



# पंचायत

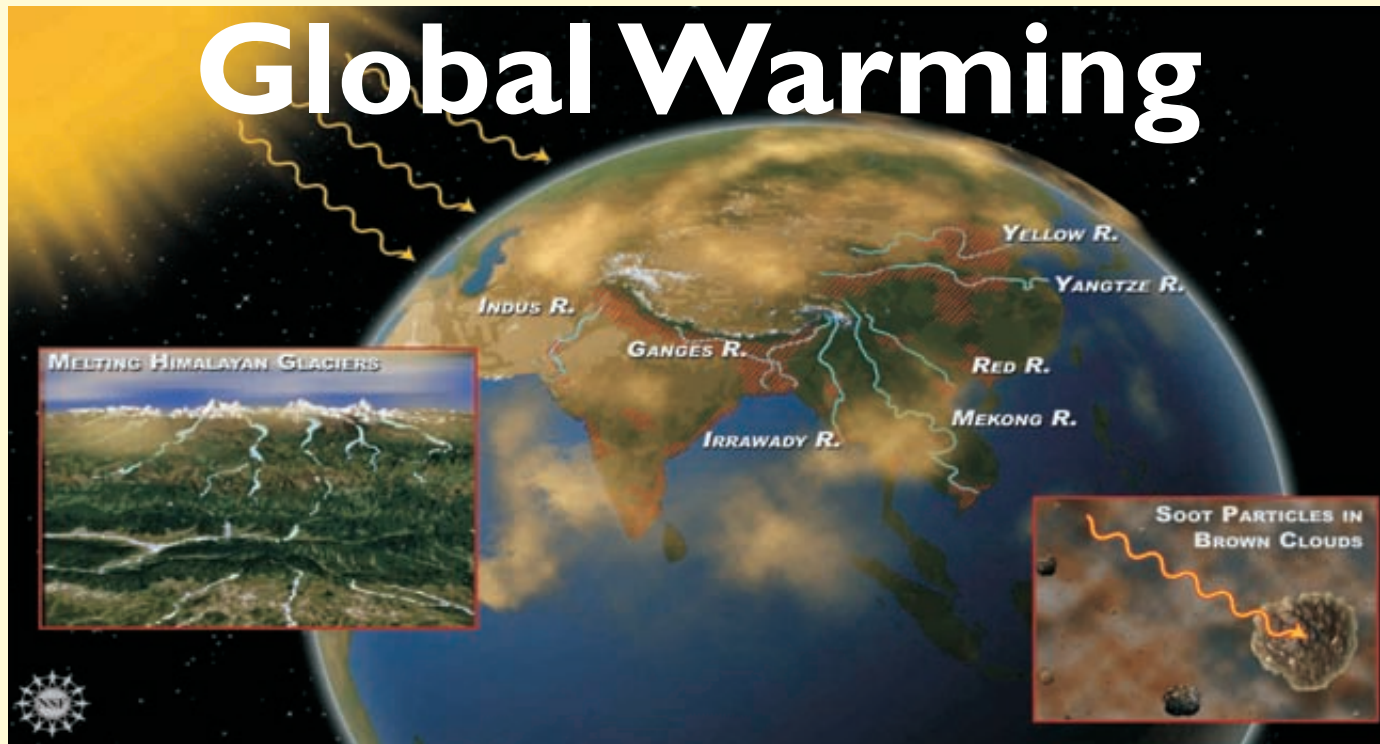


PEOPLE'S EFFORT BRINGS SUSTAINABILITY

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## Panchayat and Global Warming



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The views expressed in the articles are of the writers and not of the IES. Your views are solicited as a feedback, I.E.S. would be pleased to solve your queries.

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## GLOBE Student Research Campaign on Climate 2011-2013

The **GLOBE Student Research Campaign on Climate** will provide a framework for meaningful, relevant and important research on a set of interrelated environmental topics to enhance climate literacy and understanding for millions of students and their communities worldwide.

Planning for the **GLOBE Student Research Campaign on Climate** will occur over a 2-year period, beginning in January 2009, and will enlist the support of internationally renowned climate scientists, science educators and educational outreach experts, as well as businesses, foundations and policy makers. Student research activities will commence in 2011, with final results of the campaign to be presented at an international student conference in 2013.

As the world's largest international science education program, GLOBE is dedicated to advancing research in environmental education through use of our scientific protocols, educational activities, and collaboration within our worldwide network representing more than 100 countries and over 50 cooperating agencies worldwide. GLOBE's goals are to: (a) involve more than 1,000,000 students in climate research; (b) empower students, teachers and community members to take action on climate-related environmental issues; (c) create a compelling model for innovative student research and environmental science education for the 21st century.

The **GLOBE Student Research Campaign on Climate** will empower students, teachers, scientists and communities around one of the most challenging issues of our time. If you are interested in participating in this initiative, please send specific investigation topics and questions related to Climate-Water, Climate-Energy, Climate-Ecosystems, Climate-Human Health, and any other topics and questions of interest for the **GLOBE Student Research Campaign on Climate 2011-2013 to Climate Change Campaign@globe.gov**.

**Editorial**

The Climate Change and Global Warming are the serious environmental problems which the world is facing today. There has been serious concern among the people on this problem. It is clear now that this problem is mostly due to man made emissions of greenhouse gases. There is urgent need for the conservation of resources and to reduce greenhouse gases.

The Society with the support of Rashtriya Vigyan Evam Praodgiki Sanchar Parishad of DST organized workshop on the Role of Panchayats on Global Warming and developed action programme. This will be implemented at Panchayat level to promote the local communities on this vital issue.

There has been number of initiatives by Ministry of Environment and Forests, and many other agencies on this important problem. The Society has taken lead in developing programs for students and for Panchayati Raj Institutes. We believe that all of us should join hands and develop partnership with Governments, the private sector and civil society to protect Earth Planet for the future of humanity. The GLOBE Program has developed Student Research Campaign on Climate Change (2011-2013) to empower students, teachers and communities to address the most challenging issue of our time.

We hope the present issue of Panchayat will be useful to the readers and will provide useful informations on this issue which need urgent attention.

**Dr. Desh Bandhu**

President



## GLOBAL WARMING AND PANCHAYATI RAJ

### Recommendations of the Seminar held on September 16, 2008 at INSA, New Delhi Supported by: RVPPSP, DST and organized by: Indian Environmental Society

The chemical pollution mainly the carbon Dioxide and Chlorofluorocarbon are changing the structure of earth's atmosphere and threatening to change the climate, and expose the people, plants and animals to higher level of radiation.

The emissions of carbondioxide, methane, Chlorofluorocarbons, Nitrogen oxides contribute to green house effect that causes the warming of the atmosphere. The average temperature of the earth will increase by 3to 4 °C and the ocean will rise 3 to 6.5 feet if the current processes of development are centralized in the next 80-100 years.

#### What is the solution to this problem?

- a) Reduced use of fossil fuels      b) Reduced deforestation      c) Reduced green house gases

There is need to involve people particularly at the grass-root level in finding equitable solutions. The first step in this direction is to make the local panchayat representatives aware from this problem. Ministry of Panchayati Raj has requested S&T inputs and communication material suitable for the training of trainers of Panchayat Members.

The seminar was held on September 16, 2008 at "Indian National Science Academy" (INSA) and recommended as below :-

1. There is urgent need to promote the participation of Panchayati Raj Institute on the activity related to Global Warming. There are more than 2 lakh Panchayats in the country and their participation in this programme is very important.

2. The institute agencies and community based organization working on the issues related to Panchayati Raj should be encouraged to participate in this programme.

3. The public awareness is an essential component of any project because this leads to sustainability of the programme. The seminar recommended that the following activities may be planned to disseminate the messages for the protection of earth from global warming.

- Preparation and development of Educational Material. The material should be simple and in different language.
- The Capacity Building -Such as, workshops training programme for different stakeholders.
- The organization of Padyatras, Rallies, Public Meetings, Exhibitions, Street theaters (Nukkad natak), festivals, science fairs and celebration of days of scientific importance.

- Publication of regular newsletter, preparation of audio - visual aids (Documentary Film). Organization of panchayat meals should be regularly organized to disseminate the message of the protection of planet earth.

- The Programmes should be worked out for specific target groups with ranges topics and issues with clear messages and formats for effective implementations.

#### 4. Networking

The networking is very important component for the success of any project. The sharing of experiences and actions is very helpful in implementing the project. The seminar recommended the network of organizations and the support of local expertise from educational and academic institutes is very vital. The seminar recommended that in the initial stages, the networking may be done through the existing channels and in due course of time the network of organizations working on issues related to Panchayats may be constituted at the national Level. The workshop recommended the Indian Environmental Society, New Delhi and other

resource persons/groups with the support from RVPSP should take initiatives in this direction. It is recommended that five regional resource centers may be set up in existing S&T establishments. These centers will collect, compile develop and disseminate the information at local, level. Apart from the above, the centers will also involve the local communities in these Programmes.

### 5. Training for Trainers

Training Programmes should be organized for various stakeholders of the community who can act as a trainer and help in implementing the Programmes at the local level. There is need for resource persons who can translate the traditional

knowledge into action and the regional resource centers can play an important role in this matter.

### THE CENTERS SHOULD ALSO TAKE UP THE FOLLOWING ACTIVITIES

- Help in developing and testing of the IEC Material of issues related to climate change.
- To help in monitoring the programme and evaluation of the activities.
- To asses the impact of the activities and goals achieved.
- Help in developing capacity building and organizing training programme.



## INDIA TO BEAT WARMING

Prime minister Dr Manmohan Singh directed the Planning Commission to incorporate clean development strategies into the sectoral plans and proposals for the Eleventh Plan to make climate change an intrinsic part of the Eleventh Plan strategy. The Prime minister, who chaired the first meeting of the National Council on Climate Change, said the government, would launch a major afforestation programme called Green India to convert six million Hectares of degraded forest land into green areas, Dr Singh also called for a long term strategy to deal with glacial melting of the Himalayas.

From the first Plan it self, we laid stress on hydro and nuclear energy and decades ago promoted solar bio-mass and other non-conventional and renewable energy sources which has put us on the pathway to reduction in carbon emissions,

Dr Singh said, We must at the same time explore ways of new and greener ways of development. I suggest that we deliberate on how we can put together a National Programme Document for capturing both the efforts that we have made so far

and our plans for the future.

The meeting decided that a national strategy paper on climate change would be prepared before and of the year. Participants emphasised the need for funding research on impact of climate change including research on impact of droughts and floods on crop production and urban planning .

The Prime Minister urged the national Clean Development Mechanism (CDM) authority to work more closely with chambers of commerce and industry, develop competent bundling agencies in the country as well as work with the Reserve Bank of India (RBI) and financial institutions to increase participation of the financial sector.

The CDM authority has accorded host country approval to over 667 project facilitating an investment of nearly Rs,60,000 crore in sectors such as energy efficiency fuel, industrial processes, municipal solid waste and renewable energy.



## ANTARCTICA ICE EROSION SOARS BY 75 PER CENT IN JUST 10 YRS

Parts of the ice sheets covering Antarctica are melting faster than predicted, with the net loss of ice probably accelerating in recent years because of global warming, a study has found.

A satellite survey between 1996 and 2006 found that the net loss of ice from Antarctica rose by about 75 per cent as the movement of glaciers towards the sea speeded up. Scientist estimate that the west Antarctic Ice sheet lost about 132 billion tons of ice in 2006, compared with a loss of 83 billion tons in 1996. In addition, the Antarctic peninsula lost about 60 billion tons of ice in 2006.

To put these figures into perspective, 4 million tons of ice is enough to provide drinking water for the whole UK population for one year, said Professor Jonathan Bamber, of the University of Bristol. We think the glaciers of the Antarctic are moving faster to the sea. The computer models of future sea-level rise have not really taken this into account. Sea levels are estimated to have risen by 1.8 mm a year on average during the 20th century, but data from the past decade or so suggest that the average rise is now about 3.4 mm per year.

Computer models used by the intergovernmental Panel on Climate Change (IPCC), which predict that sea levels will rise by no more than about 50 cm by 2100, are based largely on the stability of the Antarctic ice sheets. But many scientists now believe this forecast is too restrained. I agree with a number of scientists who feel that IPCC is likely to have

underestimated the upper bound of predicted sea-level rise by the end of the century, 50 cm is probably too conservative, Professor Bamber added.

There are two key factors in estimating the net loss of Antarctic ice. The first is the flow of glaciers towards the sea; the second is the build up of snow over the vast landmass of the frozen continent. The IPCC models imply that global warming will increase the moisture content of the atmosphere and so may actually increase snowfall over Antarctica, much of which is too cold to be affected by rising global temperatures. This would suggest a net build up of ice.

Eric Rignot, who led the latest study published in the journal *Nature Geoscience*, said the findings indicated a rapid loss of ice to the sea rather than a net gain. We have determined that the loss is increasing with time quite rapidly at 75 percent ten years, Dr Rignot said. We have also established that most of the loss, if not its entirety, is caused by glacier acceleration. The IPCC focussed on the surface mass balance component. We find this component is not indicative of the true mass balance component. We find this component is not indicative of the true mass balance.

The future is the big question. The potential exists for ice speed to increase two or three times which will result in a doubling of the mass deficit from Antarctica."



## WARMER EARTH MIGHT BE WETTER : SCIENTISTS

In a report that challenges conventional wisdom, Earth might become much rainier if planetary warming continues unabated a team of experts on climate change announced on Friday.

Over the next 100 years, global rainfall could increase by about 20 percent - three times as fast as the rate projected previously by global warming scientists - if green house gases in the atmosphere continue unabated, said physicist Frank Wentz and

colleagues at Remote sensing Systems in Santa Rosa. Their report appears in Friday's issue of *Science Express*, an online publication associated with *Science* magazine.

Their study is not precise enough to forecast how increasing global warming will affect rainfall in specific regions such as California, Wentz said. Still his team's analysis of 19 years of planetary rainfall and humidity data hints that global warming might

portend “a general tendency to make the wetter areas wet which when it comes to climate change, is a pretty gloomy scenario” he told the Chronicle on Thursday.

Kelly T Redmond, deputy director of the western Regional Climate Center at the Desert Research Institute in Reno, called the report a very interesting paper.

“It’s the kind of subject we need to be investigating,” said Redmond, who is not connected with the Santa Rosa team. “Its a very fundamental issue: what is rainfall on Earth going to do (during) climate change?”

In the past, climate modellers have generally assumed that as global warming evaporates water and makes the planet more humid, the rainfall rate will rise more slowly. In other words, precipitation won’t intensify as fast as the humidity. Initially, the

reason seems obvious: warmer air can hold more water vapour, delaying its eventual cooling and falling back to Earth as rain drops, snow, sleet or hail.

However, when members of the Santa Rose team analysed satellite measurements of planetary changes in humidity and rainfall from 1987 to 2006, they were surprised by what they found: Over that period the global rainfall rate rose at almost exactly the same rate as humidity like two race NASCAR drivers racing neck and neck. The difference between the rise in rainfall and the rise in humidity was about 1percent Wentz said.

The implication he said is that as global warming continues planetary rainfall - far from lagging behind the humidity rise - will increase at about the same rate and thus much faster than projected by earlier computer models.



## CLIMATE CHANGE TO HIT NEW DELHI HARD

A rapid global climate change is set to hit New Delhi hard. This was revealed by the State of World Population 2007, released by the United Nations Fund for Population Activities (UNFPA) on Wednesday.

The report said cities that grew rapidly over the decades with unimaginative architecture and gave up the traditional patterns adapted to local climate conditions would face hard time in wake of the climate change.

The report singled out New Delhi as one of the cities that will be hard hit as climate change takes place.

Quoting from a recent report of the Inter Governmental Panel on Climate Change, UNFPA study said “cities in drier regions such as New Delhi in India and Karachi in Pakistan will be particularly hard hit.

Several reasons were given as to why this urbanization drive may not cope up with the climate change. According to the report as villages grow into towns and then into cities their average temperature increases 2 to 6 degree Centigrade above that of the surrounding countryside”.

Elaborating the looming danger points, the report stated that change in temperature and precipitation could spread diseases like malaria, dengue and yellow fever in previously unaffected areas and encourage it in areas already affected.

Delhi, which has already had records of water shortage will share an additional burden of climate change as it dramatically affects water borne diseases.

The part of report dealing with urbanization and climate change, revealed that “the use of new architecture and urban forms, new materials and innovations such as air conditioning have driven up both energy costs and cities contributions to greenhouse gas emissions”.

The report has appealed to the Government to resolve the problem of the slum dwellers and also elaborate on strategies to deal with the problem of housing for the poor However, the study warned that urbanisation was not a solution in itself and has to be dealt cautiously.

“Swelling slum population is prone to hunger, poor sanitation and health facilities, dreaded diseases,



widening gap between rich and poor and absence of safety nets”.

Union Urban Development Minister S Jaipal Reddy said urbanisation, being biproduct of industrialisation, “is here to stay it is irreversible and imminently desirable”.

Reddy said the Jawaharlal Nehru National Urban Renewal Mission has been launched with an aim to improve urban infrastructural facilities in the country.

With better job opportunities and higher wages, States like Maharashtra and Tamil Nadu were witnessing rapid urbanisation in comparison to Bihar and Assam which are least urbanised, a UN report said.

“Urbanisation is happening due to natural rate of population growth statically coupled with the increase in the rate of migration in these States,” UNFPA (India) representative Nesim Tumakaya said after the release of the report - State of world Population 2007.

According to the report, rate of natural growth in urban areas is much higher in comparison to rural areas. In 2004, the rate of growth in urban area was estimated to be 1.77per cent against 1.38 percent in villages.

In India, Tamil Nadu tops the list of the major State with 43.9 percent of the total population living in the urban areas followed by Maharashtra (42.4 percent) and Gujarat (37.4per cent ) according to the report. On the contrary, only 10.5 percent of the population are residing in urban areas in Bihar while 12.7 percent population in Assam and 15 percent population in Orissa are living in urban areas, the report said quoting Census2001.

Dwelling on the “pull” and “push” of migration, the report said poverty and hunger, marginal land holdings, lack of basic amenities and unemployment force the people to move from rural to urban areas, expecting better income and job opportunities and standard of living.



### BY 2010, CLIMATIC CHANGES WILL RENDER 50M PEOPLE HOMELESS

WITH MORE people being rendered homeless by global warming induced environmental crisis, the number of environmental refugees’ is likely to rise steeply in the coming decade. This could result in the development and poverty alleviation programmes going awry.

According to a Commonwealth study based on the UN university research, nearly 50 million people may be forced to abandon their homes by 2010. This has forced the UN to devise fresh strategies and norms to recognize and support this new class of displaced populace, as ‘environmental refugees presently do not have the rights similar to those enjoyed by political refugees.

Migration may be the only option for people living in low- lying areas. Places such as Bangladesh, and small island states could face such an environment

driven exodus. The study has also warned that the cross border migration on account of climatic factors could lead to fresh tensions particularly in the politically unstable regions.

The developing and the third world countries, mostly in the tropical and subtropical region, will face serious impact of the climatic changes if immediate precautionary measures are not taken. The development and poverty reduction plans in these nations could give positive results only by regulating climate risk into sustainable development strategies, the study further said.

Rely on traditional surviving mechanisms to ward off effects of climatic crisis the study has suggested.





## 12 WAYS FOR REDUCING GLOBAL WARMING

According to the Natural Resources Defense Council, the two biggest offenders in the global warming problem are cars and power plants. In particular, coal -burning power plants are the largest source of carbon dioxide pollution, producing 2.3 million tons every year. Cars, the second largest source, are responsible for generating almost 1.1 million tons of carbon dioxide emissions a year. The good news is we don't have to wait for technical solutions to reduce the impact of these big offenders. Solutions exist now to allow us to reduce our dependence on power plants and use cleaner transportation options. We just have to start using them. Here are 12 simple ways to do your part to start making a difference now.

### 1. Change Lights :

Replace your most frequently used lights or bulbs with them, which have earned the Energy Star and you'll use less energy, which means less pollution from powerplants. Now, your household will also be saving about 700 pounds of carbon dioxide a year.

### 2. Heat and Cool smartly :

About half of the energy we use in our homes goes to heating and cooling. Changing air filters annually and using a programmable thermostat are the easy things we can do. Just by using a programmable thermostat, we can save about 1,800 pounds of carbon dioxide a year.

### 3. Replace inefficient with efficient energy Appliances :

Replace energy inefficient appliance with newer energy-efficient models. For example: a high- efficiency refrigerator reduces carbon dioxide emissions by 500 pounds a year. If we replace our current washing machine with low-energy, low-water-use machine we will be able to reduce our carbon dioxide emissions by 440 pounds per year.

### 4. Reduce and Recycle:

Reducing our garbage by 25 per cent will reduce carbon dioxide emissions by 1,000 pounds per year. Recycle aluminum cans, glass, bottles, plastic, cardboard and newspapers can reduce our home's carbon dioxide emissions by 850 pounds per year.

### 5. Don't let Energy Away :

If we put weather-strip around doors and windows to plug up leaks we can reduce carbon dioxide emissions by 1,700 pounds per year.

### 6. Take the Green Way :

Leave the car at home two days a week and you reduce the carbon dioxide emissions by 1,590 pound per year.

### 7. Buy Products that have earned the Energy star :

Over 40 different kinds of products now carry the Energy Star-the government-backed symbol for energy

efficiency- including lighting, home electronics, heating and cooling equipment and appliances. With Energy Star products we can save 30 percent of our energy bills

### 8. Slow the Flow :

When purchasing a new vehicle, consider that a car gets more miles to the gallon than the current vehicle, and match the vehicle on the needs basis. The potential carbon dioxide reduction for a car that gets 32 miles per gallon is 5, 600 pounds per year.

### 9. Be a Turn off:

Turn off the TV, video player, stereo and computer when they aren't in use. Turn off the lights when don't need and we can start saving within a minute or two. Prevent "phantom" energy losses by plugging these devices into power strip and turning the power strip off when the devices are not in use.

### 10. Trim the Load :

When we do drive, keep the car tuned up and its tires properly inflated to save on fuel costs as well as reducing carbon dioxide emissions. A tune up could a boost our miles per gallon anywhere from four to 40 percent, a new air filter could give us 10 percent more miles per gallon.

### 11. Sell the car :

One of the best alternative to owning our own car is to join a car co-op. In fact, car coops now operate in growing number of cities around the world. Find the closest car sharing option for us. Also, we can start our own car sharing co-opto help with global warming prevention.

### 12. By local, eat local :

The long distance transport of food and other goods comes with a heavy ecological cost. This is a major contributor to global warming, pouring carbon dioxide and other greenhouse gases into the atmosphere at a far greater rate. So, when we buy local we support local, sustainable economic growth by keeping farmers and other primary producers at work, and our money working to bolster our local economy.

## सारी दुनिया पर है क्लाइमेट चेंज का खतरा

**एनबीटी**—आईपीसीसी ने अपनी रिपोर्ट में सभी देशों को मौसम में बदलाव को लेकर चेताया है। 2020 तक सभी देशों का क्लाइमेट चेंज के विपरीत प्रभावों से दो-चार होना पड़ेगा। जानते हैं कि 2020 तक इसके बाद क्लाइमेट चेंज का कहां और क्या असर होगा :

### अफ्रीका

- 2020 तक क्लाइमेट चेंज के चलते बढ़ते पानी के दबाव से यहां 7 करोड़ से लेकर 25 करोड़ लोग प्रभावित होंगे।
- अफ्रीका के कई देशों में कृषि क्षेत्र घटकर आधा रह जाएगा। पैदावार में फर्क पड़ेगा और खाद्यान्न संकट पैदा हो सकता है।
- समुद्र का बढ़ा स्तर तटीय इलाके की आबादी को प्रभावित करेगा। जीडीपी पर 5 से 10 पर्सेंट तक असर पड़ता है।
- 2080 तक बंजर भूमि 5 से 8 पर्सेंट और बढ़ जाएगी।

### एशिया

- 2050 तक सेंट्रल, साउथ, ईस्ट और साउथ ईस्ट एशिया में साफ पानी की कमी हो जाएगी।
- तटीय इलाकों में समुद्र का स्तर बहुत ज्यादा बढ़ने और बाढ़ से खतरा बढ़ जाएगा।
- क्लाइमेट चेंज बढ़ते शहरीकरण और औद्योगिकीकरण के साथ मिलकर पर्यावरण के लिए खतरा बन जाएगा।
- साउथ, ईस्ट और साउथ ईस्ट एशिया में बाढ़ और सूखे के बाद बीमारी से मरने वालों की संख्या बढ़ेगी।

### ऑस्ट्रेलिया

- 2020 तक जैव विविधता को बहुत नुकसान होगा।

- 2030 तक दक्षिणी और पूर्वी ऑस्ट्रेलिया, न्यूजीलैंड में पानी की भारी दिक्कत का सामना करना होगा।
- आग और सूखे के कारण 2030 तक दक्षिणी और पूर्वी ऑस्ट्रेलिया, न्यूजीलैंड के पूर्वी इलाकों में खेती को नुकसान पहुंचेगा।
- तटीय इलाकों में आबादी के बोझ से 2050 तक खतरा बहुत बढ़ जाएगा। समुद्री बाढ़ और तूफान का खतरा बना रहेगा।

### यूरोप

- 2080 तक पहाड़ी इलाकों में ग्लेशियर पिघलेंगे। बर्फ कम होगी, साथ ही कई प्रजातियां विलुप्त हो जाएंगी।
- दक्षिणी यूरोप में क्लाइमेट चेंज का सबसे बुरा असर पड़ेगा। हद से ज्यादा गर्मी होगी और सूखा पड़ेगा। पानी की कमी भी होगी और पैदावार पर भी असर पड़ेगा।

### लेटिन अमेरिका

- बढ़ते तापमान और मिट्टी में पानी की कमी से जंगल खतरों में आ जाएंगे। कम उपजाऊ भूमि पूरी तरह से बंजर हो जाएगी।
- लगातार गल रहे ग्लेशियरों से पानी की समस्या हो सकती है। खेती के लिए, बिजली पैदा करने के लिए और हर रोज इस्तेमाल होने वाली पानी का भी संकट हो जाएगा।

### उत्तरी अमेरिका

- गर्मी के कारण बर्फ लगातार पिघल रही है जिससे बाढ़ आने का खतरा बना रहेगा।
- गर्म हवाओं की दिक्कत और विकराल रूप में सामने आएगी। इस वजह से स्वास्थ्य संबंधी परेशानियां भी बढ़ेंगी।



## वैश्विक तापमान में वृद्धि से कई प्रजातियों का हो सकता है सफाया

पेरिस, 24 अक्टूबर (एजेंसी)। वैश्विक तापमान में हो रही बढ़ोत्तरी आगामी सदियों में धरती से जीवों की कई प्रजातियों का सफाया कर सकती है। तकरीबन 50 करोड़ साल पहले तापमान में वृद्धि और जीव जंतुओं के सामूहिक विनाश के बीच संबंध प्रदर्शित करने वाले एक अध्ययन में यह आशंका जताई गई है।

पिछले 52 करोड़ वर्षों की अवधि में जैव विविधता में गिरावट के पांच प्रमुख युगों के दौरान तापमान में बेतहाशा बढ़ोत्तरी हुई थी। इनमें से एक युग में तो धरती पर मौजूद जीवों की प्रजातियों में से 95 प्रतिशत का नामोनिशां मिट गया था। इन 52 करोड़ वर्षों के दौरान के जीवाभ्र मौजूद है। ब्रिटिश पत्रिका 'प्रोसीडिंग्स ऑफ द रायल सोसायटी' में आज प्रकाशित अध्ययन में कहा गया कि पर्यावरण को नुकसान पहुंचाने वाली गैसों के बढ़ते उत्सर्जन पर अगर अंकुश नहीं लगाया गया तो अगले कुछ सौ सालों में अनुमानित वैश्विक तापमान उन युगों के तापमान जितना हो जाएगा। पुराने अध्ययनों में या तो मौसम में

बदलाव के ढरों पर या किसी खास प्रजाति के सफाये पर गौर किया गया था।

बहरहाल पहली बार इन दोनों पर एक साथ निगाह डाली गई ताकि इतनी लंबी अवधि के मंजर का खाका सामने लाया जा सके। इसी महीने नोबेल पुरस्कार से नवाजी गई संयुक्त राष्ट्र के मौसम विज्ञानियों की शीर्ष समिति ने चेतावनी दी है कि वर्ष 1980 से 1999 के स्तरों की तुलना में वर्ष 2100 तक तापमान में 1.1 डिग्री सेल्सियस से 6.4 डिग्री सेल्सियस की औसत वृद्धि होगी। उत्तरी इंग्लैंड के लीड्स विश्वविद्यालय के टिमोथी बेंटन के नेतृत्व में तीन शोधकर्ताओं ने हरित प्रभाव और शीत प्रभाव युगों के बीच के करोड़ वर्षों में तापमान के उतार चढ़ाव का पता लगाने के लिए समुद्री सतह के तापमान का इस्तेमाल किया।



## ग्लोबल वॉर्मिंग घटाने को 'समुद्र मंथन' की पेशकश

ग्लोबल वॉर्मिंग के खतरे से निपटने के लिए वैज्ञानिक जगत में तरह-तरह के उपाय सुझाए जाते रहे हैं। चाहे वो औद्योगिक स्तर पर ग्रीन हाउस गैसों में कटौती हो या फिर स्पेस में विशाल आकार के मिरर लगाकर सूर्य की रोशनी को रिफ्लेक्ट करते हुए धरती का तापमान घटाना। इसी सिलसिले में एक दिलचस्प प्रस्ताव सामने आया है, जिस पर वैज्ञानिक गंभीरता से चर्चा कर रहे हैं। प्रस्ताव के मुताबिक समुद्र गहराई में छिपे खनिजों को मिक्सिंग के जरिए पुरे पानी में मिला देने से वातावरण में कार्बन डाइऑक्साइड की मात्रा घटाई जा सकती है। इस मिक्सिंग के लिए समुद्र में शक्तिशाली पंप लगाए जा सकते हैं।

नेचर मैगजीन में प्रकाशित संपादक के नाम पत्र में जेम्स लवलॉक और क्रिसरेप्ली ने पेशकश की है कि ग्लोबल वॉर्मिंग से इमरजेंसी स्तर पर निपटने के लिए समुद्र में बड़े आकार के वर्टिकल पाइप लगाए जा सकते हैं। इनके जरिए सैकड़ों मीटर की गहराई वाले खनिज युक्त पानी को सतह के पानी में मिलाया जा सकता है। इससे शैवाल जैसी समुद्री वनस्पतियां ऊपर आ जाएंगी और प्रकाश संश्लेषण

(फोटोसिन्थिसिस) की प्रक्रिया के जरिए कार्बन डाइऑक्साइड को कंज्यूम करेगी। इससे वातावरण में इस गैस के स्तर में काफी कमी आएगी।

जब शैवाल मृत हो जाएंगे, तो कुछ कार्बन पानी की गहराई में डूब जाएंगे। इन शैवालों से ऐसे रसायन भी निकलेंगे, जो बादल निर्माण में मदद करेंगे। इससे भी धरती का तापमान घटेगा। लवलॉक मशहूर लेखक और वैज्ञानिक हैं, जबकि रेप्ली लंदन स्थित साइंस म्यूजियम ब्रिटिश ऐंटार्कटिक सर्वे की डायरेक्टर हैं। प्रस्ताव पर विशेषज्ञों का कहना है कि अगर दुनिया के 80 फीसदी समुद्री इलाके में ये मिक्सिंग पंप लगा दिए जाएं, तो हर साल 2 अरब टन अतिरिक्त कार्बन कटौती की जा सकेगी। इससे समुद्र द्वारा हर साल होने वाली कार्बन डाइऑक्साइड की कटौती दोगुनी हो जाएगी। दूसरी ओर, कुछ वैज्ञानिकों ने इस तरीके से असहमति जताई है। उनका कहना है कि इससे ग्रीन हाउस गैसों में कटौती के बजाय कार्बन डाइऑक्साइड का उत्सर्जन होगा।



## ग्लोबल वॉर्मिंग से 2100 तक बन सकते हैं नए क्लाइमेट जोन

ग्लोबल वॉर्मिंग के कारण सन् 2100 तक विश्व के क्लाइमेट में पूरी तरह से बदलाव होने की आशंका है। इस वजह से कुछ ध्रुवीय क्षेत्रों और पहाड़ी इलाकों का मौजूदा क्लाइमेट गायब हो सकता है और कुछ नए किस्म का क्लाइमेट बन सकता है। मौजूदा क्लाइमेट जोन के गायब होने के कारण जानवरों और पेड़-पौधों के अस्तित्व पर भी खतरा मंडरा सकता है।

अमेरिका के नैशनल अकैडमी ऑफ साइंसेज के जर्नल में इस बाबत स्टडी रिपोर्ट प्रकाशित हुई है। स्टडी रिपोर्ट के लेखक जैक विलियम्स ने बताया कि हमने पाया है कि क्लाइमेट में बदलाव पूरी दुनिया में हो रहा है। इस सिस्टम के बदलने पर इसके आदी हो चुके जीवों के पास कहीं और जाने का विकल्प उपलब्ध नहीं होगा।

उन्होंने कहा कि इससे पहले हुई स्टडी में कुछ खास इलाकों में गायब हो रही प्रजातियों पर चिंता जताई गई थी। इसमें कोस्टारिका और दक्षिण अफ्रीका का केप इलाका शामिल था। लेकिन इस स्टडी के जरिए पहली बार ग्लोबल स्तर पर क्लाइमेट में बदलाव की भविष्यवाणी की गई है। स्टडी के मुताबिक, इस सदी के अंत तक कुछ जगहों पर तापमान 8 डिग्री सेल्सियस तक बढ़ सकता है और इस

वजह से भूमध्यरेखा और ध्रुवीय इलाकों के क्लाइमेट में बदलाव आ सकता है। ध्रुवीय इलाकों और ऊंचे पहाड़ों पर लगातार तापमान बढ़ता जा रहा है।

स्टडी में भविष्यवाणी की गई कि इन इलाकों में मौजूदा क्लाइमेट जोन के गायब होने पर नए जोन बनेंगे, जो पहले से ही काफी गर्म है। आर्कटिक और ऐंटार्कटिक इलाकों में तापमान में ज्यादा बढ़ोतरी होने की आशंका है, क्योंकि बर्फ के पिघलने से सूर्य की किरणों को परावर्तित करने की क्षमता में भी कमी आती है। चूंकि उष्ण कटिबंधीय क्षेत्रों में बारिश और तापमान में बदलाव कम होते हैं, इसलिए पारे में मामूली परिवर्तन भी इस गर्म इलाके के क्लाइमेट में काफी बदलाव ला सकता है।

जैक विलियम्स के मुताबिक, वॉर्मिंग की मुख्य वजह वातावरण में कार्बन डाइऑक्साइड और ग्रीन हाउस गैसों का बनना है। इस बाबत फरवरी में आई रिपोर्ट के मुताबिक, इस बात की 90 फीसदी संभावना है कि ग्लोबल वॉर्मिंग के लिए मानवीय गतिविधियां जिम्मेवार हैं।





## IMPACT OF GLOBAL WARMING ON ENVIRONMENT AND SOCIETY

**India is highly sensitive to climate change. The country faces more inconsistent monsoon patterns, more floods and droughts, and steadily shrinking Himalayan glaciers.**

### MONSOONS AND FLOODS

Monsoons are an essential part of the Indian climate, bringing months of steady rain to the subcontinent. In some of regions, up to 80% of all annual rainfall comes during the monsoons. In extreme cases monsoons also cause rigorous flooding landslides, and human displacement, as well as crop and infrastructure damage. In July 2005, the heaviest monsoons rains ever recorded left almost a third of Mumbai, India's biggest city and commercial capital, under water.

An article published in the journal Science states that heavy monsoons in central India have become more frequent and intense since the mid-20th century. The increase is probably due to global warming.

Other scientists, such as Hans-Joachim Schellnhuber from the Potsdam Institute for Climate Impact Research, fear that climate change could alter monsoons patterns leading to dry spell and droughts could affect hundreds of millions of people.

### MORE DROUGHTS

Climate change could aggravate water shortages especially during the dry season. India already struggles from water scarcity. The country has 16 % of the world's population, but only 4 % of water resources. Worst-case-scenario warming could cut per capita water availability in India by over a third by 2050. That could also mean annual crop yields decline by 25 % by the end of the century. According to a report, the threat of climate change to Indian agriculture could be very serious. Many Indian farmers are also poorly prepared to adapt to changes in weather of crop yield. Food shortages could become of poorer quality in non-irrigated, rural areas

that are dependent on increasingly unpredictable rainfall. Irrigated farmland could suffer from dried-out rivers and declining tables.

### MELTING GLACIERS

The Himalayas, the world's tallest mountain range, has the largest concentrations of glaciers outside of the polar region. An estimated 750 million people live in watershed areas of rivers originating from these glaciers. Scientists have noted that some of the Indian glaciers are receding at an alarming rate. The Dokriani Barnak glacier, for example, retreated over 20 meters in 1998 despite a cold winter, while the Gangotri glacier is retreating by 30 meters a year.

### DISAPPEARING MANGROVES

The Worldwide Fund for Nature (WWF) says rising sea levels, stronger monsoons, and deforestation are threatening the Sundarbans, the world's largest mangrove forest at the mouth of the River Ganges. The destruction of the Sundarbans and its thick mangrove vegetation, which acts as a natural barrier, would make the Ganges Delta more vulnerable to cyclones and storm tides. Small islands in the area could disappear under rising waters, reducing the habitat of the Bengal Tiger and the other animal species.

### HUMAN HEALTH

While poverty is declining in India, an estimated 240 million people formally live below the poverty line. These are the people most vulnerable to the potential health impacts of climate change, such as reduced food security and availability of water, or the increase in extreme weather events.

The 2003 heat wave in Andhra Pradesh, for example, saw temperatures course to almost 49 degrees Celsius, killing over 1,200 people- mostly poor daily

wage laborers, rickshaw pullers and construction workers.

Malaria is already a public health concern, affecting between one and two million people each year in India. Scientist predict longer transmission windows and broader geographic distribution of the disease if temperatures continue to rise. Incidence of other vector-borne diseases, such as Dengue fever and Japanese Encephalitis could also increase.

### GLOBAL WARMING IMPACTS

On the other hand, Indian authorities may adjust their “development-versus-climate protection” view. Recent international reports on climate change, such as the 2007 UN climate change report, presented strict environmental and economic scenarios for India if climate change continues unabated.

Some impacts of global warming have already become visible in India. Monsoon rains have become harder and less predictable, glaciers are melting, more floods and droughts occur, and mangrove

forests are disappearing at an alarming rate. Public health, biodiversity, agricultural production, access to drinking water, and even national security can be affected.

Indian policymakers are reacting to these threats by launching climate-friendly policies especially when they serve the country’s development agenda. For example, the government will try to meet 20-25 % of national energy demands from renewable sources in the coming decades.

### CLIMATE CHANGE MITIGATION

In the meantime big domestic players in the renewable energy sector, such as Suzlon Energy and Tata-BP Solar made big investment in large-scale products throughout the country. To answer energy and development needs in a sustainable way is a big tasks for India in this century. But the country could benefit from “leapfrogging”- to develop in the way that makes us of the best and cleanest technologies, policies and resource available without the decades of learning needed to get there.



## ग्लोबल वॉर्मिंग यानी बीमारियों की बरसात

वैज्ञानिकों ने आगाह किया है कि ग्लोबल वॉर्मिंग के कारण दुनिया भर में जलजनित बीमारियों तेजी से बढ़ेगी। उनका कहा है कि इसके फलस्वरूप जमकर बारिश भी होगी जिससे न सिर्फ सीवर ओवरफ्लो की समस्या बढ़ेगी, बल्कि दूषित पेयजल की परेशानी भी देखने को मिलेगी।

वैज्ञानिकों के मुताबिक, झीलों और महासागरों का तापमान बढ़ने के कारण बैक्टीरिया, पैरासाइट्स समेत कई प्रकार के जीवाणु बड़ी संख्या में पनपेंगे। मौसम के गर्म होने और ज्यादा बारिश होने के कारण मच्छर भी ज्यादा पैदा होंगे जो मलेरिया और डेंगू बुखार का सबब बन सकते हैं। नालों का गंदा पानी झीलों, नदियों और सागर में मिलने से शेलफिश (सीपदार मछली) जैसे जलीय जंतुओं के लिए भी खतरा हो सकता है।

न्यूयार्क, फिलाडेल्फिया समेत अमेरिका के 950 शहरों में बहुत पुराने ‘कंबाईंड सीवर सिस्टम’ हैं। जब मूसलाधार बारिश होती है तो उस समय गंदा पानी सीवर से बाहर बहने लगता है जो झीलों में मिल जाता है। बारिश के दौरान चारों ओर जलभराव के कारण पेयजल भी प्रदूषित हो जाता है और इसकी आपूर्ति बाधित भी होती है। पुराने कंबाईंड सिस्टम के कारण स्थिति गंभीर हो सकती है। यूनिवर्सिटी

ऑफ विस्कॉन्सिन की स्टडी में कहा गया है कि इस सदी के अंत तक झीलों में सीवर के गंदे पानी की मात्रा 50 से 120 प्रतिशत तक बढ़ेगी। यूनिवर्सिटी के सेंटर फॉर क्लाइमेट रिसर्च के डायरेक्टर स्टीफन वैवरस ने कहा कि मूसलाधार बारिश क्लाइमेट चेंज का एक मुख्य संकेत है। वायुमंडल अगर ज्यादा गर्म होगा तो इसमें आर्द्रता भी अधिक होगी। ऐसे में तूफान की स्थिति बनती है तो जबर्दस्त बारिश होती है। हार्वर्ड मेडिकल स्कूल के सेंटर फॉर हेल्थ एंड ग्लोबल एनवायर्नमेंट में असोसिएट डायरेक्टर पॉल एप्सटीन ने कहा कि स्वच्छ पेयजल में नालों का गंदा पानी मिल जाता है। वॉटर ट्रीटमेंट के समय प्रदूषित पानी में मौजूद पैरासाइट ‘क्रिप्टोस्पोरिडियम’ क्लोरीन से भी नहीं मर पाता है। इस वजह से पेट की समस्या भी देखने को मिलती है। 2004 में ओहियो के साउथ बैस आइलैंड में प्रदूषित पानी पीने के कारण डेढ़ हजार से भी ज्यादा लोग बीमार पड़ गए थे। नैशनल रिसर्च काउंसिल की रिपोर्ट में कहा गया है कि इस समस्या से बचने के लिए कंबाईंड सीवर सिस्टम को सुधारने की सख्त जरूरत है। रिपोर्ट के मुताबिक, समुद्र का तापमान बढ़ने के कारण अमीबा, नेगलेरिया जैसे रोग फेलाने वाले जीवाणु पनपते हैं।



## NUMBER OF PANCHAYATS AND ELECTED REPRESENTATIVES IN THREE TIERS OF PANCHAYATS IN STATES/UTS AS ON 01-12-2006

### ELECTED PANCHAYAT REPRESENTATIVES AT ALL LEVELS

SI No.	State/UT	No. of Panchayats	General		SC		Total	Women		
			No.	%	No.	%		No.	%	
<b>STATES</b>										
1	Andhra Pradesh	22945	172136	34025	15.2	17842	8.0	224003	74019	33.0
2	Arunachal Pradesh	1789	0	0	0.0	8260	100.0	8260	3183	38.5
3	Assam	2431	23206	1344	5.3	886	3.5	25436	9903	38.9
4	Bihar	9040	109767	19440	14.9	884	0.7	130091	70400	54.1
5	Chhattisgarh	9982	76013	17540	10.9	66833	41.7	160386	54102	33.7
6	Goa	192	1500	0	0.0	0	0.0	1500	453	30.2
7	Gujarat	14068	83982	7970	7.0	22235	19.5	114187	38068	33.3
8	Haryana	6325	54508	14965	21.5	0	0.0	69473	24994	36.0
9	Himachal Pradesh	3330	16793	8724	32.0	1753	6.4	27270	9128	33.5
10	Jharkhand	3979								
11	Karnataka	5856	67920	17859	18.6	10311	10.7	96090	41210	42.9
12	Kerala	1165	16246	2005	10.8	232	1.3	18483	6515	35.2
13	Madhya Pradesh	23412	222836	61103	15.4	112938	28.5	396877	134368	33.9
14	Maharashtra	28302	176877	25268	11.0	27565	12.0	229710	77118	33.6
15	Manipur	169	1684	43	2.4	41	2.3	1768	646	36.5
16	Orissa	6578	56576	16910	16.8	27376	27.1	100862	36086	35.8
17	Punjab	12605	62680	28376	31.2	0	0.0	91056	31838	35.0
18	Rajasthan	9457	73030	25364	21.2	21410	17.9	119804	42402	35.4
19	Sikkim	170	639	57	5.7	309	30.7	1005	384	38.2
20	Tamil Nadu	13031	91958	23653	20.3	877	0.8	116488	39364	33.8
21	Tripura	540	3914	1509	26.3	310	5.4	5733	1986	34.6
22	Uttar Pradesh	52890	578984	191950	24.9	727	0.1	771661	299025	38.8
23	Uttarakhand	7335	44450	11077	19.3	1973	3.4	57500	21517	37.4
24	West Bengal	3713	37277	17158	29.2	4314	7.3	58749	21428	36.5
<b>Union Territories:</b>										
25	A & N Islands	75	856	0	0.0	0	0.0	856	296	34.6
26	Chandigarh	19	153	34	18.2	0	0.0	187	62	33.2
27	D & N Haveli	12	7	3	2.4	115	92.0	125	49	39.2
28	Daman & Diu	15	71	4	4.1	22	22.7	97	37	38.1
29	Lakshadweep	11	1	0	0.0	100	99.0	101	38	37.6
30	Puducherry	108	784	237	23.2	0	0.0	1021	370	36.2
<b>TOTAL</b>		<b>239544</b>	<b>1974848</b>	<b>525518</b>	<b>18.6</b>	<b>327313</b>	<b>11.6</b>	<b>2828779</b>	<b>1038989</b>	<b>36.7</b>



## Messages



This magazine is very useful for social workers, teachers and students. The articles are very knowledgeable. Please send your magazines to our college also so that students may be sensitized towards environment.

*Dr. Qudasia Anjum, (Saharanpur)*



This magazine is very useful for budding Organization to acquire Environment Knowledge.

*Dr. Shanti Singh Chauhan, (Lucknow)*



पंचायत को मासिक पत्रिका के रूप में प्रकाशित किया जाए तथा संस्थाओं के साथ ग्राम पंचायतों के पदअधिकारियों को भेजी जाए तो ये ज्यादा कारगर साबित होगा।

*Dr. Giridhari Bhai (Chitrakoot, U.P.)*



This magazine is very useful source for the NGO and social workers who are participating and working in the field of Panchayat and Environment.

*Mr. Pankaj Kumar, (Ranchi)*



ग्रामीण स्तर पर कार्य करने वाले संगठन पंचायत पत्रिका में छये हुए लेखों का अधिक से अधिक फायदा उठा सकें, ज्ञानवर्धन कर सकें इसके लिए आवश्यकता है कि हम अपनी राष्ट्रभाषा का सम्मान करने हुए इसका प्रकाशन हिन्दी में करें।

*Neha Kumari, (Haridwar)*



Please provide the literature as much as you can and help to improve the knowledge and quality of the society.

*Mr. Hansraj Ramachandra Pantawane Wardha, (Maharashtra)*



कृपया आप हमें ENVIS Newsletter के माध्यम से पंचायती राज व पर्यावरण सम्बन्ध का अधिक समागम प्रस्तुत करें।

*Nikhil Choudhary, (Mathura)*

# Role of Panchayats in Environmental Management

ENVIS Newsletter

Glimpse of the Website  
[www.iespanchayat.net.in](http://www.iespanchayat.net.in)



## ENVIS CENTRE ON ROLE OF PANCHAYATS IN ENVIRONMENTAL MANAGEMENT

The website has compiled all the relevant data and comprehensive information on different components of Panchayati Raj and Environment. The website contains information on databases developed; geographical distribution of Panchayats; success stories, areas of Panchayati Raj co-operation; elections, finance, query services; bibliography; resource repository etc.

We hope that the information contained in the website will suffice your requirements.

We would appreciate your comments & suggestion about the website so that we can update it as per the requirements of our browsers.

Wish you a Happy browsing on [www.iespanchayat.net.in](http://www.iespanchayat.net.in)

The Centre invites for Publications :

- Reports on Panchayati Raj (specially related to environmental management).
- Short report on seminars/workshops on the related topics are also invited. Those found suitable will be published in the newsletter.
- Articles for the newsletter "Panchayat" are invited.

### Forthcoming Events

- **Role of Panchayats in Micro-Planning**  
*Date* : May 2-3, 2009, Kullu (H.P.)  
*Date* : May 23-24, 2009, Kochi (Kerala)
- **International Conference on Environmental Education, Climate Change & Global Warming**  
*Date* : July 6-8, 2009, Ljubljana, Slovenia
- **8th Global Conference on Environmental Education**  
*Date* : November 1-5, 2009, Goa, India

For detail log on to [www.environmentevents.org](http://www.environmentevents.org)

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To \_\_\_\_\_

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