

In Changing Climate, Scientists Develop Stronger Seeds for India

今回は、インドの農家が気候変動に苦しみながらも、新しい稲の品種を取り入れて生き残りを図るという記事です。インドでは予測不能な豪雨や高温、そして干ばつが稲作を脅かし、農家の生活を不安定にしています。記事に出てくる「drought」は「干ばつ」という意味で、severe drought（深刻な干ばつ）や suffer a drought（干ばつに苦しむ）のように使われます。日本でも猛暑が続けば作物に影響を与える恐れがありますが、もし気候変動によって長期的な干ばつや高温などに直面したら、農家や政府はどんな工夫で食料を守れると思いますか？講師と話してみましょう。



1. Article

Read the following article aloud.

Unpredictable rains and increasing heat are making life more difficult for the people of Rayanpet, a village in southern India. The conditions are also damaging the rice crops grown there.

P. Ravinder Reddy, a former soldier, started farming on his family's land 16 years ago. He said, "We used to know when it would rain and for how long."

That meant they used to know when to plant. Now, he said, it is not so predictable. Sometimes there is too much rain. Sometimes there is no rain at all.

Agricultural research organizations in India have been working for years to engineer rice seeds that can survive in a changing climate. Reddy has been experimenting with new kinds of rice for the past five years. The new rice plants are producing more grain with less water. They are also more disease resistant.

Reddy says he has planted them across part of his 10-hectare field. He still grows some of the older kinds because there is a demand for them. But he said, "I think in a few years, we will use only these tougher seeds."

India is one of the world's largest producers and consumers of wheat and rice. Research organizations in that country and around the world have worked for years to produce seeds that are better able to handle [drought](#), unseasonal rains, plant diseases and more.

Earlier this year, a United Nations report said more than 700 million people suffered from hunger last year. More than one-third of the worldwide population does not have the money to buy healthy foods.

Defending against climate shocks

India has nearly 120 million farmers. Most have less than two hectares of land. Unpredictable rainfall, rising temperatures and increased pest problems all [threaten](#) their ability to grow food.

Experts say the dangers to rice include increasing salt content in groundwater, heavy rainfall over short periods, long periods of drought and increasing nighttime temperatures.

Some farmers are turning to methods of natural farming to deal with climate change. But that can mean reduced yields. India's federal government is also urging the use of climate-resilient seeds that result in better yields.

Government research support

Ashok Kumar Singh is former director of New Delhi-based Indian Agriculture Research Institute. He has overseen the creation of many successful rice varieties that withstand [pests](#) and plant diseases. His organization has helped release more than 2,000 climate-resilient kinds of seed in the last 10 years.

"We really need these seeds to deal with these multiple issues created by global warming," Singh said.

Earlier this year, Indian Prime Minister Narendra Modi released 109 climate-resilient seeds for several different crops. India's federal government has announced plans to make sure at least 25 percent of rice-growing fields in the country will be planted with climate-resilient seeds in the coming winter crop season.

In Rayanpet village, Reddy is preparing to plant rice seeds for the winter season in a few weeks.

"It is good to keep trying new seeds, as after some time all of them will have some issue or the other," Reddy said. "If the government can also make sure we get good prices for our crops after [harvest](#), that would help farmers like us a great deal."

Sibi Aras reported this story for the Associated Press. Jill Robbins adapted it for Learning English.

2. Key phrases and vocabulary

First repeat after your tutor and then read aloud by yourself.

1. **predictable (adj.)** can tell what will happen in the future

The weather is predictable but only about a week ahead.

2. **drought (n.)** a season or a period of years when there is not enough rain

Australia was under a drought for over ten years.

3. **threaten (v.)** to be a danger to

Global warming and climate change threaten the farming industry in a big way.

4. **pest (n.)** an animal that damages or eats plants that people want for food

The corn plants on our farm were attacked by two kinds of pests this year.

5. **harvest (n.)** on a farm, the action of picking food plants to be eaten

After the successful corn harvest on our farm this year, we held a big family dinner.

3. Questions

Read the questions aloud and answer them.

1. What is causing rice crops in India to get damaged?
2. What characteristics do the new seeds have?
3. What conditions threaten rice crops?
4. What crop problems are you experiencing in your area or country?
5. In your country, how are farmers or the government dealing with crop problems caused by climate change?