract underground water for irrigation use. The government has set a target of generating 450 gigawatts (GW) of energy through renewable sources by 2030. Solar pumps for irrigation have become a cost-effective source of power at a negligible cost, besides cutting down the diesel cost and curbing pollution. Solar pumps have become a

viable option for farmers. An estimate shows that these can save 4 billion litres of diesel annually and 5 per cent of the total greenhouse gas emissions. The installation of ground-based solar energy power plants on uncultivable, under-utilised land can provide a consistent source of income for at least 20-25 years. The generated electricity from these solar agri-facilities can reduce agricultural subsidy and infrastructural costs. The solarisation of agricultural pumps offers an additional advantage to the farmers. Through grid-connected pumps, they can sell surplus power back to the grid, creating a secondary source of income. Another source of income for farmers is unutilised organic waste. They produce raw material required for bio-fuel production in biomass-based cogeneration plants that utilise sugarcane

and its byproducts, surplus rice, maize, damaged fodgrains and non-edible seeds to produce biodiesel and ethanol. The blending of petrol and diesel with bio-fuels can further reduce emissions as burning of crop residue gets reduced. With the advancements in photovoltaic (PV) technology and solar industrialisation, the cost of installing and managing a solar energy setup has decreased tremendously, enabling more PV installations across different applications in the agricultural sector, such as solar water pumping systems, solar-powered water and space heating for livestock and dairy operations, solar-powered crop and grain drying systems, solar-powered greenhouse heating and lighting systems. By employing these systems, farmers can easily save costs incurred on electricity consumption from

the mains supply. A solar greenhouse has matching-capacity solar panels to collect energy and batteries to store it. Solar-powered cooling systems use the refrigeration effect for a continuous supply of power from the batteries connected to the solar panels, where the power is supplied directly in the morning and the backup power stored is supplied at night. With effective implementation, a solar energy setup can be very rewarding. Renewable energy and the agriculture sector can be a winning combination that can solve many problems we face today. It can also be a new channel that can help in improving the quality of the crop yield, cutting overhead costs and improving the efficiency of agricultural processes.

Sethi is HoD, Mechanical Engg. and Gosal is VC, PAU, Ludhiana

Crop season may be advanced

Move will protect farmers in State from risks posed by unseasonal rains and minimise crop losses

STATE BUREAU
HYDERABAD

In an effort to protect farmers from the risks posed by unseasonal rains and minimise crop losses, the State government is planning to propose advancing the crop season by 3-4 weeks. Additionally, authorities have suggested promoting the cultivation of paddy and other crop varieties that can be harvested in a shorter period of time. A draft report has been prepared and will be submitted to the Cabinet sub-committee on agriculture for consideration. For several years, the Vaanakalam (Kharif) cropping season in Telangana started in July and ended in October-November during the south-west monsoon, while the Yasangi (Rabi) cropping season began in December and concluded in March-April. However, due to climate changes, the State experienced frequent erratic rains during the months of October-November and March-April, which are the harvesting periods for both



Vaanakalam and Yasangi seasons. Consequently, farmers have suffered significant crop losses, negatively impacting overall production. In the previous year alone, approximately four lakh acres of crops in the Vaanakalam season and an additional 1.5 lakh acres in the Yasangi season were

damaged due to unseasonal rains. Agriculture Minister S Niranjan Reddy recently stated, "Though the agriculture sector has made significant progress due to farmer-friendly measures implemented by the State government in the last nine years, unseasonal rains have become a challenge for both farmers and the govern-

ment. Paddy and other crops are experiencing losses before the harvesting period." To address these losses, Chief Minister K Chandrashekharao has proposed advancing the crop season and appointed the Cabinet sub-committee led by Niranjan Reddy to examine the issue. A team of agricultural scientists and offi-

Plan of action

DRAFT REPORT PREPARED AND WILL BE SUBMITTED TO CABINET SUB-COMMITTEE ON AGRICULTURE

- Vaanakalam from July to October-November
- Yasangi from December to March-April
- Recommendations made to advance crop sowing by one month i.e. June and November and complete it within a month
- Harvesting can be completed before October and first week of April for Vaanakalam and Yasangi crops, respectively

cial prepared proposals to advance the crop season by nearly one month. Accordingly, the Vaanakalam crop sowing will commence in June and be completed by July, while the Yasangi crop sowing will start in November and conclude in December. "By starting the season earlier, farmers can syn-

chronise their planting schedules with the prevailing weather conditions, reducing vulnerability to unexpected rainfall during critical growth stages. This will also enable them to take advantage of the early monsoon showers, which are sufficient for germination and the initial growth of crops like paddy," explained an official from the Agriculture Department. Advancing the harvesting of the Yasangi crop before the first week of April will also ensure reduced wastage during the milling of raw rice. Furthermore, officials have developed plans to promote crop advancement and raise awareness among farmers. Some success has already been achieved in encouraging farmers to advance sowing operations at the field level in certain areas. However, there is a need to educate farmers on this issue through large-scale campaigns. It is proposed to organise farmers' meetings and training programs across the State to create a significant impact in this regard.

Behind falling pulses imports

The country has achieved over 90% self-sufficiency in *dals*, thanks mainly to increased *chana* production. India's imports of pulses have come down from 6.61 million tonnes in 2016-17 to 2.52 mt in 2022-23



HARISH DAMODARAN

THERE ARE two agricultural commodities in which India is significantly import-dependent: Edible oil and pulses.

Between 2013-14 and 2022-23 (April-March), the value of India's vegetable oil imports has soared from \$7,249.85 million (Rs 44,038.04 crore) to \$20,837.70 million (Rs 167,269.99 crore). Much of this has been in just the last two fiscal years (chart 1).

Out of the 24-25 million tonnes (mt) cooking oil that the country consumes annually, only 9-10 mt is from domestically produced grain. The balance 14-15 mt is imported.

Relatively *atmanirbhar* in pulses

It has been quite the reverse with pulses. The value of imports has posted only a marginal rise during the nine years of the Narendra Modi-led government: from \$1,828.16 million (Rs 11,036.75 crore) to \$1,943.89 million (Rs 15,780.56 crore). Imports went up initially to reach a high of \$4,244.13 million (Rs 28,523.18 crore) in 2016-17, only to fall substantially thereafter (chart 2).

In quantity terms, India's imports of pulses more than doubled from 3.18 mt in 2013-14 to 6.61 mt in 2016-17. From those peaks, they have come down to 2.70 mt in 2021-22 and 2.52 mt in 2022-23. Thus, the nine years of the Modi government has actually seen a decline, unlike in vegetable oils, where the quantum of imports too has surged from 7.94 mt to 15.67 mt between 2013-14 and 2022-23.

The reduction in pulses imports have come essentially on the back of higher domestic production. According to the Agriculture Ministry, India's pulses output has increased from 19.26 mt in 2013-14 to 27.50 mt in 2022-23. Private trade estimates of production are lower at 23-24 mt.

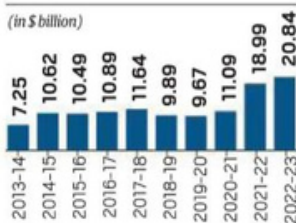
Even taking 23 mt production and 2.5 mt imports translates into an *atmanirbharta* or self-sufficiency ratio of over 90% in pulses, as against hardly 40% for edible oils.

Chana shows the way

It can be seen that imports of two items

IMPORTS OF VEGETABLE OILS

(in \$ billion)



IMPORTS OF PULSES

(in \$ billion)



IMPORTS OF MAJOR PULSES (in thousand tonnes)

	Peas (Matar)	Chickpea (Chana)	Lentil (Masoor)	Pigeonpea (Tur/Arhar)	Urad & Moong
2014-15	1951.97	418.88	816.47	575.22	622.89
2015-16	2245.39	1031.49	1260.19	462.71	581.6
2016-17	3172.76	1080.63	829.44	703.54	574.52
2017-18	2877.03	981.32	796.62	412.95	346.97
2018-19	851.41	185.95	248.97	530.67	574.24
2019-20	666.7	370.67	854.46	449.78	381.52
2020-21	46.33	294.53	1116.17	442.62	416.63
2021-22	0.85	202.1	667.43	840.46	807.17
2022-23	0.86	62.92	858.44	894.42	556.71

Source: Department of Commerce

have recorded dramatic drops: Yellow/white peas (*matar*) and chickpea (*chana*). At their height, yearly imports of the former topped 3 mt and the latter one mt. Those have since plunged to negligible levels.

The reason is simple. Yellow/white peas – imported mainly from Canada, Russia, Ukraine and Lithuania – are basically a substitute for *chana*.

When chickpea prices went through the roof, as India's production dipped from 9.53 mt in 2013-14 to 7.33 mt and 7.06 mt in the following two years, split yellow peas replaced *chana dal* in many curry recipes. There were even reports of *besan* (*chana flour*) makers resorting to adulteration by adding cheaper yellow/white *matar*.

Imports of chickpea from Australia and Russia also spiraled during that period.

The situation changed after 2016-17, with domestic output of *chana* registering a jump to 11.38 mt in 2017-18 and further to 13.54 mt each in 2021-22 and 2022-23.

While the trade's estimate is only 11-12 mt, it is still a considerable improvement over the production in the initial years of the Modi government.

The boost to *chana* production came from two key government measures, incentivising Indian farmers to expand area under the pulses crop grown during the rabi (winter-spring) season.

The first is the levy of a 60% import duty on *chana* since March 2018. In yellow/white peas, there is a 50% duty plus a minimum price of Rs 200/kg below which imports are not permitted, the latter imposed in December 2019. These have resulted in a near-complete stoppage of imports.

The second intervention has been government procurement at minimum support prices (MSP). Such purchases amounted to 2.14 mt in 2020 (the rabi marketing season from March-June), 0.63 mt in 2021, 2.56 mt in 2022 and 2.23 mt this year till May-end. The MSP of *chana* itself has been raised from Rs 3,100 to Rs 5,335 per quintal between 2013-14 and 2022-23.

Arhar is the problem

Chana's success has, however, not been replicated for other pulses, particularly *arhar/tur* or pigeonpea. Its production has shown an erratic trend, rising from 3.17 mt

in 2013-14 to 4.87 mt in 2016-17, before falling to 4.22 mt in 2021-22 and 3.43 mt in 2022-23. The trade, again, reckons this year's crop at just 2.5 mt.

The same goes for *urad* (black gram), a predominantly kharif (post-monsoon sown) crop like *arhar*. Its output in the last four years has averaged 2.42 mt, down from the 3.49 mt and 3.06 mt highs of 2017-18 and 2018-19.

Moong (green gram) has fared better. Its estimated production of 3.74 mt in 2022-23, for the first time, overtook *arhar*'s at 3.43 mt. In the last four years, *moong* has moved up from No. 4 (behind *urad*, *arhar* and *chana*) to No. 2 (next only to *chana*).

While *moong* is largely cultivated during kharif, much of the recent output gain has been from the spring-sown and summer-harvested crop.

Implications for imports

The erratic production of most non-*chana* pulses has meant no let up in their imports. *Arhar* imports – from Mozambique, Myanmar, Tanzania, Malawi and Sudan – hit a record 0.9 mt in 2022-23.

Equally interesting is *masoor* (red lentil), whose imports from Canada and Australia have crossed 1.1-1.2 mt in some years. That has partly to do with it becoming a substitute for *arhar*. Red *masoor dal* being used in place of yellow *arhar* – including for making *sambar* – is happening mainly in hotels, restaurants and canteens. It makes economic sense, when *masoor dal* is retailing at an average of Rs 90/kg, compared to Rs 120-plus for *arhar*.

Looking ahead, a subnormal monsoon can potentially lead to inflation in pulses. But there are at least two buffers against this.

The first is the ample government stocks of *chana*, which includes the newly procured 2.23 mt and the 1.47 mt carryover from last year's crop.

The second is imports: At \$680-690 or Rs 56,000-57,000 per tonne, the landed price of raw *masoor* in India is below its MSP of Rs 60,000 and wholesale *mandi* rates of Rs 98,000-100,000/tonne for *arhar*. There is currently no duty on imports of *masoor*, *arhar* or *urad*.

Last but not the least is stock limits on the trade. The Modi government, last week, clamped these on *arhar* and *urad*, applicable to wholesalers and retailers as well as *dal* millers. In an election year, one can expect more such weapons being deployed "to prevent hoarding and unscrupulous speculation", the reasons the government gave while imposing stock limits.

Agri sector underwent sea change in last decade

STATE BUREAU
Siddipet

The agriculture sector in Siddipet underwent a tremendous transformation in the last decade after Telangana was formed.

As the district benefited the most from the Kaleshwaram Lift Irrigation Scheme (KLIS), the farmers of the district were reaping its fruits now. As part of the KLIS, the government built Malanna Sagar, Konda Pochamma Sagar and Ranganayaka Sagar in the district. The Anantha Sagar reservoir was built between Siddipet and Rajanna-Sircilla districts.



According to officials, the area under cultivation in Siddipet increased to 9.06 lakh in 2023-24 from 6.31 lakh acres in 2014.

According to agriculture officials, the area under cultivation increased to 9.06 lakh in

2023-24 from 6.31 lakh acres in 2014. The area under irrigation went up to 7.68 lakh acres from

2.37 acres, which witnessed an increase of 323 per cent in nine years.

As the canals of the three reservoirs are still being laid, the area under irrigation is further expected to go up in the next couple of years. The area under paddy cultivation in a year increased from 1.39 lakh acres in 2013-14 to 7.12 lakh acres in 2022-23, which recorded an overwhelming increase of 509 per cent. The paddy production increased to a record 16.29 lakh tonnes, which was just 2.59 lakh metric tonnes back in 2014.

To educate the farmers in the district on modern farm practices, the gov-

ernment appointed 109 new AEOs. Before this, the district had only 18 AEOs.

Horticulture cultivation also underwent a tremendous transformation during the period. Due to the availability of plentiful water, many farmers were reaping rich benefits by cultivating various horticulture crops in the district.

Since the Telangana government gave a nod for oil palm cultivation in Siddipet, the farmers have cultivated oil seed crop in over 5,500 acres so far. The sericulture crop of Mulberry increased to 1,001 acres from just 30 acres in 2014.

Govt okays ₹1 trn for 'world's largest' grain storage capacity in co-op sector

PRESS TRUST OF INDIA
New Delhi, 31 May

The Union Cabinet on Wednesday approved a ₹1 trillion programme to create the world's largest grain storage capacity in the cooperative sector to reduce crop damages and prevent distress sales by farmers, besides strengthening the country's food security.

The government is planning to create 70 million tonne (mt) of grain storage capacity in the cooperative sector over the next five years and said the move would also help in creating job opportunities in rural India.

Briefing media, Information and Broadcasting Minister Anurag Singh Thakur said the Cabinet had approved the "world's largest grain storage plan in the cooperative sector".

On investment, he said the programme would start "with an expenditure of around ₹1 trillion".

As per the plan, a godown of 2,000 tonne capacity will be established in each block.

This will help in strengthening the cooperative sector, as Primary Agricultural Credit Societies (PACS) can diversify into the storage of food grains. There are 100,000 PACS in the country, out of which around 63,000 are functional.

CITIIS 2.0 to focus on circular economy

In a push to support projects promoting a circular economy and climate-oriented reform actions, the Union Cabinet on Wednesday approved the City Investments to Innovate, Integrate and Sustain 2.0 (CITIIS 2.0). The scheme will run for a period of four years from 2023 to 2027.

CITIIS 2.0 aims to leverage and scale up the learnings of CITIIS 1.0, which was launched in 2018 by the Ministry of Housing and Urban Affairs with a total outlay of ₹933 crore.

Announcing the scheme, Union



Minister Anurag Thakur said the programme would include the construction of a circular economy

with related projects such as combined waste management, climate change observatories, and institutional strengthening and knowledge dissemination at the national level. The three components of

CITIIS 2.0 include financial and technical support for developing projects focused on building climate resilience, adaptation and mitigation in up to 18 smart cities. **NITIN KUMAR**

Thakur said the country's food-grains production is around 310 mt, while the storage capacity is only 47 per cent of the total output.

In developed economies, he said, the storage capacities are higher than output.

Asked about the source of funding, Thakur said the funds available in ministries of agriculture, food processing and food and consumer affairs would be utilised.

At present, the total grain storage

capacity in the country is about 145 mt, he said, adding that 70 mt storage capacity will now be established in the cooperative sector. This will take the total capacity to 215 mt.

On benefits, the minister said the creation of decentralised storage capacity at the local level would reduce food grain wastage and strengthen the food security of the country.

This would hugely reduce the cost incurred in the transportation of food grains to procurement centres and

again transporting the stocks back from warehouses to ration shops, he said.

According to an official statement, the Cabinet approved the constitution and empowerment of an inter-ministerial committee (IMC) for the facilitation of the 'world's largest grain storage plan in cooperative sector' by the convergence of various schemes of the Ministry of Agriculture, Ministry of Consumer Affairs, Food and Public Distribution and Ministry of Food Processing Industries.

To ensure time-bound and uniform implementation of the plan, the Ministry of Cooperation will implement a pilot project in at least 10 selected districts of different states/union territories in the country.

The pilot would provide valuable insights into the various regional requirements of the project, the learnings from which will be suitably incorporated for the country-wide implementation of the plan.

The IMC will be constituted under the chairmanship of the Minister of Cooperation, with the Minister of Agriculture, Minister of Consumer Affairs, Food and Public Distribution, Minister of Food Processing Industries and Secretaries concerned as members.

Agriculture and allied sectors lead metamorphosis of Telangana's landscape

B.Chandrashekhara
HYDERABAD

Amid the scorching mid-summer heat, a captivating sight unfolds across the picturesque landscapes of Telangana. Vast expanses of lush green fields stretch as far as the eye can see, defying the semi-arid climate. In a remarkable display of the agricultural sector's evolution since 2014, rice mills and storage facilities overflow with abundant stocks of paddy, compelling the need for additional warehouse capacity. This transformation is a testament to the power of a single image, for as the adage goes, it conveys a narrative worth a thousand words.

Increase in irrigation potential with interventions such as revival of the chain-link minor irrigation tank system under Mission Kakatiya programme, completion of several pending projects as also a few new irrigation projects like Kaleshwaram, availability of uninterrupted and quality, free power for farming and other inputs such as seed, fertilizer and investment support given under Rythu Bandhu have all contributed to that transformation.

In spite of problems here and there, cultivation of crops in record extents in Telangana after formation of the State, particularly the highest extent of paddy raising during the last two Rabi (Yasangi) seasons in the country, has become possible with a slew of pro-agriculture sector policies pursued by the State government although farmers are yet to get assured returns for toil and are forced to throw their perishable produce such as tomato on the roads sometimes.

Cultivating hope

Paddy procurement			
Year	Kharif	Yasangi	Total
2014-15	11.04	13.26	24.30
2015-16	15.13	8.44	23.57
2016-17	16.52	37.32	53.84
2017-18	18.27	35.81	54.08
2018-19	40.43	37.06	77.49
2019-20	47.09	64.17	111.26
2020-21	48.75	92.34	141.09
2021-22	70.22	50.39	120.61
2022-23	65.02	50.00*	115.02*

(* till May 30, 2023) (Figures in lakh tonnes)

Investment support under Rythu Bandhu			
Farm Season	Beneficiaries (in lakh)	Amount (₹ in Cr.)	
2018-19 Kharif	50.2	5,238	
2018-19 Yasangi	49.1	5,249	
2019-20 Kharif	51.6	6,126	
2019-20 Yasangi	42.4	4,406	
2020-21 Kharif	58	7,289	
2020-21 Yasangi	59.3	7,367	
2021-22 Kharif	60.8	7,360	
2021-22 Yasangi	63	7,413	
2022-23 Kharif	65	7,435	
2022-23 Yasangi	65	7,307	



In spite of problems, cultivation of crops was done in record extents in Telangana after formation of the State, owing to a slew of pro-agriculture sector policies. MOHD ARIF

"Against the cultivation of paddy on 94 lakh acres in the country during the recent Yasangi season, Telangana alone accounted for 56.45 lakh acres. This is an indication of the intensity of pro-farmer measures being implemented in the State," says Minister for Agriculture S. Niranjan Reddy. Admitting that untimely rains have played spoilsport towards the end of the season by damaging

the produce, mainly paddy, maize and horticulture crops to some extent, he highlights the need to advance the Yasangi season of farming by 3-4 weeks to minimise such preventable losses.

Sporadic protests by farmers and criticism of the government by the Opposition parties over problems in procurement of paddy, which was cultivated on about 80% of the to-

- Under Rythu Bima, dependants of 99,297 pattadar (landholding) farmers were paid ₹4,965 crore as insurance claim at ₹5 lakh each on their death, irrespective of the cause

- State government paid insurance premium of ₹5,384 crore for Rythu Bima since 2018

- ₹16,144 crore outstanding crop loans up to ₹1 lakh per farmer of nearly 35.32 lakh farmers were waived off as promised prior to 2014 polls

- Over ₹1,207 crore outstanding crop loans waived so far under 2018 pre-poll promise to waive up to ₹1 lakh in phases

- Under sheep flock (unit) distribution scheme, 82.64 lakh sheep (3.94 lakh units) were given to shepherd communities in the first phase. Second phase to begin from June 5

- Fish and shrimp production increased from 2.5 lakh tonnes in 2013-14 to 4.39 lakh tonnes in 2022-23 with production value of ₹2,479 crore and ₹6,656 crore, respectively

- Milk production up from 42.07 lakh tonnes in 2013-14 to 58.55 lakh tonnes in 2022-23

Yasangi season in a row.

"The production of paddy is so high that even 53% increase in the warehousing capacity of the State Government, from 39 lakh tonnes in 2014 to 74 lakh tonnes in 2023 is proving to be short, forcing us to scout for storage space in the nearby by towns/cities in neighbouring States as finding intermediary storage space within the State has also become difficult," explains a senior official of the Civil Supplies Corporation. The delays in lifting of custom-milled rice stocks from millers by the FCI has also been adding to the problem.

To create some space in rice mills to allow paddy stocks procured this season, the FCI authorities have decided to move about one-lakh tonnes of CMR to its storage facilities in the nearby Bidar city in neighbouring Karnataka. The Civil Supplies officials were also instructed to scout for space in places such as Raichur, Ballari (both in Karnataka) and Kurnool, Jaggayyapet (in Andhra Pradesh).

On the other hand, the State government has finalised the input subsidy of ₹10,000 per acre against the crop loss suffered due to the untimely rains and hailstorm during the first spell from March 16 to 21. It was assessed that crop damage/loss was over 30% as per norms in vogue on nearly 1.52 lakh acres pertaining to about 1.31 lakh farmers, and assistance of ₹151 crore was released. Untimely rains have lashed the State at regular intervals since then, but the estimation of crop loss is "still in progress", according to senior authorities of the Agriculture department.

tal Yasangi extent this year, such as the produce not meeting the fair average quality norms fixed by the Food Corporation of India, delays in purchases at procurement centres and unloading at rice mills and deduction of weight by millers in the name of FAQ norms aside, the exercise has made good progress so far this season with purchases crossing the 50 lakh tonne-mark for the fourth

Govt okays ₹1 trn for 'world's largest' grain storage capacity in co-op sector

PRESS TRUST OF INDIA
New Delhi, 31 May

The Union Cabinet on Wednesday approved a ₹1 trillion programme to create the world's largest grain storage capacity in the cooperative sector to reduce crop damages and prevent distress sales by farmers, besides strengthening the country's food security.

The government is planning to create 70 million tonne (mt) of grain storage capacity in the cooperative sector over the next five years and said the move would also help in creating job opportunities in rural India.

Briefing media, Information and Broadcasting Minister Anurag Singh Thakur said the Cabinet had approved the "world's largest grain storage plan in the cooperative sector".

On investment, he said the programme would start "with an expenditure of around ₹1 trillion".

As per the plan, a godown of 2,000 tonne capacity will be established in each block.

This will help in strengthening the cooperative sector, as Primary Agricultural Credit Societies (PACS) can diversify into the storage of food grains. There are 100,000 PACS in the country, out of which around 63,000 are functional.

CITIIS 2.0 to focus on circular economy

In a push to support projects promoting a circular economy and climate-oriented reform actions, the Union Cabinet on Wednesday approved the City Investments to Innovate, Integrate and Sustain 2.0 (CITIIS 2.0). The scheme will run for a period of four years from 2023 to 2027.

CITIIS 2.0 aims to leverage and scale up the learnings of CITIIS 1.0, which was launched in 2018 by the Ministry of Housing and Urban Affairs with a total outlay of ₹933 crore.

Announcing the scheme, Union



Minister Anurag Thakur said the programme would include the construction of a circular economy with related projects such as combined waste management, climate change observatories, and institutional strengthening and knowledge dissemination at the national level. The three components of CITIIS 2.0 include financial and technical support for developing projects focused on building climate resilience, adaptation and mitigation in up to 18 smart cities. **NITIN KUMAR**

Thakur said the country's food-grains production is around 310 mt, while the storage capacity is only 47 per cent of the total output.

In developed economies, he said, the storage capacities are higher than output.

Asked about the source of funding, Thakur said the funds available in ministries of agriculture, food processing and food and consumer affairs would be utilised.

At present, the total grain storage

capacity in the country is about 145 mt, he said, adding that 70 mt storage capacity will now be established in the cooperative sector. This will take the total capacity to 215 mt.

On benefits, the minister said the creation of decentralised storage capacity at the local level would reduce food grain wastage and strengthen the food security of the country.

This would hugely reduce the cost incurred in the transportation of food grains to procurement centres and

again transporting the stocks back from warehouses to ration shops, he said.

According to an official statement, the Cabinet approved the constitution and empowerment of an inter-ministerial committee (IMC) for the facilitation of the 'world's largest grain storage plan in cooperative sector' by the convergence of various schemes of the Ministry of Agriculture, Ministry of Consumer Affairs, Food and Public Distribution and Ministry of Food Processing Industries.

To ensure time-bound and uniform implementation of the plan, the Ministry of Cooperation will implement a pilot project in at least 10 selected districts of different states/union territories in the country.

The pilot would provide valuable insights into the various regional requirements of the project, the learnings from which will be suitably incorporated for the country-wide implementation of the plan.

The IMC will be constituted under the chairmanship of the Minister of Cooperation, with the Minister of Agriculture, Minister of Consumer Affairs, Food and Public Distribution, Minister of Food Processing Industries and Secretaries concerned as members.

Agri Min issues draft rules for registration of bio-stimulants

NEW DELHI

THE agriculture ministry has come out with draft guidelines specifying efficacy data and trial reports required for registration of various categories of bio-stimulants under Schedule-VI of the FCO Amendment order 2021.

It is mandatory for a person who wants to manufacture or import any bio-stimulant to list such bio-stimulant under Schedule VI of the Fertiliser (inorganic, organic or mixed) Control Amendment Order 2021, also called the FCO Amendment order. India is one of the few coun-

As per draft guidelines, efficacy data and trial reports are required for registration of various categories of bio-stimulants under Schedule-VI of the FCO Amendment order 2021

tries to define separate regulations for bio-stimulants. In 2021, the government notified bio-stimulant regulation through the FCO Amendment Order. As per this order, bio-stimulants will have to be first registered and prove efficacy before hitting the market.

As per the draft guidelines for registration of bio-stimulants released on June 12, stakeholders should ensure that the data submitted along with the application for reg-



istration is authentic, replicable, utilizable and of good quality. The complete study reports should be submitted.

The requirement for registration usually includes data and information on proposed application; data on identity

of the bio-stimulants (identity, composition, analysis and quality); data to assess risk to humans and the environment; data to assess efficacy of the product; its packaging (as per the material used by the applicant) and labelling requirements (contents to be defined from time to time).

Manufacturers are also required to submit the data on chemistry, bio-efficacy trials and toxicity. Trials are necessary for each of the product for its registration.

Exports may Hit \$773 b by 2030: Standard Chartered

Our Bureau

New Delhi: India's exports of goods could reach \$773 billion by 2030, registering an annual growth rate of 7.5%, with Turkiye, Vietnam and Indonesia expected to be among the highest-growing export destinations, Standard Chartered said in a report on Wednesday.

It estimates imports from China at \$212 billion in 2030, growing 8% CAGR, and exports at \$49 billion. Exports to the



US, mainland China and the UAE will be the highest by volume, according to the report.

The value of exports of goods was \$401 billion in 2021. It estimates the share of metals and minerals in India's exports in 2030 at 31% and of textile and apparel at 15%.

"India will be a key driver of this global trade growth, with its exports of goods projected to grow at an average annual rate of 7.5% (outpacing the global average of 5%) to reach \$773 billion by 2030 from \$401 billion in 2021," Standard Chartered said in the report titled 'Future of trade: New opportunities in high-growth corridors'.

As per the report, global trade is set to reach \$32.6 trillion with a growth rate of 5% by 2030. Trade corridors anchored in Asia, Africa and the Middle East will outpace global trade growth rate by up to four percentage points, driving combined trade volume in these regions to \$14.4 trillion and to account for 44% of global trade by 2030.

"India's FTAs with the UAE and Australia have recently come into force—further increasing India's competitiveness as a manufacturing and export powerhouse," it said.

EXPLAINED ECONOMICS

The food supply situation

While there are no shortages for now, a great deal hinges on the monsoon, especially its distribution. That has implications both for the RBI in its monetary policy, and the government in a year leading to elections

HARISH DAMODARAN
NEW DELHI, MAY 31

EVEN AS kharif plantings are set to take off with the southwest monsoon, and the India Meteorological Department (IMD) has reiterated its earlier forecast of just-about normal rainfall during the season (June-September), the supply and demand balances in key food commodities is comfortable, yet tight.

While there are no shortages for now, a great deal hinges on the monsoon, especially its spatial (rain across major agricultural regions) and temporal (during the crucial sowing and vegetative growth stages) distribution. That has implications both for the Reserve Bank of India's (RBI) monetary policy (whether to raise, cut or not change interest rates depending on the outlook for inflation) and the government (in a year leading to national elections in March-April 2024).

A fine balance in wheat

Barely two months ago, there were two commodities giving policymakers the jitters: Wheat and milk.

Unseasonal rain accompanied by gusty winds during the second half of March and early April had caused the standing wheat to "lodge" (bend over or even fall flat) in many places. However, the yield losses – the crop was in the final grain-filling and ripening stages – don't seem to be as much as initially apprehended. This is borne out by government agencies procuring about 26.2 million tonnes (mt) of wheat during the current marketing season, as against last year's 18.8 mt, the lowest since 2007. Although public wheat stocks of 29 mt as on May 1 are at a 15-year-low for this date (see chart), that's misleading at least on two counts.

First, procurement was only 22.3 mt till April-end. Since then, another 4 mt have been bought, adding to the 29 mt stock figure. Second, the relatively low wheat stocks are more than compensated by the 41.7 mt of rice in government godowns.

The combined stocks of 70.7 mt should meet the requirements of the public distribution system and other welfare schemes. Total grain offtake ranged between 93 mt and 106 mt in the last three financial years. It should revert to the past 65-66 mt average in 2023-24, as the Centre is now issuing only 5 kg of grain per person per month (from 10 kg in the post-Covid period). Moreover, the next 2023 kharif rice crop will start arriving from October.

The overall position in cereals, thus, looks manageable.

WHEAT STOCKS IN CENTRAL POOL ON MAY 1 (in lakh tonnes)



Source: Food Corporation of India

SUGAR SUPPLY AND DEMAND BALANCE SHEET (in lakh tonnes)

	2019-20	2020-21	2021-22	2022-23
Opening stocks (1)	143.33	104.78	83.98	70.23
Gross production	283.11	333.2	392.25	375
Diversion to ethanol	9.26	22	34	50
Net production (2)	273.85	311.2	358.25	325
Total availability (1+2)	417.18	415.98	442.23	395.23
Domestic consumption	253	260	262	275
Exports	59.4	72	110	63
Closing Stocks	104.78	83.98	70.23	57.23

Note: Figures are for sugar year (Oct-Sep); Source: National Federation of Cooperative Sugar Factories.

Milk relief

Coming to milk, February-March 2023 saw unprecedented shortages. The winter-spring months are usually the "flush" season for milk when production by animals goes up. This time, it was the opposite. Prices of yellow (cow) butter and skimmed milk powder (SMP) sold by Maharashtra dairies soared to Rs 430-435 and Rs 315-320 per kg respectively. Procurement prices of cow milk containing 3.5% fat and 8.5% solids-not-fat, too, shot up to Rs 38 per litre.

With dairies hardly carrying any butter and SMP stocks – which they normally build by converting surplus milk procured during the "flush" – there were fears of shortages intensifying in the "lean" summer months, when animals produce less owing to heat stress and reduced fodder and water availability.

Thankfully, that hasn't happened. Prices of yellow butter and SMP have collapsed to Rs 375/kg and Rs 280-290 levels. Dairies are also paying only Rs 34-35/litre for cow milk now. Ganesan Palaniappan, a Chennai-based dairy commodities trader, attributed the turnaround to a comparatively mild summer and good pre-monsoon showers that have

been favourable for fodder growth.

According to IMD data, all-India rainfall during March 1-May 31 has been 12.25% higher than the long-period average (LPA) for this period, with 25 out of the 36 meteorological subdivisions receiving above-normal precipitation. Improved fodder supplies and high milk prices have triggered the expected supply response from farmers – at the right time.

Tightrope walk in sugar

The table shows the 2022-23 sugar year (October-September) likely to close with stocks of 5.7 mt, down from the all-time-high carryover of 14.3 mt from 2018-19. Given India's annual sugar consumption of 27.5-28 mt, the 5.7-mt closing stocks can meet the requirement for 2.5 months starting from October 2023, which will also cover the peak Dussehra-Diwali festival season demand.

That appears comfortable: While mills begin crushing from around mid-October, the new sugar has to be produced, bagged and stocked in adequate quantities before reaching the market in 1-1.5 months. Hence, the need for enough stock of old sugar to feed the demand till then.

The main concern in sugar, though, is not current stocks as much as the monsoon. Sugarcane, like paddy, is a water-intensive crop. The cane to be crushed in the new sugar year is already in the fields, but its water requirement would be high particularly during the so-called grand growth phase. That's when the actual millable cane formation and development takes place, which is coterminous with the monsoon rain.

"Sugar production in 2023-24 should be the same as this year's, at 32.5 mt (net, after diversion for ethanol manufacture). But it assumes a normal monsoon," said Prakash Nainavare, managing director, National Federation of Cooperative Sugar Factories. The monsoon is considered normal if aggregate rainfall over the country during June-September is within 96-104% of the LPA. The IMD has pegged the current season's rainfall at 96% of LPA, which is the lower limit of "normal".

The supply situation in sugar is finely balanced. The Centre has banned exports. In the worst case, it could consider limiting ethanol production for blending with petrol, enabling more cane juice to be used for making sugar.

Edible oil and pulses

The supply position in both seems quite comfortable ahead of the monsoon and the kharif sowing season.

In edible oils, the global price crash has made imports viable to cover significant domestic crop shortfalls. The present landed prices for imported crude palm, soyabean and sunflower oil, at \$865, \$970 and \$900 per tonne respectively, are way below their corresponding peaks of \$1,800-2,200 in March-May 2022 after Russia invaded Ukraine.

In pulses, the biggest source of comfort is the government's stocks of chana (chickpea). The National Agricultural Cooperative Marketing Federation of India procured nearly 2.6 mt of the rabi pulse during the 2022 marketing season (March-June). This year, it has bought 2.2 mt so far, on top of the 1.5 mt carryover from the previous crop.

Ample chana stocks – plus imports of masoor (red lentil), which can partially replace arhar/tur (pigeon-pea) that's in short supply – should help put a lid on pulses prices even if the monsoon fails. Masoor from Australia is landing at \$660-670 or roughly Rs 55,000 per tonne, below the crop's minimum support price of Rs 60,000.

To sum up, the markets are well supplied with produce for the moment. The government and RBI (its next policy review is on June 6-8) can afford to wait and see how the monsoon pans out.

Farmers hit by stringent biosafety laws: experts

Agri Min issues draft rules for registration of bio-stimulants

Harnessing regenerative agriculture for sustainable future

RANJIT BARTHAKUR

India is one of the most climate vulnerable countries in the world today, as it faces an increasingly erratic monsoon, rising temperatures and a highly rural population that depends on both the monsoons and stable weather for agricultural incomes.

A study by CEEW in 2021 found that 80 per cent of the country's population lives in districts vulnerable to climate change along vectors of extreme weather events — floods, drought and more. By 2050, 40 per cent of Indians are expected to face water scarcity, droughts will increase in intensity while, paradoxically, erratic monsoons are expected to lead to increased flooding. Crop yields are expected to decline by 9 per cent and 2 per cent of the GDP is expected to be lost by 2050 because of climate change.

Coupled with declining agricultural incomes, policymakers are increasingly looking to "green economy" or "green growth" to change the outlook for the country's rural economy. The budget 2023 rightly put green growth as one of its seven priorities, pushing India towards a climate-resilient economy. It provided much needed impetus to the agricultural sector and support to farmers, to transition from small-growers into agri-entrepreneurs.

More people are also talking about circular economy: an economic model moving away from traditional linear and extractive economic systems, towards economic models that focus on reusing resources, recycling waste and built along principles of regeneration. Linear extractive economic systems today have pushed the earth to broach many key ecological boundaries: carbon emissions, biodiversity loss, phosphorus and nitrogen overload and damaged freshwater sources. The circular economy, on the other hand, is an economic model that aims to decouple economic growth from resource consumption and environmental degradation.

AGRICULTURE AND PLANETARY BOUNDARIES

A 2021 study published in Nature Sustainability found that the world had breached five out of key seven ecological boundaries based on data on the global economy till 2015. Since then, emissions have continued to rise, natural ecosystems continue to be over-exploited or destroyed and earth overshoot day — the day marking demand



for ecological resources and services outstrips the planet's capacity to regenerate those resources — keeps moving up the calendar.

Agriculture today is one of the key stressors on the world's planetary boundaries. It accounts for nearly a fifth of the world's emissions and 70 per cent of freshwater consumption globally. Chemicals used in agriculture, sediment and saline discharge pollute water bodies: nitrates used as fertilizers are now the most common contaminant in groundwater aquifers. More than half of forest loss globally is due to agricultural clearances — in Asia and Africa, 75 per cent of forest loss is because of cropland expansion. According to some scientists, the world may run out of soil for farming in the next fifty years because of damage from intensive, industrial agriculture; though some argue that this is an exaggeration.

These figures paint a dire picture, but more importantly point to the urgency of a transition away from linear agricultural production to circular, regenerative systems. The goal of regenerative agriculture is to revitalise ecosystems, enhance soil health and promote biodiversity within agricultural landscapes with techniques like cover cropping, crop rotation and minimal tillage. This strategy tackles climate change, biodiversity loss and water shortages while simultaneously ensuring the long-term viability of our food systems.

A REGENERATIVE FUTURE

Unlike linear agriculture, which focuses on maximizing productivity — almost always at high costs to natural

ecosystems — regenerative agriculture focuses on making farms and agricultural lands behave like ecosystems: self-sustaining entities that can replenish themselves through natural processes. It focuses on generating crop yields while focusing on improving, nurturing or building soil health, food quality, biodiversity improvement, water quality and air quality. In its synthesis report released last year, the Intergovernmental Panel on Climate Change (IPCC) pointed to the importance of regenerative agriculture to build the resilience of agro-ecosystems in the face of both climate change and environmental degradation.

India's farmlands account for 21 per cent of its total emissions. However, effective management of farmland will mitigate its emissions by 222.44 million tonnes of carbon a year. These solutions include mosaic restoration of agricultural land, the use of biochar, optimizing grazing intensity, nutrient management and improved rice cultivation techniques. Wild foods and heirloom crops are endangered by the spread of high-yield varieties. Imported pollinators such as the Western European honeybee are replacing indigenous bee species. The result is a weaker ecosystem for crops and diminished crop biodiversity risks food production in a world with changing weather patterns and climates. Preserving local pollinator species as well as heirloom seeds and wild varieties of crops can help farmers adapt more effectively to rising temperatures and changing growing conditions through a greater variety in crop options.

Agroforestry is gaining populari-

ty, as well as a form of regenerative agriculture. In comparison to industrialised agriculture, agroforestry sequesters 34 per cent more carbon in soil on an average. It demands less inputs like fertilisers, as complementary natural crops and systems naturally nourish the soil by design, resulting in healthier agri-ecosystems that also sequester more carbon than degraded ones. When piloted in a scientifically constructed 'food forest' agroforestry model, the complementary crops that are native to the region simulate natural organic conditions, cycling nutrients back into the soil and minimising the need for water use as well as meet the demands of the local market. Pilot agroforestry programmes in communities in Assam demonstrate that regenerative agriculture not only regenerates ecosystems, raising incomes by 40 per cent within a year and providing employment opportunities for young people — reducing migration.

Today, efforts to build circular economies have focused largely on urban economies, but attention needs to be paid urgently to the invisible challenges posed by linear rural economies. The quicker we can ramp up our collective efforts to build circular rural economies through regenerative agricultural practices, the better placed we will be to face the biodiversity and climate crisis. A nature's positive economy does not have to be a burden. It is an opportunity to invest in creating a sustainable future for rural India.

The author is founding director of the Bailpara Foundation

Crystal Crop launches new herbicide for paddy

Our Bureau

Bengaluru

Crystal Crop Protection Ltd. has launched a next-generation herbicide, Sikosa, to protect paddy from weeds while enhancing yields. Sikosa is developed jointly in collaboration with Battelle, UK, and Mitsui AgriScience International SA/NV (MASI).

CS Shukla, Senior Vice-President, Strategic Marketing, Crystal Crop, said Sikosa is found to be effective in controlling narrow leaf weeds, broad leaf weeds and sedges in paddy.

Crystal Crop plans to introduce Sikosa to paddy growers in Punjab, Haryana, Uttar Pradesh, Andhra Pradesh, Telangana, Tamil Nadu, Karnataka, West Bengal, and Chhattisgarh in the coming season, which will further strengthen presence in paddy markets across India. With this launch,



Ankur Aggarwal, MD,
Crystal Crop

the company is eyeing a 2-3 per cent market share in the pre-emergent herbicide market in the country, which is estimated to be around ₹550 crore in the first year of launch, Shukla said. The market share can go up to 7-8 per cent in the next couple of years.

Sikosa was tested at various State agricultural universities, with more than 1,000 demonstrations in the last five years with paddy farmers. It will be an exclusive offering by Crystal Crop and help farmers grow more profitable crops.

GSP Crop Science sets up subsidiary in Brazil to tap Latam markets

Vishwanath Kulkarni

Bengaluru

Agro-chemical maker GSP Crop Science Pvt Ltd has set up a subsidiary in Brazil to expand its presence in the Latin American (Latam) market. The company, which sees a big potential in the Latam market, proposes to invest about \$2-3 million in the Brazilian operations, said Thirth Shah, International Business Director, GSP Crop Science.

“We have started building a team in Brazil, where we plan to push aggressively” Shah said. The agro-chemical market in Brazil, where the farm holdings are quite large, is estimated to be around \$14 billion.

GSP CropScience, which clocked a revenue of around

The company, which sees a big potential in the Latam market, proposes to invest about \$2-3 million in the Brazilian operations

₹1,500 crore during 2022-23, up from ₹1,300 crore in the previous year, earned about a fifth of it from the overseas markets. Besides Brazil, the company exports agro-chemicals to other markets such as Argentina, Colombia, Vietnam, Thailand, US, Europe, Middle East, Africa and Australia among others.

In the current fiscal, the company expects its revenues to be largely flattish as it pro-

poses to focus on pushing newer products that have better margins, said Bhavesh Shah, managing director, GSP CropScience.

GOOD TRACTION

The company, which launched Chlorantraniliprole (CTPR) products in December last year, saw good traction in the market for the insecticide clocking sales of ₹50 crore. “We expect sales of all CTPR formulations to be around ₹150 crore this year” he said. CTPR is used on wide range of crops such as pulses, groundnuts, soyabean, vegetables, rice, tea and sugarcane for insect control. Also the company’s recently launched seed treatment product for groundnut and soyabean is getting good response, he said.

Crop area planning the key to MSP guarantee

Acreage under paddy and wheat has been increasing steadily, with an unstable trend in pulses and oilseeds. Therefore, additional area for pulses and oilseeds has to come from rice and wheat. Both pulses and oilseeds have higher yield risks as their cultivation is mostly done in unirrigated areas. Non-procurement at the MSP increases their price risk too. At least the price risk has to be reduced by procurement at the MSP to attract more acreage under pulses and oilseeds.

SHEER SINGH SANGWAN

VARIOUS studies have documented that the implementation of the minimum support price (MSP) regime has played a vital role in increasing agricultural production, especially of wheat and rice, in the country. The regime is implemented through the procurement of wheat and rice by the Food Corporation of India (FCI) and of oilseeds, pulses and coarse cereals by the National Agricultural Cooperative Marketing Federation of India Ltd (NAFED) under the Price Support Scheme (PSS). Some quantities of fruits and vegetables are procured through a market intervention scheme. The procurement by the FCI is regular and uncapped i.e. a farmer can sell any quantity, whereas procurement under the PSS has a cap of 25 quintals per farmer. During a Central government-sponsored study of the PSS in eight states for six varieties of pulses and oilseeds, conducted by this author, it was revealed that almost all farmers were aware of the MSP in 2018. The farmers’ agitation in 2021 led to an assurance on the MSP by the Centre while repealing the three farm laws. The issue of legalising MSP is being raised repeatedly. The road blockades and dharnas in Haryana and Punjab over the payment of MSP for sunflower seeds or sugarcane underline the seriousness of the problem.

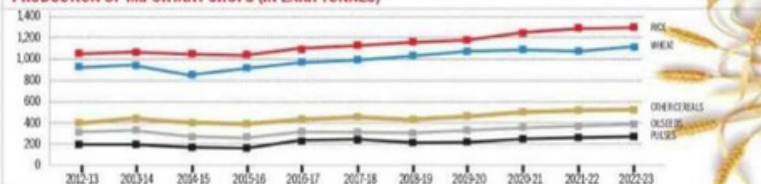
Essential production?

The stock of wheat and rice — 586 lakh metric tonnes (LMT) — in May was reportedly about twice the buffer stock require-

YEAR	RICE	WHEAT	OTHER CEREALS	PULSES	OILSEEDS	SUGARONE
2012-13	42.8	38	24.8	21.3	26.5	5
2013-14	44.1	38.5	25.2	25.2	28.1	5
2014-15	44.1	31.5	25.2	23.6	25.6	5.1
2015-16	43.5	38.8	24.4	24.9	26.1	4.9
2016-17	44.8	38.8	25	29.4	26.2	4.4
2017-18	43.8	29.7	24.3	29.8	24.5	4.7
2018-19	44.2	29.3	22.1	28.2	24.8	5.1
2019-20	43.7	31.4	24	28	22.1	4.8
2020-21	45.8	31.1	24.1	28.8	28.8	4.9
2021-22	46.4	38.5	22.7	31	28.2	5.1
2022-23	48.4	33.7	22.2	29.2	29.8	5.8

SOURCE: DIRECTORATE OF AGRICULTURAL STATISTICS AND ECONOMICAL, GOVT OF INDIA. 2ND ESTIMATES, FEB 2023

PRODUCTION OF IMPORTANT CROPS (IN LAKH TONNES)



ment of 206 MMT on May 9. It may be due to the regular procurement of these crops in Punjab and Haryana since the 1970s and the spread of procurement in other states such as Madhya Pradesh, Uttar Pradesh and Rajasthan in the past decade. Moreover, the procurement by the FCI is without any cap for an individual farmer despite the recommendation of the Shanta Kumar Committee (2015) to limit purchases by the FCI as per the need. But, India is still dependent on imports for pulses to the

extent of about 10 per cent of its annual requirement of 30 million tonnes. Similarly, India is importing about 60 per cent of its annual edible oil requirement of around 25 million tonnes. Figures for the decade-long period from 2012-13 to 2022-23 show that rice, wheat, other cereals, pulses and oilseeds and sugarcane occupy about 80 per cent of the gross cropped area, whereas the rest is under vegetables, fruits, spices, green fodder etc. It is this 80 per cent area which has to be divided among various crops for a balanced production. The acreage under paddy and wheat has been increasing steadily, with an unstable trend in pulses and oilseeds, while the area under sugarcane has remained almost constant. The production of paddy and wheat is increasing due to greater area and yield and of sugarcane due to higher yield in recent years. The area under coarse cereals is decreasing, even as 2023 is being celebrated as the International Year of Millets by the United Nations. Therefore, additional area for pulses and

oilseeds has to come from rice and wheat. Both pulses and oilseeds have higher yield risks as their cultivation is mostly done in unirrigated areas. Their non-procurement at the MSP increases their price risk too. Therefore, at least the price risk has to be reduced by procurement at the MSP to attract more acreage under pulses and oilseeds. Thankfully, the government has now removed the procurement ceiling for tar, seed and manure under PSS operations for 2023-24. The decision, in effect, assures procurement of these pulses from farmers at the MSP without any ceiling. A similar decision is required for oilseeds too, especially mustard, groundnut and sunflower. Assured price for pulses and oilseeds will certainly increase area under cultivation even in the irrigated regions of Punjab, Haryana and Uttar Pradesh. If the FCI can cap the procurement of wheat and paddy say up to four hectares per farmer, it will expedite mustard and tar production in these states. It just requires the registration of acreage by farmers under major crops well before the sowing season after the announcement of the MSP. Thus, the MSP can act as an instrumental variable for desired agri-products in the country. Moreover, a balanced production may synchronise the market price and support price, which may enable the government to guarantee the MSP as desired by the farmers.

Incentivising production

Acting on the recommendations in the 2016 report titled ‘Incentivising Pulses’ Produc-

The author is a former professor SBI chair, Centre for Research in Rural and Industrial Development (CRRID), Chandigarh

El Niño Could Hurt, Be Ready



Debopam Chaudhuri

Indian summer monsoon rainfall (June-September) is a vital annual water source for the subcontinent's most densely populated areas. It wields a tremendous impact on India's agricultural production and economic fortunes. While agriculture accounts for approximately 20% of the gross domestic product (GDP) and 40% of employment directly, the interlinkages run deeper if tertiary industries like food processing, transportation, retail and wholesale trades are also considered. This extends the agricultural economy's purview across rural villages, semi-urban tier-3 and tier-2 towns. As per the last census (2011), agricultural employment in Andhra Pradesh, Chhattisgarh, Karnataka, Madhya Pradesh, Rajasthan and Telangana are significantly higher than the national average, making them highly susceptible to a deviation from expected agricultural yields. The resurgence of El Niño in FY24

casts a big shadow on the likelihood of a normal monsoon this year. El Niño result in parched summers, warmer winters, and less-than-normal rainfall during monsoons. As per my interpretation of historical rainfall data, El Niño was the main reason behind 60% of the droughts between 1966 and 2019.

Leading atmospheric research agencies like the United States' National Oceanic Atmospheric Administration and the Australian Bureau of Meteorology have predicted a 50-60% chance of El Niño during Q2-Q3 of FY24. In conjunction with these predictions, India's private weather forecaster Skymet predicts weak rainfall in the core agricultural belts till the first week of July, impacting the sowing of the crucial Kharif crops.

Historical data indicates a strong correlation between agricultural GDP and droughts. In each of the 10 drought and drought-like conditions faced by India since 1966, Indian agriculture contracted on an average by approximately 3.5% (year-on-year). However, one promising development is that in the recent droughts in FY10, FY16 and FY19, the linkage between productivity and monsoons has weakened, thanks to improved irrigation infrastructure.

What makes the scenario of a likely slowdown/contraction in agricultu-



On hold for now?

ral GDP in FY24 even more disruptive is that since FY20, the two main engines of economic growth have been government expenditure and agriculture (least impacted by Covid-19). At a time when the economy is still recovering from the pandemic-induced setback, a slowdown in agriculture is likely to have a more profound impact on GDP than previous episodes.

Slowing agricultural growth will lead to a decline in spending in rural regions, tier-3 cities and some regions with dominating agrarian economies, and even tier-2 towns. A historical comparison of droughts and subsequent consumer spending suggests a strong interrelationship. Growth in spending inadvertently slowed down every time India faced a drought and, subsequently rural distress.

During 1966-2019, a slowdown in consumer spending (measured by private final consumption expenditure) with year-on-year growth rates

declined on an average by 260 bps (from the previous year's growth rate) whenever there was drought-induced rural stress.

Are we indeed headed for a slowdown in FY24?

These are undoubtedly strong empirical evidence, signalling an El Niño-induced drought in FY24 may lead to a relapse in rural economic recovery, impacting not just villages but also tier-3 and even some tier-2 towns, eventually bringing down consumer appetite. This may not bode well for India's economy, which relies significantly on private spending.

But it may not be all gloom and doom. The India Meteorological Department continues to predict a normal monsoon in FY24, albeit delayed. In that case, the above scenario is unlikely. Nevertheless, while the resurgence of El Niño in FY24 and its ability to cause a drought in India remains a probabilistic affair, it is rational for economic stakeholders to prepare against such an eventuality. This ranges from policymakers, including fiscal and monetary, businesses dependent on rural demand, and financial institutions. After all, it is always prudent to prepare for the winter, or in this case, a long summer!

The writer is chief economist, Piramal Group

Sustainable land use can boost farm productivity

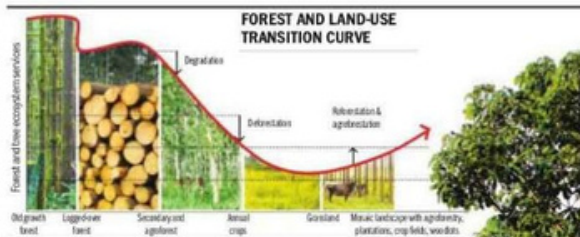
In between rows of trees, farmers can cultivate a diverse range of crops, including vegetables, grains and herbs. These intercropped benefit a lot from the shade provided by the trees, especially during the summer season. The tree roots prevent excessive evaporation of moisture from the soil, ensuring more efficient use of water resources and enhancing land productivity. Trees support beneficial microorganisms, reducing the need for chemical fertilisers and thereby boosting natural pest control.

A AMARENDER REDDY

AGRIFORESTRY has the potential to double or even triple farmers' income in degraded, neglected or even fallow areas. High-input farming practices and the intensive use of chemical fertilisers and pesticides have contributed to land degradation. One way to resolve the problem is the adoption of agroforestry by farmers, at least in hilly, fallow and rain-fed areas or on around 10 per cent of the agricultural land.

Agroforestry is a sustainable land-use management system that combines the cultivation of trees, crops and/or livestock on the same piece of land. It is a practice that integrates forestry and agriculture, aiming to generate income from both while minimising a negative environmental impact. India had adopted the National Agroforestry Policy in 2014. It defined agroforestry as a land-use system which integrates trees and shrubs on farmlands and rural landscapes to enhance productivity, profitability, diversity and ecosystem sustainability. With an appropriate mix of species, agroforestry enables agricultural land to withstand extreme weather events such as floods and droughts and enhance farmers' income. The National Forest Policy (1988) was aimed at forest coverage of 33 per cent of the total geographical area; as of now, only around 22 per cent of the area is under forest cover. There is little scope for increasing the area under forests; hence, that gap can be filled by expanding the area under agroforestry.

In between rows of trees, farmers can cultivate a diverse range



SOURCE: FOOD AND AGRICULTURE ORGANISATION AND CENTRE FOR INTERNATIONAL FORESTRY RESEARCH, 2020

of crops, including vegetables, grains and herbs. These intercropped benefit a lot from the shade provided by the trees, especially during the summer season. The tree roots prevent excessive evaporation of moisture from the soil, ensuring a more efficient use of water resources and enhancing land productivity.

Some of the frequently grown tree species in agroforestry are neem, teak, eucalyptus, poplar, bamboo, amla, drumstick, banyan, peepal and acacia. These species are useful for medicinal purposes and repelling insects; they also provide timber and plywood. As per estimates, 65 per cent of the country's timber requirement is met from the trees grown on farms.

Agroforestry plays a significant role in mitigating climate change and increasing land fertility and productivity by carbon fixation. Trees absorb carbon dioxide through photosynthesis and act as carbon sinks. Agroforestry contributes to carbon sequestration and can offset greenhouse gas emissions. The atmospheric carbon fixation of agroforestry is on

an average more than 15 tonnes of carbon/hectare/year, while cropping systems such as rice-wheat fix only less than 0.3 tonnes. Hence, carbon fixation can be achieved by shifting from lower biomass land use (e.g. grasslands) to tree-based systems such as agroforestry. Carbon sequestration in Indian agroforests varies from 19.56 tonnes/hectare/year in Uttar Pradesh to 23.46-47.36 tonnes in tree-bearing arid agroecosystems of Rajasthan.

Trees support beneficial microorganisms, reducing the need for chemical fertilisers and thereby enhancing natural pest control. The combination of trees and crops allows for diversified income from timber, fruits, nuts, medicinal plants and honey. Agroforestry can also create employment opportunities, contributing to rural development. Field experiments have shown that net returns from sole cropping systems such as sugarcane-banana rose from Rs 2 lakh/hectare/year to Rs 17-22 lakh with the inclusion of poplar in the land-use system. There are many constraints



which need to be overcome to increase the area under agroforestry. The effective returns of trees in agroforestry systems comes after 3-4 years after plantation; this is inconvenient for small and marginal farmers as well as tenant farmers, who are unable to make upfront investments and can't wait long to get returns. Hence, there is a need for banks to make arrangements to finance initial upfront investments during the initial years. Once

Teak wood price



financial constraints are removed, the key issue is the availability of suitable fast-growing seedlings and planting material and also technical knowledge, which needs to be provided by the government or the private extension system.

The government should incentivise the establishment of agroforestry Farmer Producer Organisations (FPOs), public-private partnerships, timber and forestry-based companies and agroforestry consultants. The demand for agroforestry products is scattered and dominated by a few traders who indulge in exploitative practices. The government needs to take active steps for the development of agroforestry-based markets for timber, fruits, medicinal plants and non-timber forest products in an organised way. The success of the National Bamboo Mission needs to be replicated, wherever feasible.

There is the Minimum Support Price (MSP) regime for most crops, but agroforestry products lack such policy support. Hence, the profitability varies significantly from season to season because of wide fluctuations in yield and prices. The government should identify some agroforestry products under the 'one district, one product' programme and develop value chains, processing plants and post-harvest infrastructure for a product in the district.

Agroforestry holds the key to ecological and economic sustainability of the land. The sector should be encouraged by removing bottlenecks across the value chain.

The author is section head, Design & Analysis, ICAR-Central Research Institute for Dryland Agriculture, Hyderabad. Views are personal

'Making tangible investments in farming is extremely critical for our country'

Farmers' incomes will increase only with consolidation of farmlands, and by investing in research to develop better varieties, argues Nandhari's Group CEO

INTERVIEW

Gurmukh Roopra

Mini Tejaswi
BENGALURU

When Satguru Jagjit Singh, former chief of Namdhari (a Sikh sect), thought of starting an agribusiness and bought a 50-acre land to grow vegetables and fruits in Bidadi in the 1970s, he never imagined that his venture would one day become a household name in Bengaluru, spread across the country and also take to export. In 1982, he asked his nephew Satguru Uday Singh to take the reins of the operations, and under his guidance, the group formally began its professional journey.

Namdhari's Group, which has a presence across fresh fruits and vegetables, groceries, dairy, seeds, fine dining and cafes, has a cumulative turnover of ₹ 650 crore. The chain currently has 11 Simpli Namdhari's stores and 16 Namdhari's Fresh stores.

Gurmukh Roopra, CEO, Namdhari's Group, argues that with more and more people from rural areas moving to urban centers for jobs, there is a trend where the number of peo-

ple engaging in agriculture is gradually decreasing. This opens up an opportunity for the consolidation of landholdings. If landholdings become bigger and agricultural activity is scaled up, incomes of Indian farmers can improve, he said, in an exclusive interview with The Hindu.

What are Namdhari's immediate expansion plans?

We are looking at a fresh phase of expansion, in Bengaluru and in other metros. All our businesses, mostly seed business and fresh retailing, require new investments. We will be looking for a financial or strategic partner to help us take our story forward. We are planning to raise upto \$50 million to scale up our retail network in Bengaluru and across the country in the next 10 months. We are looking at multiple options including strategic or financial partnerships to expand our retail business and seed business. We are also looking at investing organically. Again, it's less about money or venture capital, it is about finding somebody who believes in the philosophy of Namdhari's and somebody who wants to take us beyond Bengaluru and make us a truly national story.

What is the future of India's agriculture, especially when farmers are increasingly abandoning their farms?

There is a short-term approach and a long-term approach to solving this issue. In the short term, if the government's ambition is to have regulated mandis in every five-kilometer radius of farm regions, we should have 42,000 mandis across the country against some 7000 currently. At present, only 2.8% of the GDP is spent on



Gurmukh Roopra, CEO, Namdhari's Group, with his team.



Namdhari's farms in Bidadi near Bengaluru.

agriculture while other sectors such as defense, roads, infrastructure and others get a better share. So unless the government increases its investment in farming, improves post-harvest, agricultural marketing, improves market access, set up more cold chains, and establishes links between mandis, things won't improve.

The reality is, the situation will continue until the country generates more white-collar jobs in many non-agriculture sectors including manufacturing in order to help many farmers to explore alternate livelihood options outside farming. The number of people dependent on 'not so adequately rewarding agriculture' has to be reduced and when that happens we will be able to spread the land between fewer numbers of people. This means the size of landholding increases as the number of landowners decreases. You can now do multiple cropping, bringing precision agriculture, the scope for more me-

chanisation, technology adoption and thereby bringing down the cost of production significantly. And, this is a long-term action.

Incomes of farmers are only dwindling as they are forced to sell their produce below the cost of production. How can we improve farmers' incomes?

To transform agriculture, both the private sector and the government, in collaboration, should do a lot. We have to bring improvement in crop management and on the post-harvest front. This will automatically upgrade the whole ecosystem. This will also help us explore global markets and become competitive. The international market always compensates better than the domestic market, and this helps farmers earn better prices. Let's consider just horticulture. Let's pick citrus, apples, pomegranates, bananas, or let's pick mangoes. We should have an export-oriented policy, invest in research and develop better Indian varieties that are globally

competitive. If we are able to do this, we can easily transform some 10-20 crore farmers into global players

What should our country do to take our farmers to the global markets?

Just sitting in an office and making a policy, thinking that a document can help double farmers' incomes is not something that will work. We need to make tangible investments in farming and I personally believe this is extremely critical for our country. We

have to invest in farm infrastructure, invest in market creation and in research to develop better varieties. Today, we do almost a thousand tons of apple trading from the North to the South of the country. But our farmers are left with apple trees of old genetics and variety and the apples grown on these trees go soft and perish quickly.

A farmer, who grows any crop today, will get four different grades of the same crop, two grades are easily marketable and exportable for better premiums. The same thing applies to citrus, vegetables, field crops, grains, or anything. It's not about doing something revolutionary in farming, it's about doing something tangible throughout the supply chain, from farms to consumers' homes. And through these practices, we can increase farmer incomes by 20% or 30%.

Can you talk a bit about your seed business? How do you grow seeds for various climatic conditions?

Seeds is our single largest business, it accounts for close to 50% or 60% of our top line. Research is the most important element in the seed business. We train farmers in India, also in Southeast Asia, Indonesia and Thailand. We also have a research station in Turkey, which caters to the Middle East market, which is Egypt and the rest of the Middle East.

We work with farmers in each of these geographies. Seed research for each of these countries is very specific. It's not like you breed a seed in India and grow it somewhere else. We distribute our seeds through almost 15,000 to 20,000 distributor points across the country. Namdhari's Seeds (research, prod-

uction and sale of seeds) turnover is ₹ 300 crore. Our core area of research is vegetable crops. Every five years we release about 60 new hybrids across 30 plus crops.

What kind of R&D is happening around seeds? Why do you say seed-producing farmers enjoy a better status?

We are pioneers in developing seeds in the country. We offer seed production technologies to farmers in Karnataka's Raichur, Koppal and Chikmagalur. Seed-producing farmers enjoy a better hierarchy as they earn better compensation from sales of seeds when compared to fresh produce farmers. Our R&D presence is combined with about 30 research breeders. These are MSCs and PhDs holders. We have scientists who work in molecular labs, pathology labs, and tissue culture labs.

We have 20 different research stations across the country, focusing on different climatic conditions, where we screen and test our plant material. Between a lot of trials and testing, the typical gestation period for bringing a product into the market is between five to seven years. A few of the 15 varieties we focus on mainly include tomatoes, okra, chilies, watermelons and gourds.

How many farmers do you work with in Karnataka?

We work with farmers via the production and marketing routes. In terms of production, we work with about 25,000 to 30,000 farmers across the country. On the marketing side, we work with 800 distributors and 15,000 dealer touchpoints who in turn work with many farmers across the country.



Gurmukh Roopra

ADVERTORIAL

AGRICULTURE

Backbone of the Indian economy

An initiative by RED

...Continued from previous page

that with the accelerated growth rate, it is possible to achieve this by 2024-25. It can be with a GVA of 14 per cent or \$700 billion in the agriculture and allied sectors.

Two areas that need greater attention to achieve this are: export push and tripling the current rate of fruit and food processing. The trade surplus in recent years has declined from \$ 27.7 billion a decade ago to \$ 11.2 billion. The Agri Export Policy 2018 coupled with domestic production schemes was a pivot to transform India's agri-export in a short span of time to \$ 50 billion in 2021-22 from merely \$33 billion five years back. Accomplishing \$120 billion by 2030 would be a testimony of India's will and capability to transform the farm sector and harness a true export potential of agriculture which will be able to contribute to the target economy. Agriculture export data indicates a cohesive and robust trend in the

export of cereals, spices, meat, and cotton—traditionally a stronghold in agri-export from India. Scrutiny of data suggests a major trend and footprints in the export of non-basmati rice, marine products, sugar, dairy products, fresh and processed fruits and vegetables and Ayush and herbal products. Notably, India accounts for 50 per cent of the world's rice export, achieving a major milestone of \$ 9.6 billion. Out of it, \$ 6.1 billion amounts to the export of non-basmati rice and \$ 3.5 billion to basmati rice. Covid-19 induced pandemic offered a great opportunity for the countries in Africa and Asia to source non-basmati rice at competitive prices coupled with a stellar performance in domestic rice production at 127.9 million tons in 2021-22. Similarly, the Ukraine-Russia war in current times threw another opportunity for wheat export. The countries that war normally account for 25% of world wheat export creating a hurdle in wheat exports from India. But now the war pushed the world



prices skyrocketed to US\$ 460 per ton, which makes Indian wheat export another attractive proposition. Similarly, a big push is needed for the food processing sector so that the farmers' distress is avoided. Since we are a major food-producing country in the world with a large and growing market, food processing is



an important part of the agricultural economy. In fact, the food and grocery retail market are valued at US\$ 11.3 trillion in 2021 and is the largest in the global economy. However, the Indian food processing sector has a very small share in it. India is currently processing around 10% of agricultural products as against 56%

the USA. India's share in the export of processed food is just about 2 per cent or US\$ 4.2 million. India has tremendous opportunities in millet product processing as this year is declared as the International Year of Millet. The country is a leader in millet production as India produces around 18 million metric tons of millet; nearly 42 per cent of global production. Millets are no more called coarse cereals but are referred to as 'nutri-cereals' because of their value as nutraceuticals supplier. Millets are also the crop of 60 per cent rainfed farmers and any change in the utilisation of millets will bring cheers in the life of dryland farmers. The food processing industry needs to concentrate on the promotion of millet recipes and explore potential export markets.

Although it is better said than achieving it as there are several impediments to making the Indian economy that strong. Agriculture shall be continued as the backbone because of sheer population engagement, the rural econ-

omy to be made strong and doubling the farmers' income. Today India ranks 107th position in Global Hunger Index, baseline water stress because of groundwater depletion, climate change, low productivity particularly in pulses and oilseeds, rising input costs of agriculture production, suboptimal farm mechanization, and yield gap between actual yield and realizable yields are pushing the Indian agriculture backwards. These issues can be addressed suitably, agriculture will certainly be the continued backbone to achieve the target set for India to become a \$ 5 trillion economy. Indian farmers are fortunately multi-skilled. Driven by economic necessity to maximize the returns, the small farmers have evolved through self-engineered innovation and therefore they produce a variety of agricultural and allied products around the year. Given the desired policy support the farmers and farming shall deliver the targeted goals of the Indian economy.

POLICY MATTERS

AMICABLE REGULATORY PROCEDURE FOR INTRODUCTION OF NEWER MOLECULES



actively promote the registration of as many molecules as possible, so that the farmers have a wide range of choices that are required to meet very large variety of crops and their pests, diseases, weeds and vermin including the problems of resistance.

Regulatory Norms for Encouraging Better Products

India has seen the ravages of sudden outbreak of newer pest problems many times in the past: products like synthetic pyrethroids and the weedicides Isoproturon had to be given emergency approvals for their use in India to grapple with the pest/weed challenge posed by their sudden outbreak. The dreaded weed *Phalaris minor* is one of them. Recently, the outbreak of black thrips in Chilli, fall armyworm in maize, resistance to herbicides in *Phalaris* had to be dealt with by the Registration Committee by short-circuiting registration process and enhancing the label claims of existing products.

With the focus on increasing agri-exports as well as the shift to horticulture,

Molecule discoverers abroad are discouraged to register the non-patented molecules without RDP, because they spend crores to register them, but get readily copied by others at a fraction of their cost



About the AUTHOR

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Agriculture globally is facing challenges due to climate change. In India this challenge is even greater having the 2nd largest arable land of approximately 167 million ha, with a population of 1.4 billion and growing. Requirement of food and nutritional security, quantity and quality, changing food habits, growing need for fiber & bio-fuels and our focus on agricultural exports are the challenges faced by the Indian farmers who have to constantly work towards increasing productivity, volume and maintaining consistent quality of his produce all the while surviving the biotic pressure of pests, diseases and weeds which can destroy up to 25-30% of their crops.

The complexity of these "enemies" keeps changing, needing newer approaches for their management wherein Crop Protection Chemicals (CPP) play a major role. Hence farmers need a very large arsenal of agrochemicals for crop protection. Strategically, therefore India's pesticides registration related regulations ought to be framed to pro-

Newer Pests and Diseases Hit Vegetable Crops

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Pune: Newer plant viruses resistant to most pesticides are one the reasons for the rising prices of daily essentials like tomatoes, ginger and tur dal.

While tomato growers have been struggling to control new viruses for about a decade now, production of ginger, capsicum, chillies, papaya and this year tur dal have also been affected due to newer pests and diseases, farmers and experts said.

“When tomato prices crashed, farmers reduced spraying on the crops to cut losses. This led to increased pests,” said Ajay Belhekar, a tomato grower from Pune district.

In high input cost crops like tomatoes and capsicum, farmers shift to other crops when they incur losses due to price crash or plant diseases. The prices of hybrid tomato seeds of big companies are upwards of ₹70,000/kg.



Fertiliser overuse: Wheat yield, soil fertility decrease

KARAM PRAKASH
TIBETI NEWS SERVICE

NEW DELHI, JUNE 28

In a major concern for Punjab farmers, soil fertility continues to be declining in the state, apparently owing to the excessive use of the chemical fertilisers.

Over the past five years, Punjab's wheat production has already declined from 178 lakh metric in 2017-18 to 149 lakh metric tonnes in 2021-22. Additionally, per acre wheat productivity has also declined from 5,077 kilogram per hectare in 2017-18 to 4,216 kilogram per hectare in 2021-22.

The Union Government — while releasing this data — said there had been a decline of 16 per cent in production of wheat and 17 per cent in per acre wheat with increasing use of chemical fertilisers in Punjab.

From 36.06 lakh metric tonnes in 2017-18, the consumption of fertilisers by Punjab farmers — with nearly 10 per cent — increased to 39.47 per cent in 2021-22.

The government said this showed that the production and productivity had already reached a plateau and increased fertiliser consumption had no impact or rather had a negative impact on production and produc-

PER ACRE OUTPUT ALSO DIPS

■ Punjab's wheat production has already declined from 178 lakh metric in 2017-18 to 149 lakh metric tonnes in 2021-22

■ Additionally, per acre wheat productivity has also declined from 5,077 kg per hectare in 2017-18 to 4,216 kg in 2021-22

tivity of wheat. Punjab has the highest per hectare consumption of 'chemical fertilisers' in the country. The consumption of fertilisers by nutrients — nitrogen, phosphate and potash — was 253.94 kg per hectare in the state for 2021-22.

Agriculture experts opined that the overuse of chemical fertilisers had brought organic component in the soil to almost 'zero'.

Union Minister for Chemical and Fertilisers Mansukh Mandaviya said, “Punjab is one of the states where production and productivity of wheat declined despite the higher use of chemical fertilisers. Therefore, we should save the soil by reducing the use of chemical fertilisers. It is high time that we should focus on soil health, which has deteriorated over the past few years.”

Wheat output down despite more chemical fertilisers

Production Falls 16% In 5 Years: Min

Neel.Kamal@timesgroup.com

Bathinda: Union minister for chemical and fertilisers Mansukh Mandaviya stated on Wednesday while promoting the use of organic manure that Punjab's wheat production had declined 16% in five years despite a greater chemical input.

The production fell from 178 lakh metric tonnes in the year 2017-18 to 149 LMT in 2021-22 even though Punjab's fertiliser usage rose to 253.9 kilo-



File photo for representational purpose

March 2022 heatwave also impacted Punjab's production of wheat

grams for each hectare in 2021-22 from 215.2 kg/ha in 2017-18. A Punjab agriculture department official said that: "The minister failed to take into account the destructive early heatwave of March 2022 that had shrunk the grains and impacted production across country."

Mandaviya declared fertiliser subsidy for the next three years, besides some

plans for fertiliser usage in the country. He cited Indian Agriculture Research Institute's data to claim that Punjab's wheat production had declined despite more consumption of chemical fertilisers. He said that: "It shows how the chemical fertilisers imbalance soil fertility and why the farmers should keep their usage to need-based, precise dose."

USAGE IN PUNJAB

Year	Usage (kg/ha)
2021-22	253.9
2020-21	246.6
2019-20	243.2
2018-19	238.9
2017-18	215.2

Launching the Prime Minister's Pranam scheme, the minister advocated use of organic manure under the G-overdhan scheme, which the government will give away for free.

He claimed that Punjab had 3.8% of the country's gross cropped area, but the chemical fertiliser consumption in the year 2021-22 stood at 6.7% of country's figure.

Nilgiris to promote organic farming

B. RAVICHANDRAN | DC OOTY, JULY 4

A monthly meet for farmers will be held in the Nilgiris in future to hold discussions to promote organic farming in the Nilgiris, said Nilgiris Collector S.P. Amrith.

Making this announcement during the farmers grievance redressal day meet held here recently, he said the government has sanctioned Rs. 5 crore this year for the horticulture department to encourage and promote organic farming in the Nilgiris this year that will do a world good to improve and conserve soil fertility the natural way to produce healthy vegetables from healthy soil.

The cold storage facility established by the horticulture department near the Government Rose Garden here will become operational soon as efforts are being taken in this regard. The farmers in the hills will be given priority to utilise the facility to store hill vegetables.

He said action will be taken to verify if private fertiliser and manure dealers and retailers are selling these farm inputs at extra cost.

He asked the farmers to utilise the schemes under national horticulture mission to avail of subsidies.

Drone technology will prove helpful for farmers: Minister

TRIBUNE NEWS SERVICE

DHARAMSALA, JULY 4

A number of private companies put on display the drones manufactured by them at a state-level exhibition at Palampur Agriculture University today. These drones can be used for delivering medicines and in the agriculture sector.

The exhibition was inaugurated by Minister for Agriculture Chander Kumar. The minister said drones would prove helpful in increasing the income of farmers and horticulturists in the state. The use of drone technology could help in accurate of weather assessment, better irrigation, effective spraying of pesticides, monitoring of crop health etc, he said.

He said the scientists of the agricultural university must emphasise on research in this field. Meaningful steps should also be taken to take



Agriculture Minister Chander Kumar at a drone exhibition. PTI

EMPHASIS ON RESEARCH

- Drones will prove helpful in increasing the income of farmers and horticulturists in the state
- The scientists of Palampur agricultural university must emphasise on research in this field
- Steps should also be taken to take research from the laboratory to the fields so that farmers can benefit

research from the laboratory to the fields so that farmers could benefit, he said.

The minister said Chief Minister Sukhwinder Singh was keen on adopting drone technology and this festival was a step in

that direction. He said drone training had been started at the ITI-Shahpur and drone mechanic courses would soon be started at 11 other ITIs across the state.

Chief Parliamentary

Secretary, Education and Urban Development, Ashish Butail said the use of drone technology would be beneficial for the state. This would be helpful in the mapping and other development work undertaken by the Palampur Municipal Corporation. Farmers and tea garden owners should use drones by forming clusters for spraying insecticides and planting seeds.

Butail said the use of drone technology should be maximised in all departments so that work could be expedited. He said the Department of Information Technology was doing commendable work to ensure that Himachal became the first state in the country to use drone technology.

Secretary, Digital Technology and Governance, Dr Abhishek Jain welcomed the chief guest and gave detailed information about the Himachal Drone Conclave.

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