Hindustan Times- 09- June-2023

Monsoon finally reaches Kerala, but onset weak

Jayashree Nandi
letters@hindustantimes.com

NEW DELHI: The monsoon arrived over Kerala on Thursday, seven days after it normally arrives in the state on June 1, the India Meteorological Department (IMD) announced even as climate scientists and meteorologists warned that the onset of the weather system is likely to remain weak, and its progress over the peninsula, slow, on account of severe Cyclone Biparjoy.

"During [the past] 24 hours, clouding has increased over Southeast Arabian sea with Outgoing Longwave Radiation(OLR) being <200 w/m2. The depth of westerlies over [the] Southeast Arabian Sea extends up to mid-tropospheric levels. The strength of Westerlies in the lower levels has increased by about 19 knots. Thus, there has been widespread

continued on →13

Hindustan Times- 09- June-2023

(FROM PAGE 1)

MONSOON ONSET

rainfall over Kerala during [the] past 24 hours... Southwest Monsoon has set in over Kerala," IMD said in a statement.

IMD extended range forecast released on Thursday showed rainfall picking up only after June 15.

IMD director general M Mohapatra said that all criteria for declaring the onset have been met, without elaborating. Last year, IMD announced the onset despite one of the three criteria not being met. IMD declares monsoon onset over Kerala based on three criteria: weather stations in Kerala, situated in Minicoy, Amini, Thiruvananthapuram, Punalur, Kollam, Allapuzha, Kottayam, Kochi, Thrissur, Kozhikode, Thalassery, Kannur, Kudulu and the one in Mangalore in Karnataka reporting rainfall of 2.5mm or more for two consecutive days after May 10; a specified depth of westerlies; and low satellite derived Outgoing Longwave Radiation (OLR). OLR represents the total radiation going to space emitted by the atmosphere or extent of cloudiness.

Monsoon normally sets in over Kerala around June 1. It advances northwards, usually in surges, and covers the entire country around July 15. This year, IMD has predicted a normal monsoon, with expected rainfall of 96% of the long period average, although this proportion is at the lowest end of the normal range. There has been anxiety over the monsoon's performance this year on account of the El Nino weather phenomenon, which is correlated with poor monsoon performance. Private forecaster Skymet Weather has forecast "below normal" rainfall at 94% of LPA

IMD added that conditions were favourable for further advance of the monsoon into more parts of the central Arabian Sea, Tamil Nadu, Karnataka, and southwest, central, northeast Bay of Bengal, the northeastern states, and remaining parts of Kerala over the Thursday and Friday.

But it may not mean plentiful rains, an expert said.

"The onset criteria are gradually being met but we cannot expect widespread rains specially in the interior parts of south peninsula for the next four to five days. There will be moderate rainfall over coastal Kerala and coastal Karnataka. Active monsoon conditions may pick up only after June 14-15. As expected, this has been a weak onset with slow progression expected," said Mahesh Palawat, vice president, climate and meteorology at Skymet Weather.

"We may not expect widespread rains everywhere. We expect some rains along the west coast in the next three to four days. Once this cyclone moves away, the Bay of Bengal current also will get strengthened. By 20th June Bay of Bengal also will be active... (But) I am worried about monsoon in interior parts of the country. There could be delay in onset here. Farmers should be very careful and not go in for an early sowing," said M Rajeevan, former secretary, ministry of earth sciences. June and July are the sowing season for monsoon-grown and winter harvested crops, and in some cases, farmers sow in anticipation of the monsoon's arrival, especially if IMD has declared its onset. That is one reason IMD has to ensure that its onset announcement happens only after the defined criteria have been met.

Skymet's Palawat asked farmers to consider commencing the sowing after a week or 10 days in view of the weak onset. "Once rains pick up sowing can begin so that crop is not affected. June rains may be below normal due to delay in rains."

IMD has also said June rainfall will be deficient across India.

The formation of a very severe cyclone, Biparjoy over the southeast Arabian Sea, climate experts and meteorologists said, has pulled all the convection and moisture along its track leading to weakening of monsoon flow over Kerala. It has also resulted in some rain over the west coast, although this is not monsoon rain.

Indeed, an IMD official admitted this in private earlier this week.

"Biparjoy is not good for our monsoon because it is pulling all the moisture along with it away from the Indian coast. Its formation is not near the India coast and hence monsoon's progress will remain very poor until around June 12. It may strengthen the cross-equatorial flow after the cyclone dissipates, but that's a long way away," a senior IMD official who did not wish to be named had said on June 6 when the cyclone formed.

The monsoon is critical for India's economy as almost half of India's farmed area accounting for about 40% of production is rain-fed. As many as 47% of the country's population is dependent on agriculture for livelihood. A bountiful monsoon is directly linked to a healthy rural economy.

Experts say a delayed onset has little effect on monsoon rains.

But most add that the emergence of the El Nino phenomenon is cause for concern. El Nino is characterised by an unusual warming of waters in the eastern equatorial Pacific Ocean, which has a high correlation with warmer summers, drought, and weaker monsoon rains in India.

There have been 10 other years since 1971 when the monsoon has arrived on or after June 8, with 2019 being the only year when the monsoon arrived exactly on June 8. The onset over Kerala was on June 9 in 1996 and 2002; on June 10 in 1995; on June 12 in 1979, 1983, 1986, and 1997; on June 13 in 2003; and June 19 in 1972.

HT has analysed data only since 1971 because onset dates by the new objective criteria in use since 2006 were available only as far back as 1971. These reworked onset dates from 1971 to 2005 were calculated retrospectively by climate scientists DS Pai and Rajeevan M Nair for their research paper "Summer monsoon onset over Kerala: New definition and prediction".

An analysis of monsoon rains (total rain over India in the normal monsoon months of June to September) in the 10 years when it set over Kerala this late shows that it has no relationship with the rainfall. There was a surplus and deficit in five years each compared to the 1961-2010 average, the benchmark for this period.

To be sure, the monsoon was also affected by El Nino in five of the 10 delayed onset years. Three of these five years coincide with the five years of deficit rains in June and June-September (not necessarily the same three years for both).

(Abhiehsk Jha contributed to this report)

INDIRA TABLEAU

eign policy during nine years of the Modi government that the float is linked to the bigger issue of the "space that Canada has continuously" provided to Khalistani elements.

"Frankly... we are at a loss to understand, other than the requirement of vote bank politics, why anybody would do this... I mean, you would imag-

File No.T-74074/10/2019-WSE DTE

Hindustan Times- 09- June-2023

El Nino develops, experts wary of poor monsoon spell

Jayashree Nandi

letters@hindustantimes.com

NEW DELHI: El Nino conditions have emerged, the National Oceanic and Atmospheric Administration announced on Thursday, with the weather phenomenon threatening to push global temperatures to new highs.

Weak El Nino conditions emerged in May over the equatorial Pacific Ocean with above-average sea surface temperatures (SSTs). These temperatures sustained up to June with wind parameters supporting the emergence of El Nino, NOAA said in its El Nino Southern Oscillation (ENSO) bulletin.

"We expect El Nino to continue into the winter, and the odds of it becoming a strong event at its peak are pretty good, at 56%. Chances of at least a moderate event are about 84%," the NOAA bulletin said.

El Nino is the warming of waters in the Eastern Pacific Ocean, often accompanied by a slowing or reversal of easterly trade winds. The phenomenon creates a cascade of weather effects across the world — in India, this leads to the monsoon being drier than usual.

El Nino is the warming of waters in the Eastern Pacific Ocean, often accompanied by a slowing or reversal of easterly trade winds. HT

"El Nino — the warm phase of El Nino-La Nina climate pattern — changes global atmospheric circulation in known ways, giving us an idea of potential upcoming weather and climate patterns. A stronger El Nino means global temperature, rain, and other patterns are more likely to reflect the expected El Nino impacts," a blog by NOAA explaining the event said.

Global average sea surface temperatures have already touched record highs this summer. On June 6, the average SST was 20.9°C compared to 20.7°C last year, breaking past records.

For India, the NOAA announcement does not bode well, with experts warning that the government and farmers should prepare for impacts of El Nino. "It was expected that El Nino would develop soon. The pacific warmed up so fast. It is going to be a severe El Nino. It is worrisome and the government should have a plan B for a below normal rainfall. June is going to be bad with monsoon delays. Farmers could be advised properly," said M Rajeevan, former secretary, ministry of earth sciences. El Nino onset during the current monsoon means a delayed onset and deficit rainfall, Roxy Mathew Koll, climate scientist at Indian Institute of Tropical Meteorology (IITM) had told HT in an interview on June 5.

The delayed onset is also expected to push the window for sowing of crops, GV Ramanjaneyulu, sxecutive director at the Centre for Sustainable Agriculture, said. "IMD is predicting a normal monsoon which may be normal for the season as a whole but its critical to know if there will be gaps during the season and well distributed. We expect dry spells in July and August, that's when most crop losses happen. First, we have to shift to pulses oilseeds not water intensive ones to adapt better; second, critical irrigation during monsoon gaps tailored for life saving irrigation during dry periods; and third, if there is residual risk then we need proper insurance mechanism which is not available," said Ramanjaneyulu.

Koll also warned of extreme weather events. "Events like an El Nino can sometimes amplify the climate change impacts," he said. "If this is a strong El Nino as predicted by global models, then this year could be one of the warmest years," Koll said.

The Times of India- 09- June-2023

After delay of 7 days, monsoon hits Kerala

Likely To Advance To Parts Of K'taka In Next 48 Hours

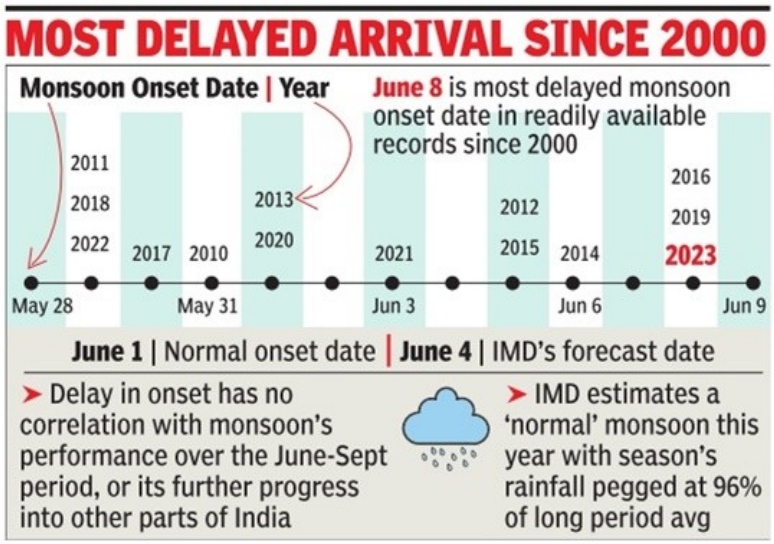
TIMES NEWS NETWORK

New Delhi: The southwest (summer) monsoon finally hit the Kerala coast on Thursday, marking the beginning of the rainy season in India. The onset is delayed by seven days against the normal date of June 1, similar to years 2016 and 2019 in the past decade when monsoon arrived as late as on June 8.

Delayed monsoon has, however, no correlation with quantitative and spatial distribution of rainfall as well as the pace of its progress over the remaining parts of India.

Announcing the onset of southwest monsoon over Kerala, the India Meteorological Department on Thursday said the conditions are favourable for further advance of monsoon into some more parts of central Arabian Sea, remaining parts of Kerala, some more parts of Tamil Nadu, some parts of Karnataka and some parts of northeastern states during the next 48 hours. The Met department announced the monsoon's onset after the rainfall and cloud formations met all the conditions including depth of westerly winds over southeast Arabian sea.

▶ Normal monsoon, P 6



IMD has predicted normal monsoon this yr

▶ Continued from page 1

Besides, there has been widespread rainfall over Kerala during the past 24 hours — yet another condition to be considered for announcement of the onset.

Making its forecast, the IMD had on May 16 predicted the onset of monsoon over Kerala on June 4 with a model error of ±4 days. So the arrival this year is within the forecast range. Summer monsoon normally sets in over Kerala on June 1 with a standard deviation of about seven days even as it arrives over Andaman & Nicobar Islands around two weeks early.

The IMD has been issuing operational forecasts for the onset date over Kerala since 2005

The IMD has already predicted "normal" monsoon this year, despite evolving El Nino conditions (unusual warming of surface waters in eastern Pacific Ocean) that is generally linked to weak monsoon rains. The past data shows that the years 2016 and and 2019 reported "normal" and "above normal" rainfall, respectively, despite making a delayed onset by seven days. Even distribution of rainfall was good in both these years, helping foodgrains' output to reach the then record level of 275 million tonnes in 2016 and 297 million tonnes in 2019.

Banking on the forecast of "normal" monsoon this year, the agriculture ministry has set a target of 332 million tonnes of foodgrain output in 2023-24 crop year.

The IMD has been issuing operational forecasts for the onset date over Kerala since 2005. Records show that the Met department's forecasts of the date of monsoon onset over Kerala during the past 18 years (2005-2022) were proved to be correct except in 2015.

The Indian Express- 09- June-2023

Let the river flow

Manoj Mishra's approach to Yamuna restoration remains compelling

KAUSHIK DAS GUPTA

ON SUNDAY, HUNDREDS of volunteers from all walks of life formed a human chain along the banks of the Yamuna to raise awareness about the pollution in the river. In a city where people do not always take ownership of environmental problems, the gathering was a heartening development. The AAP and BJP leaders put aside their bitterness to amplify the call for more sewage treatment plants and cleaning up the waste in "one of the most polluted rivers in the world". Organised by a voluntary body, the Mata Lalita Devi Seva Shram Trust — a programme with the theme of Yamuna Sansad — saw the participation of Delhi ministers Gopal Rai and Saurabh Bharadwaj, Delhi BJP President Virendra Sachdeva and the leader of the Opposition in the Delhi Assembly, Ramvir Singh Bidhuri.

Yet, one cannot help but avoid feeling that the gathering is not much of a change. And that's not just because the BJP members could not resist taking potshots at the AAP government — Sachdeva reportedly blamed the Kejriwal government for not paying attention to Yamuna cleaning. The trouble is that there does not seem to be a paradigm shift in the approach to rejuvenating rivers in more than 40 years. More than Rs 1,800 crore was spent by the various avatars of the Ganga Action Plan that had an STP-centred approach. The current government's Namami Gange plan has an outlay of more than 10 times that of GAP — Delhi has been allotted more than 2,000 crore. The project is an improvement on its predecessor in several respects, especially in its emphasis on taking people along while cleaning up rivers. But in assigning a dominant role to STPs, the Namami Gange seems to be a replica of the GAP.

This state of affairs is not for the lack of creative thinking. For nearly 20 years, the Indian Forest Service officer turned scholar-activist Manoj Mishra had cautioned against the pitfalls of the cleaning the river approach. Mishra, who passed away on Sunday after a month-long battle with Covid, did not underestimate the importance of pollution abatement. But he also underlined that the river needs to have enough water and its floodplains shouldn't be obstructed from recharging groundwater. The Yamuna, as he wrote in several places, was not just about the water body that flows through Delhi — for rejuvenating it, attention should be given to what happens upstream and care should be taken of the needs of the people who depend on it downstream.

A river has its own capacity to tackle pollution. But these are contingent on its flow, which, in turn, depends on upstream aquifers. Besides, there are seasonal variations in the amount of water. Aquatic plants also help the river assimilate pollution. The problem with the current paradigm of pollution control, as Mishra pointed out, was that it "aimed to control quality of the 'effluent' at the source of the pollution without really bothering about the river's assimilative capacity". Tackling industrial pollutants had a place in his scheme of things — after all no river has the capacity to cleanse inorganic pollutants. Mishra argued that a better approach would be one that accounts for both effluent standards and the ability of the river to tackle pollution.

The master plans of Delhi paid little attention to the relationship of the city's people with the Yamuna. Urban planning in the country very rarely takes into account the idiosyncrasies and the geomorphology of water bodies. And, Delhi's master plans have been no different in not assessing the changes in the assimilative capacity of the river. As Mishra would often point out, there are two Yamunas in Delhi, "one upstream of the barrage at Wazirabad that supplies drinking water and the other that's often lamented as a sewage canal". He pushed for setting drinking water standards in the 220-km stretch of the river from Hathnikund in Haryana to Okhla in Delhi — it's currently only fit for bathing purposes. But he also felt that diverting water by building barrages does injustice to the river: "Lift not divert water" was his solution.

At the same time, the scholar-activist contested the Delhi Jal Board's calculation that the city needs 220 litres of water per person per day. He talked of both supply and demand-side efficiencies. The industrial and drinking water needs of Haryana on the west of the river and UP on the east are predominantly met by groundwater. However, the Delhi Jal Board is somewhat unique in the area in getting nearly 90 per cent of its needs from surface water.

For much of its pre-colonial history, Delhi did not depend on the Yamuna for potable water. The fortress cities of the past relied on step wells, water tanks and canals. Things began to change in the late 19th century when the Delhi Water Works was built at Chandrawal and water was extracted using a row of wells along the river. Thirty years later, a pumping station was constructed at Wazirabad — it could extract nearly eight times the water compared to the Chandrawal facility. In the 1950s, Delhi took water from the river only at Wazirabad and Okhla.

Mishra wanted Delhi to look at alternate sources for its drinking water — rainwater harvesting and groundwater recharging among them. "Delhi needs to take tough calls if it wants the Yamuna flowing", he would say.

The absence of a statutory provision to safeguard floodplains that recharge groundwater worried him. During the UPA regime, along with the late Brij Gopal, professor of environmental sciences at JNU, Mishra worked on a draft River Regulation Zone, along the lines of the Coastal Regulation. The plan was taken up in the early days of the current regime, only to be shelved.

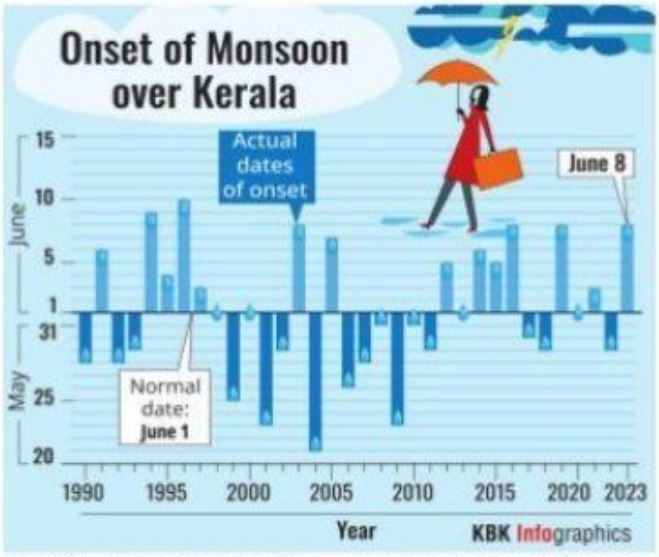
A day after Mishra's demise, Delhi's Lt Governor launched the Yamuna Vatika project to "restore the ecological character of the floodplains." Very often, such initiatives end up as nothing more than beautification projects. It would be a dishonour to the memory of Manoj Mishra if the Yamuna Vatika project too goes this way.

kaushik.dasgupta@expressindia.com

The Statesman- 09- June-2023

Monsoon arrives in Kerala: IMD

STATESMAN NEWS SERVICE
NEW DELHI, 8 JUNE



The South-west Monsoon reached India on Thursday with its onset over Kerala, a week after the normal date of 1 June, the India Meteorological Department (IMD) said.The South-west Monsoon normally sets in over Kerala on 1 June with a standard deviation of about seven days.

Monsoon is crucial especially for kharif crops, which are dependent on rains. India has three cropping seasons -- summer, kharif and rabi.

In a statement, the IMD said: "South-west Monsoon has set in over Kerala today, the 08th June, 2023 against the normal date of 01st June."

"The South-west Monsoon has advanced into remaining parts of south Arabian Sea and some parts of central Arabian Sea, entire Lakshadweep area, most parts of Kerala, most parts of south Tamil Nadu, remaining parts of Comorin area, Gulf of Mannar and some more parts of southwest, central and north-east Bay of Bengal today, the 08th June 2023," it said.

The IMD further said that conditions are favourable for further advance of South-west monsoon into some more parts of central Arabian Sea, remaining parts of Kerala, some more parts of Tamil Nadu, some parts of Karnataka and some more parts of southwest, Central and north-east Bay of Bengal and some parts of north-eastern states during next 48 hours.

There has been widespread rainfall over Kerala during the past 24 hours. The IMD in a statement yesterday had predicted that meteorological conditions were becoming favourable for the onset of monsoon over Kerala during the next 48 hours. The IMD had in May predicted the arrival of monsoon on 4 June.

The Hindu- 09- June-2023

Mettur dam and the centenary of a milestone Cauvery agreement

The year 1924 marked a vital point in the dispute between Tamil Nadu and Karnataka. The Madras and Mysore governments signed the agreement on February 18 that year. It covered, among others, construction of Krishnaraja Sagar and Mettur dams.

T. Ramakrishnan

This year, Tamil Nadu will witness the centenary celebrations of M. Karunanidhi (1924-2018), one of its tall leaders and a prominent son of the soil from the Cauvery delta region. This year will also mark the centenary of a historical event concerning the river. In the age-old dispute between Tamil Nadu and Karnataka over the sharing of Cauvery water, the 1924 agreement, signed by the predecessors of the two southern States in February that year, is into the 100th year.

Though the final order of the Cauvery Water Disputes Tribunal, of February 2007, has superseded the agreement, one of the key effects of the agreement is the Mettur dam, which is going to be in focus for at least the next six months as it will be opened for irrigation on Monday (June 12).

Laborious task: The construction of the dam at Mettur took nine years and it came into use on August 21, 1934. The important benefits of the dam are stabilising irrigation, ensuring livelihood for lakhs of farmers and contributing to food security. E. LAKSHMI NARAYANAN

The genesis

The genesis of the dam dates to the proposal mooted in 1834 by Arthur Cotton (1803-99), a celebrated British engineer credited with having implemented irrigation projects that helped to avert famines and stimulated the economy of south India. Cotton had thought of damming the Cauvery to improve irrigation in the composite Thanjavur region. Later, many engineers pursued the idea. At one point of time, it appeared that the Bhavani, a tributary of the Cauvery, and not the main river, would be selected first. But there was no consensus among water experts.

In 1901, the then Inspector-General of Irrigation, Thomas Higham, after perusing reports on the proposed Bhavani and Cauvery reservoirs, preferred the proposal of having a dam across the Cauvery. Nine years later, Col. W.M. Ellis, chosen for drawing up a detailed scheme, submitted his report. Analysing his proposal, '*History of Cauvery Mettur Project*', a 1987 publication of the Central Board of Irrigation and Power (CBIP), points out that Ellis, while selecting the dam site, "was able to secure" all the conditions that were essential for a dam of the size proposed, whereas "the sites proposed by earlier investigators all lacked one or more" of the essentials. This publication was based on a document authored by C.G. Barber in 1936 and revised by A. Mohanakrishnan in the 1980s.

When the Ellis scheme was under consideration of the British authorities, the Cauvery dispute assumed serious proportions between the then Madras and Mysore governments. An award by a Court of Arbitration in 1914 forced Ellis to revise his plan. In the meantime, the Madras government challenged the award, leading to negotiations between the two provinces. Eventually, the two had reached an understanding and signed the agreement on February 18, 1924. The pact covered, among others, the construction of Krishnaraja Sagar dam (in Karnataka) and Mettur dam (in Tamil Nadu).

It took a year for the government in the U.K. to clear the estimate for the project, and the cost was fixed at ₹6.12 crore, about ₹1 crore more than the Ellis's scheme of 1910, records the CBIP publication.

On July 20, 1925, the then Governor, Viscount Goschen, formally inaugurated the work. The address presented to him, while recounting the history of the dam project, referred to the role played by C.P. Ramaswami Aiyar (1879-1966) in getting the 1924 agreement signed and the dam project commenced. Addressing the event, Aiyar, who was Law Member in the Executive Council handling subjects including irrigation and electricity, referred to apprehensions in certain quarters that the government would eventually hand over sources of water and power to "some syndicate" and asserted that the sources were the "property of people" and "ought to be conserved as their property and developed as such," says a report of *The Hindu* on July 21, 1925.

In a sense, the delay in the commencement of the Mettur project was a blessing in disguise: on July 26, 1924, the Cauvery saw a flood of 4.56 lakh cubic feet per second (cusecs), whereas Ellis had provided for 2.5 lakh cusecs. The previous recorded was 2.07 lakh cusecs in 1896. Now, the dam, through spillways, can discharge 4.41 lakh cusecs.

'A foremost expert'

The construction of the dam took nine years and the dam came into use on August 21, 1934. On the same day, *The Hindu*, in its editorial, identified Sir C.T. Mullings (who served as Consulting Chief Engineer and Engineer in Chief) as the foremost expert who had evolved the scheme and pointed out that his work had been recognised by the conferment of knighthood.

As part of the dam project, the Grand Anicut Canal System was created to serve 3.01 lakh acres of new area, followed by the Kattalai and Jedarpalayam bed regulators. Two more reservoirs – Bhavanisagar and Amaravathy – were built across the tributaries of the Cauvery in 1953 and 1957 respectively. There have been several other developments over the years.

The important benefits of the dam are stabilising irrigation, ensuring livelihood for lakhs of farmers and landless workers and contributing to food security. This is evident from the fact that paddy is grown in the Cauvery delta on at least 15 lakh acres through three cultivation seasons – Kuruvai, Samba and Thaladi – if the data since 1996 are any indication. Needless to say, Samba is the main season with a minimum of 10 lakh acres.

For feedback and suggestions for Tamil Nadu InFocus, please write to **letters@thehindu.co.in** with the subject 'Tamil Nadu InFocus'