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#### हिमाचल में बाढ़, पांच लोगों की मौत, उत्तराखंड में भी तबाही

चंडीगढ /शिमला, (वार्ता): हिमाचल प्रदेश में भारी बारिश तथा अचानक आयी बाढ़ में चार लोग बह गये और भूस्खलन से मनाली-चंडीगढ राष्ट्रीय राजमार्ग अवरुद्ध हो गया है। उत्तराखंड में भी 24 घंटे से कई जगहों में भारी बारिश से भूस्खलन हो रहा है और जगह-जगह लोग फंसे हुए हैं। हिमाचल के कई इलाकों में भारी बारिश से जनजीवन पर असर पड़ा और शिमला जिले में भूस्खलन के कारण लिक रोड पर यातायात अवरुद्ध हो गया।मनाली-चंडीगढ़ मार्ग पर बड़े पत्थर गिर रहे हैं तथा वहां आवागमन खतरे से खाली नहीं है। एक घटना में मोटरसाइकिल पर बड़ा पत्थर गिरने से एक व्यक्ति की मौत हो गयी। इसके अलावा वर्षा के कारण राज्य में बिजली तथा पानी की आपूर्ति प्रभावित हुई है। पानी में गाद आ रही है। शिमला में पानी की आपूर्ति ठप्प रही । उधर, पश्चिमोत्तर में हरियाणा के चार जिलों में जोरदार बारिश हुई लेकिन पंजाब में बादल

भुस्वलन

बाढ़ के कारण यातायात हुआ अवरुद्ध

छाये रहे। मौसम केन्द्र के अनुसार अगले तीन दिन के दौरान क्षेत्र में भारी वर्षा होने की संभावना हैं। इसके अलावा कहीं कहीं भारी वर्षा की चेतावनी दी गई है। पिछले चौबीस घंटों के दौरान हरियाणा के हिसार में 52 मिलीमीटर,अबाला में 71, यमुनानगर में 52, पंचकूला में 11, करनाल में 38, नारनौल में 52 और भिवानी में 11 मिलीमीटर तक वर्षा हुई। बारिश ने किसानों को राहत दिलाई है। मानसून के सक्रिय होने से उत्तराखंड तथा हिमाचल प्रदेश में पिछले चौबीस घंटों में औसत से भारी वर्षा हुई जिससे आम जनजीवन प्रभावित हो गया। वर्षा के दौरान भूस्खलन से यातायात प्रभावित हुआ है तथा कई लिंक रोड बंद हैं।

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# कम बारिश से न घबराएं किसान

नई दिल्ली, (भाषा): इस महीने बारिश कम रहने के अनुमान के बीच सरकार ने आज किसानों से कहा कि वे घबराएं नहीं क्योंकि मानस्न कमजोर रहने की स्थिति में खरीफ फसलों पर किसी प्रतिकृल असर से निपटने के लिए आपात योजना तैयार है। मौसम विभाग का अनुमान है कि जुलाई में बारिश 8 प्रतिशत व आगस्त में 10 प्रतिशत कम रहेगी। हालांकि जून में बारिश सामान्य से 13 प्रतिशत अधिक रही है। भारत में खेती के लिए मानसूनी वर्षा काफी महत्वपूर्ण है क्योंकि 55 प्रतिशत कृषि भूमि सिंचाई के तहत नहीं आती। कृषि मंत्री राधा मोहन सिंह ने आज यहां खाद्य मुद्रास्फीति पर राज्यों के मंत्रियों की संबोधित करते

#### १० फीसदी कम होगी वर्षा

खरीफ की फसलों पर प्रतिकूल प्रभाव से अच्छी तरह से निपटेंगे

हुए कहा, ''अभी तक मानसून की बारिश उम्मीद से बेहतर रही है।, हालांकि इस साल बारिश कमजोर रहने का अनुमान लगाया गया है। किसानों की घबराने की जरूरत नहीं है। हम आपात योजना के साथ तैयार है। इससे हम कमजोर बारिश की स्थिति में खरीफ फसलों पर प्रतिकृत असर से निपट सकेंगे।'' अपनी इस बात के समर्थन में कृषि मंत्री ने कहा कि सरकार का खरब मानसून की

स्थिति से निपटने का लंबा इतिहास रहा है। अभी इस मामले में घबराने की जरूरत नहीं है। उन्होंने कहा, "पिछले साल सुखे जैसी स्थिति थी। बारिश 12 प्रतिशत कम रही थी, जिससे बवाई क्षेत्र दो प्रतिशत घटा था। हमने प्रभावी उपाय किए और फसलों पर नुक्सान को कम किया। हम इस साल भी तैयार है। हालांकि मेरा मानना है कि इस साल स्थिति ज्यादा खराब नहीं है।" आगामी दिनों में बेहतर बारिश की उम्मीद जताते हुए मंत्री ने कहा कि खरीफ यानी गर्मियों की फसल की बुवाई बेहतर तरीके से चल रही है। ऊँचे समर्थन मृत्य व जून में अच्छी बारिश से दलहन व तिलहन के बुवाई क्षेत्र में उल्लेखनीय इजाफा हुआ है। Name Homfietto-Vanicis editoris published on Jerry E 1.2015 in the

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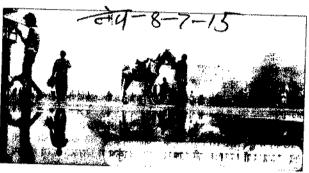
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#### जहां भूस्खलन की आशंका, वहां न जाएं

भाषा/प्रस, देहरादून

उत्तराखंड के ज्यादातर हिस्सों में पिछले तीन दिन से रुक-रुक कर लगातार जारी बारिश के बीच मौसम विभाग ने चारधाम यात्रियों से इस दौरान भुस्खलन की आशंका वाले इलाकों में न जाने की सलाह दी है। साथ मौसम विभाग ही विभाग ने प्रदेश के की चारधाम कुमाऊं और गढवाल क्षेत्रों में अभी अगले एक-दो दिन तीर्थयात्रियों को और भारी बारिश होने का सलाह पर्वानमान व्यक्त किया है। मौसम विभाग के अनुसार, प्रदेश के ज्यादातर स्थानों पर अगले 60 घंट के दौरान मध्यम बारिश हो सकती है। वहीं उत्तरकाशी, चमोली, बागेश्वर, पिथौरागढ और अल्मोड़ा जिलों में भारी बारिश की आशंका है, जिससे भस्खलन हो सकता है। इसलिए चारधाम यत्रियों के लिए

अमरनाथः दिल का दौरा पड़ने से 2 की मौत

भाषा, श्रीनगर : अमरनाथ यात्रा

पर दिल का दौरा पड़ने से दो की मौत हो गई। चंडीगढ़ के निवासी सुभाष चंदर (63) की भाग सोमवार और एक दिन पहले यूपी के रमा शंकर (58) की मौत हुई।

> सावधानी बरतने की सलाह जारी की गई है।

दूसरी ओर उत्तराखंड के कई शहर मूसलाधार बारिश से अस्त-व्यस्त रहे। नैनीताल मे पूरे दिन मालरोड में फैले मलबे को हटाने में प्रशासन लगा रहा। गौरीरकुंड और जंगलचट्टी के बीच सड़क के कई जगह क्षतिग्रस्त होने से केदारनाथ यात्रा न चल सकी।

# Traffic crawls, stuck in flooded roads

TIMES NEWS NETWORK

New Delhi: Heavy rain lashed the city on Tuesday evening throwing traffic out of gear as several roads got waterlogged. The worst affected stretches were around Anrobindo Marg. ITO, Minto Road, Bhairon Road, Netaji Subhash Road and Mathura Road.

Though it rained for just over two hours, it spelt chaos for peak-hour traffic. Vehicles on major roads like Josip Broz Tito Marg, Ring Road, Vikas Marg and Mehranli-Badarpur Road moved at a snail's pace. In south Delhi, waterlogging was reported from Malviya Nagar, South Extension, Lajpat Nagar, Defence Colony, Jangpura, among others.

"It took me nearly an hour to reach Connanght Place from Ashram. Rains, coupled with construction work, made driving a nightmare. I thought of taking Outer Ring Road, but it was equally bad," said Sheetal Arora, a resident of Kalkaji,

Commuters heading to the airport also faced delays as the Dwarka underposs got flooded. Traffic police said all approach roads to IGI were blocked due to this. Waterlogging was also reported from areas around Bonlevard Road, ISBT, Rajpur Road

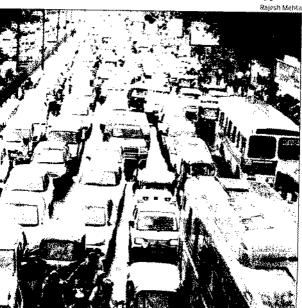
near Tirath Ram Hospital. Kashmere Gate Metro station. Nangloi, Anandmai Marg and Outer Ring Road towards Modi Mill flyover.

PWD reported that it has desilted 528 of the 1.014 drains under it. "In 484 drains, there is a constant flow of sewage so they require frequent desilting. We are prepared with pumps if water accumulates anywhere." said a senior official.

Roads in south Delhi colonies faced the worst problem as vehicles got stalled due to kneedeep water. "It took me almost an hour to reach Hans Raj Gupta Marg. It usnally takes 15 minutes to cover this kilometerlong stretch," said Prashant Kumar, a resident of GK-II. Parts of GK-II, South Extension and Defence Colony were waterlogged till late night.

The control room of South Corporation claimed waterlogging was reported only in Sangain Vihar, but residents of GK-1 and South Extension-II said water entered their homes.

Officials said most waterlogged points were where Metro work is going on as all drains and outfall points have been blocked. Additional traffic personnel were deployed. It took over three bours to clear the snarls after the rain stopped.



lams were reported from Vikas Mara poar ITC

#### Rain patchy, but promise of wet week

TIMES NEWS NETWORK

New Delhi: The weather continued to remain benevolent towards Delhi with large parts of the city experiencing rain on Tuesday. Southwest parts of NCR recorded the most rain while the eastern parts remained comparatively dry.

mained comparatively dry. However, the day temperature went up slightly since Monday

went up slightly since Monday to 34.1 degrees Celsius, two degrees below normal. "On July 6, 11.4mm rainfall was recorded, while on Tues-

was recorded, while on Tuesday 26.2mm was registered between 8.30am and 5.30pm. Gurgaon recorded the highest

gaon recorded the highest rainfall for the day with 56mm, while Palam saw 45mm. In comparison, eastern parts of the city were much drier with Noi-

da not recording any rainfall till evening," said a Met official. It is expected to rain for the rest of the week as well, though frequency and intensity may reduce slightly by Thursday. A Met official said that the cur-

Met official said that the current rain was due to oscillation of the monsoon trough. On Tuesday, the axis of the trough passed through Anupgarh, Aligarh, Fursatganj, Daltonganj, Bankura, Digha and then southeastwards to northeast

Bay of Bengal.

"The trough will interact with an approaching western disturbance, which will keep the monsoon in an active state for the next two or three days. Meanwhile, an upper air cyclonic circulation has formed over north Bay of Bengal and neighbouring areas and under its influence a low pressure area will form in the next 36

hours. This will then move towards Uttar Pradesh and keep the flow into northwest India intact," said a Met official. Temperatures of around 32-34 degrees Celsius have been predicted for Delhi and neighbouring areas over the next few days. "There will be no signifi-

days. "There will be no significant change in maximum temperatures over the plains of northwest India. On Wednesday, widespread showers have been forecast for Delhi. High levels of humidity can be ax pected throughout the week."

Hindustan Times Statesman The Times of India (N.D.) Indian Express Tribune Hindustan (Hindi)

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and documented at Bhagireth(English)& Publicity Section, CWC.

# Govt may reduce 6,000sq km from W Ghat's no-go zone

#### States To Be Consulted On Proposal

Vishwa.Mohan @timesgroup.com

New Delhi: The Centre will come out with the final notification on earmarking an ecologically sensitive area (ESA) within the Western Ghats by August end, incorporating suggestions of all the six states that may lead it to further reduce the 'no go' area by nearly 6,000 sq km.

It is expected that the total ESA, meant to conserve biological diversity while allowing sustainable development, will be reduced to a little over 50,000 sq km from the 56,825 sq km spread over six states Gujarat, Maharash tra, Goa, Karnataka, Tamil Nadu and Kerala-extending over a distance of about 1,500 km along the west coast.

Once the notification comes into force, the ESA will be a completely 'no go' zone for commercial mining and high polluting industries. The order will not affect



basic economic activities, including agriculture and plantation, of the people living in the earmarked zone.

"Reduction of the ESA is possible because three states - Karnataka, Maharashtra and Tamil Nadu - have reduced the areas during physical demarcation exercise like what Kerala did early last year", said an official of the ministry of environment and forests. Considering Ker-

ala's report, the UPA government had in its March 2014 draft notification reduced the ESA in the state from 13,108 sq km to 9,993.7 sq km.

"All the states have given their proposals and have also got public opinion and scientific studies done. Even major. ity of the villagers do not want polluting industries and commercial mining in their area. ", said Union environment minister Prakash Javadekar.

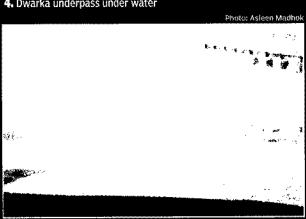
After a meeting of states' environment ministers on Tuesday, Javadekar said, "It will not have any impact on the livelihood of the people. The decision will be both pro-environment and propeople". Once the government notifies its order, 85 types of high polluting activities, including setting up aluminum smelter, cement plant, among others won't be allowed within the ESA.





#### RAIN PAIN MOUNTS

- A damaged road near ITO
- 2. Waterlogging near Laipat Nagar flyover
- 3. A waterloaged road near ISBT-Ring Road
- 4. Dwarka underpass under water





# Showers sink Ggn, trigger huge snarls

Chetna.Choudhry@timesgroup.com

Gurgaon: The city came to a near standstill on Tuesday evening as traffic moved at snail's pace on waterlogged roads, including a large portion of the Delhi-Gurgaon expressway.

The city received around half and

hour of heavy rain. enough to bring on a delinge of problems that accompany the arrival of monsoon every year. Heavy show-

ers started around 4pm, but low-lying areas like Sikanderbur, Jalvayu Vihar, Golf Conrse Extension Road and several parts of old

city went under knee-deep water: The situation was particularly bad of the road caved in, and also on Faridabad road, where around a 400m stretch was flooded, leading to a huge jam between 4.30pm and 7.30pm.

Stagmant water covered Faridabad road near Gwalpahari where some builders have allegedly blocked the natural drain with debris. Flooding

was also reported in Cyber City, particularly near Moulsari Avenue Rapid Metro station, "If it had rained just an hour before. things wouldn't have

A campaign for a better Delhi been so bad. Timing was peculiar because around 4.30pm, people start leaving their offices. Even on a normal day, we stringgle to keep the roads clear." said a traffic copnear Cyber City

Habitana manula frantianlly



Jalvayu Vihar was knee-deep in water

on the Facebook page of traffic police: "Major jam at Cyber City. Please send annona to managa Hegonti<sup>tt</sup> weynto Chandana Tyagi at 5:30pm.

"Heavy traffic jam on NH-8 from Signature Tower towards Delhi,"

wrote Sanjeev Knimar at around 6pm. Traffic cops, however, said they had no option but to wait for water to recede, "We wrote to the officials multiple times to repair the roads before monsoon, but they paid no heed. As a result, the public suffers while cops to struggle in the rain to clear traffic iams. The epicenter of the jam was Sikenderpur and Jal Vayu Vihar which later spread to rest of the city" said

Ashok Bakshi, ACP (Traffic). Even in the areas where traffic moved, an average delay of around 30 minutes was reported. Sohna Road, Sector 15, Jharsa Chowk, IFFCO Chowk, and Sector 29 also reported vereceious movement.

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#### No mining, polluting units in eco-sensitive zones, says Javadekar



Over 4,000 villages fall in the proposed eco-sensitive zones of the Western Ghats in six States. - FILE PHOTO: K. MURALI KUMAR

Vidya Venkat

NEW DELHE Union **Environment Minister Prakash** Javadekar held a review meeting with State **Environment and Forests** Ministers here on Tuesday to review the progress of demarcation of Ecologically Sensitive Areas (ESA) in the Western Ghats region and discuss the further course of action in keeping with the recommendations of the 2013 Kasturirangan Committee report.

Mr. Javadekar said that as per the report, commercial mining and polluting industries would be strictly banned in areas identified as eco sensitive zones.

The meeting was attended by **Environment Ministers of** Karnataka, (Ramanath Rai) and Gujarat (Mannubhai Patel), and senior environment and forests department officials of Goa, Maharashtra, Tamil Nadu and Kerala, Mr. Javadekar said that earlier people were misled to believe that the Kasturirangan report would destroy the livelihood prospects of people living in the Western Ghats forest regions. but such rumours should not be believed. "Only in places demarcated as ecologically sensitive zones, commercial mining and polluting industries would not be started. Every State will be given full opportunity for development works and the Union Ministry

Jul 8 H Union Minister holds review meeting on Western Ghats issue

> is currently going through the proposals submitted by State Ministers," he said, adding that since more than 4,000 villages fell in the proposed ecosensitive zones, consultation with local population was on to seek their recommendation on the plan of action and the process would be completed by month-end

> The final notification on demarcation of eco-sensitive zones and mining and polluting industries to be banned would be available by August,

#### 'No action on ground'

Renowned ecologist Madhay Gadgil, who had authored the earlier report on conserving the Western Ghats' ecology, told The Hindu that though the need for a participatory process of decision-making regarding promotion of development projects in the Western Ghats region was proposed by him in his report, the ground reality was different.

He cited the recently submitted Justice M.B. Shah Commission report on illegal mining in Goa, which had exposed Rs. 35,000 crore worth illegal mining in the State. "Local communities bearing the brunt of such illegal mining activities have no say in addressing the issues on the ground," he said.

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# Scientists gather in Paris to avert climate disaster

PARIS, JULY 7

Nearly 2,000 climate scientists gathered in Paris today, just five months before the deadline for a historic carbon-curbing pact, to remind politicians it is not too late to limit dangerous planet warming.

"The world is at a critical crossroads," UN Secretary-General Ban Ki-moon said in a message read to the academic gathering.

While nations have committed to limiting average global warming to 2°C over pre-Industrial Revolution levels, research shows the world is heading for double or more that on current greenhouse gas emission trends, he said.

And based on emissions curbs pledged so far, the combined effort will likely "not be sufficient to meet the 2° target," said Ban. "Clearly strong action still needs to be taken."

The four-day international science conference opened today in the French capital, which will also host the November 30-December 11 UN climate confer-



French Environment Minister Segolene Royal delivers a speech during an international conference on the theme 'Our Common Future Under Climate Change' in Paris. AFP

ence for 195 nations to finalise a new, global climate pact.

Dubbed "Our common future under climate change", the gathering of academics from nearly 100 countries will review the most up-to-date science on climate challenges and solutions to feed into the Paris pact.—AFP

# Waves in concert fire inferno

### ATMOSPHERIC CYCLES COMING TOGETHER HAVE BEEN INDICTED FOR FREQUENT HEAT WAVES, WRITES **S ANANTHANARAYANAN**

lose on the heels of brutal May-June in the plains of northern India and Pakistan, the heat is raging in Europe, with the temperature over 38° Celsius. The death toll in the Indian subcontinent has been in the thousands, with the heat wave in Pakistan reckoned the eighth worst in history and the one in India as the fifth worst. These events extend the series during the past decade, the last in Russia in 2010 and the USA in 2012, and studies show that the frequency of heat extremes would double by 2020 and quadruple by 2040.

While man-made global warming explains the gradual increase in spells of severe heat, the intensity and duration of events that we are seeing cannot be understood as a result of just warming of the globe. "The large number of recent high-impact extreme weather events has struck and puzzled us," says Dim Coumou, lead author of a study at the Potsdam Institute for Climate Impact Research (Institut für Klim



Dim Coumou, Vladimir Petoukhov, Stefan Rahmstorf and Hans Joachim Schellnhuber.

afolgenforschung), published in the *Proceedings* of the National Academy of Science. The team—Dim Coumou, Vladimir Petoukhov, Stefan Rahmstorf, Stefan Petri and Hans Joachim Schellnhuber, of PIK and the Santa Fe Institute—analysed massive sets of weather data from around the world and found that episodes of extreme heat were related to wave forms in the circulation patterns in the atmosphere acting together.

The fact that the earth is surrounded by extensive oceans and a massive atmosphere, coupled with its rotation, leads to complex and very high energy circulation patterns. First, rotation leads to days and nights and alternate warming and cooling of the sea and the atmosphere. Next, the tilt of earth's axis results in unequal warming of the hemispheres and low and high latitudes. Added to this is the rotation itself, which brings about an eastward driver, called the *Cortolis force*, of air that is moving towards the poles. This force varies when the moving air rises or descends and there are conditions when the force on the mass of air can be west-

wards, creating counter-currents.

There is one current of warm air moving towards the poles and another of cool air coming down from the poles. With opposing Coriolis forces, the mixing of the two streams leads to what is called the *Jet Stream*, at an altitude of nine kilometres, which airlines use to save finel while flying east. Given the scale—viz, the mass and volume of air, the atmosphere weighs five billion million tonnes and the distances in hundreds of kilometres—these effects of warming and earth's rotation, which is twice the speed of sound at the equator, lead to effects that are beyond the capacity of human control.

The stream of the air mass also veers and strays in its flow and returns, due to restoring forces, to veer the other way, and so on, which leads to a meandering, periodic, wavy motion.

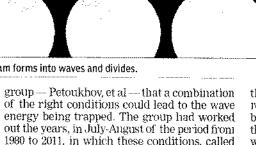
These kinds of wavy motion are known as *Rossby waves*, after Carl-Gustaf Arvid Rossby, who explained how they

came about. The wave formation in the cold circulation around the poles can become so strong that a portion of it could break free to form a cyclone or an anti-cyclone to cause extremes of cold at lower

latitudes. And there are Rossby waves that move northwards from the equator; bringing heat from the tropics to Russia, Europe or the USA. The PIK study has shown that at times of extreme weather.

the wave that brings great heat from the low to high latitudes could begin to move very slowly, so that the heat stays undissipated for a long time, according to a PIK press release.

"Behind this, there is a subtle resonance mechanism that traps waves in the mid-latitudes and amplifies them strongly," says Stefan Rahmstorf. The study cites a proposal by an earlier



group — Petoukhov, et al — that a combination of the right conditions could lead to the wave energy being trapped. The group had worked out the years, in July-Angust of the period from 1980 to 2011, in which these conditions, called resonance conditions, were fulfilled. The group used wind speed and other data and computed the timing of different components of the wave movement and found that there were 19 instances between 1980-2011 of the different components acting together, or a resonance, and these corresponded to events of extreme weather. A resonance is when the frequency of the up-down

motion of two or more wave motions finds a match, so that one takes up the energy of another and energy does not dissipate. In such an event, the extent of up or down of all the waves adds up and the swing can be very wide.

The PIK group notes that in recent years there has been a cluster of resonance events and this rise coincides with the rapid warming of the Arctic. The press release observes that since 2000, the Arctic has been warming nearly twice as fast as the rest of the globe. The reason for this is again global.

the globe. The reason for this is again global warming and the loss of Arctic sea ice. Loss of ice reduces the proportion of heat reflected back to space and a darker sea warms faster. And the rise in the frequency of resonance effects in planetary waves since 2000, with a rise in Arctic temperature by about one degree Celsins, indicates how closely factors like temperature differences, which drive the weather, are linked with events like extreme climate.

The study, in fact, puts a finger on a mechanism by which marginal changes in global temperature act as a switch to turn on forces that have drastic consequences. "The planetary waves topic illustrates how delicately interlinked components in the earth system are, and it shows how disproportionately the system might react to our perturbations," says Joachim Schellinhüber.

If climate change continues manated, severe heat extremes may affect 85 per cent of the land area of the earth by 2100 and 60 per cent would face extremes that are unknown today, the press note says.

10 worst heat waves in history	Death toll
1. Europe, 2003	71.310
2. Russia, 2010	55,736
3 Europe, 2006	3,418
4. India, 1998	2,541
5. India, 2015	2,500
6. USA and Canada, 1936	1,693
7. USA, 1980	1,260
8. Pakistan, 2015	1,250
9. India, 2003	1,210
10. Greece and Turkey, 1987	1,030



AGRICULTURE REMAINS UNDER THE CONTROL OF STATES. THE CENTRAL GOVERNMENT HAS HITHERTO DONE VERY LITTLE EXCEPT TO INSERT A FEW HIGH-VOLTAGE OBJECTIVES IN THE FIVE-YEAR/ANNUAL PLAN DOCUMENTS. THE TALK OF A SECOND GREEN REVOLUTION WILL AGAIN REMAIN A DISTANT REALITY, IF THINGS ARE NOT SHAKEN UP TO ALERT THE STATE LEADERS WHO ARE OBSESSED WITH THE CONSERVATIVE RURAL VOTE. REFORMS MUST OF NECESSITY BENEFIT FARMERS... NOT HARM THEM

hile laying the foundation stone of the Indian Agricultural Research Institute at Barhi, Hazaribagh, on 28 June, the Prime Minister called for a second Green Revolution without delay. The condition of the agricultural sector, he regretted, was far from satisfactory. While farmers have progressed the world over, they are languishing in this country.

It bears recall that the NDA was strongly criticized for its dismal record in agriculture during its previous stint in power (1998-2004). It now has an opportunity to perform better. In the month of May, Narendra Modi launched a 24-hour state-run TV channel for farmers. But a public discourse on how India could improve its dreadfully backward agricul-

ture is yet to gather momentum.

Despite decades of industrial development, about 600 million Indians, or roughly half the population, depend upon growing crops or rearing animals to earn a living. The country still relies on imports of essential items, such as pulses and cooking oil. Almost half of the average Indian household's expenditure is on food, an important factor behind infla-

tion. Food security at the micro level remains elusive. The global development experience, especially of the BRICS countries, reveals that one percentage point growth in agriculture is at least two to three times more effective in reducing poverty than the same degree of growth emanating from the non-agriculture sector.

On the surface, however, the state of affairs isn't too bad in the countryside. Rural poverty appears to have declined in terms of certain indices, notably mobile phones or motorbikes whose sales have boomed across the country. Increased welfare spending in the countryside (MGNREGA) might also be another factor. But the productivity of farming itself has been dismal. Contributing just 13.7 per cent to the GDP, agriculture has grown by around 3 per cent in recent years, far slower than the other elements of GDP. The findings of the Socio-Economic and Caste Census 2011, just released, presents a grim scenario of rural India.

Of late, the woes of the farmer have exacerbated. Untimely rain damaged winter crops in northern India. The heat wave killed more than 2000 people – mostly working in the fields. Suicides by farmers, owing to the low price of their produce, is almost a recurrent tragedy. There is general concern over the monsoon; patchy or inadequate rainfall can spell disaster.

Rural incomes are not adequate. Potato-growers get as little as Rs 2 to 3 per kilo of potatoes. Cotton-farmers, who had prospered through export to China, have recently been hit by declining demand. The minimum government price for staples, notably wheat and rice, was cut presumably to help curb inflation. But it was not accompanied by any transitional support for farmers who were hit by the adjust-

Low productivity is a chronic problem because of the shrinking size of the cultivated plots. Two grain harvests a year are fairly routine. But the yields are low by global standards.

It has been estimated that imless the agri-sector takes off to a 4 per cent plus growth trajectory, the possibility of reducing poverty in a significant manner and within a short



DEBAKI NANDAN MANDAL

timeframe is slender. China initiated agricultural reform in 1978, and during 1978-84 agri-GDP increased by more than 7 per cent per annum and farm incomes by more than 14 per cent a year.

The policy message for reforming agriculture is very clear. The areas which merit irrgent and concerted attention to streamline agriculture revolve around investment, incentive and institutions.

We need to rationalize and prune input subsidies. The savings, thus generated, should be invested in agriculture – R&D, rural roads, rural education, irrigation and water works. Higher levels of investment in agriculture both by the public and private sector can yield much better results. Policy-makers must be bold to bite the bullet and drastically cut subsidies which will open the avenue for increasing the size of public investment. One way to contain the subsidy bill is to provide subsidies directly to farmers. In the manner of the LPG subsidy, the fertilizer subsidy can be directly transferred to farmers' accounts on a per hectare basis. The previous fiscal year witnessed one of the biggest cuts in public farm investments in recent years to meet the fiscal deficit target of 4.1 per cent.

Private investment is the engine of agricultural growth. Again, it responds to incentives. Much of the adverse impact on incentives comes from strangulating the domestic market under the Essential Commodities Act (ECA) 1955. This law allows the state to restrict movement of

agri-products across state boundaries.

Furthermore, the law bans the storage of large quantities of any of the 90 commodities, including onions and wheat. The intention is to deter 'hoarding', but it has adversely affected investment in cold storages and warehouses. Therefore, a substantial quantity of crops rot before they reach the dining table.

Agricultural markets are fractured and

distorted. The Agricultural Produce Marketing Committees (APMCs) are in favour of commission agents at the cost of both farmers and consumers. According to the government's Chief Economic Advisor, Arvind Subramanian, India has 3,000 to 4,000 separate agricultural markets. A clean sweep of both ECA and APMC Acts can ensure free movement of goods across India, without multiple taxes, and direct buying by organized retailers and processors from the farmer groups.

Institutional reform should aim at organizing small farmers — a dominant feature of Indian agriculture — into clusters and cooperatives and link them with processors and organized retailers. The AMUL model needs to be replicated in high-value perishable commodities such as fruit and vegetables, poultry and meat products.

Finance is the critical need of the farmers. State-aid is skewed towards providing cheap inputs ~ by subsidizing fertilizer, water and power ~ rather than helping to insure farmers' crops against inclement weather or a natural disaster.

Agriculture remains under the control of states. The central government has hitherto done very little except to insert a few high-voltage objectives in the Five-year/Annual Plan documents. The talk of a second Green Revolution will again remain a distant reality, if things are not shaken up to alert the state leaders who are obsessed with the conservative rural vote. It is crucially imperative to reform the ailing Indian agriculture. Reforms must of necessity benefit farmers... not harm them.

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The News Clippings on Water Resources Development and allied subjects are enclosed for perusal of the Chairman, CWC, and Member (WP&P/D&R/RM), Central Water Commission. The soft copies of clippings have also been uploaded on the CWC website.

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