Foreign Agricultural Service
GAIN Report
Global Agriculture Information Network

Voluntary Report - public distribution

Date: 5/30/2002

GAIN Report #IN2030

India

Agricultural Situation

Monsoon Arrives

2002

Approved by:
Weyland Beeghly
U.S. Embassy
Prepared by:
A. Govindan

Report Highlights:

The southwest monsoon has arrived on the southern tip of India; Indian Meteorological Service forecasts 15th consecutive year of "normal" rainfall.

Includes PSD changes: No
Includes Trade Matrix: No
Unscheduled Report
New Delhi [IN1], IN

Monsoon Arrives

The southwest monsoon arrived at the southern tip of India May 29, slightly ahead of schedule. Conditions are reported to be favorable for its advancement. Most of northern India received excellent rains (unrelated to the monsoon) during the week, providing relief from the sweltering heat and creating favorable soil moisture conditions .

Planting of the kharif (monsoon season) crops (rice, coarse grains, peanuts, soybeans, cotton) will begin mainly after the monsoon establishes itself over the major producing states, and will continue through early August. Farmers in the northern rice surplus states of Punjab and Haryana (who have irrigation facilities) have started raising paddy nurseries, and transplanting will begin soon.

Meteorologists Forecast Another "Normal" Monsoon

On May 25, the Indian Meteorological Department (IMD) forecasted a 15th consecutive normal monsoon. The monsoon is considered normal if rainfall during the entire monsoon (June 1 - September 30) is within 10 percent of the long period average (LPA) rainfall of 88 cm. Rainfall during this year's monsoon is forecast at 101 percent of the LPA, with a usual forecasting error of plus or minus 4 percent. Peninsular India (South, Maharashtra and Gujarat) is expected to receive 99 percent of LPA (87 cm); Northwest India (Punjab, Rajasthan, Haryana, Delhi, Jammu & Kashmir, and Himachal Pradesh), 104 percent of LPA (64 cm); and Northeast India (West Bengal, Orissa, Bihar, Northeastern states and Andaman Nicobar Islands), 100 percent of LPA (127 cm), with an estimated statistical error of plus or minus 8 percent.

Apart from IMD, the Center for Mathematical Modeling and Computer Simulation (CMMACS), a government research organization located at Bangalore, also makes an "experimental" forecast of the monsoon using computer simulation techniques. According to the CMMACS forecast, the summer monsoon rainfall this year will be 99 percent (plus or minus 3 percent) of the LPA.

The Monsoon Forecast Model

The IMS's monsoon forecast is based on two models, a qualitative "parametric model" and a quantitative "power regression model," which were developed by the Meteorological Department in 1988.

The parametric model analyzes sixteen monsoon-related parameters falling within four broad categories, namely atmospheric temperature, barometric pressure, wind systems, and snow coverage. These include El Nino (unusual heating of the Pacific Ocean) during the current year and previous year, temperatures in north, central and eastern parts of India during March, snow coverage in the Himalayas and Eurasia, and various pressure and wind systems. Somewhat higher forecasting errors in recent years caused the IMD to replace 4 of the original parameters in 2000 with new parameters having a stronger correlation to rainfall. Currently, 11 of the 16 parameters are favorable. In the past, whenever 60 percent or more of these 16 parameters were favorable, the monsoon was normal.

The power regression model provides a quantitative forecast of monsoon rainfall using statistical methods. In developing this model, unequal weight is given to the 16 weather parameters, depending on its degree of correlation with rainfall. Based on this model, total rainfall during the current monsoon is forecast at 101 percent of the long term average.

Despite the generally satisfactory performance of the forecast model since its inception in 1988, its practical utility has been limited by its inability to predict the distribution of rains over time and space. Of greatest importance to crop production in India is not the amount of precipitation, but when it falls and how it is distributed.