Food and Agriculture Organization of the United Nations

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Promotion of Sustainable Food Systems in India through Transforming Rice-Wheat Systems in Punjab, Haryana, Odisha and Chhattisgarh


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FACT FILE

GEF OPERATIONAL FOCAL POINT:
Ministry of Environment, Forest and Climate Change (MoEF&CC)

NATIONAL EXECUTING AGENCY:
Ministry of Agriculture and Farmers Welfare (MoA&FW)

OPERATIONAL AND IMPLEMENTATION PARTNERS:
Chhattisgarh: Agriculture Development and Farmer Welfare and Bio-Technology Department
Haryana: Department of Agriculture and Farmers Welfare
Punjab: Department of Agriculture and Farmers Welfare
Odisha: Directorate of Soil Conservation and Watershed Development, and Institute on Management of Agricultural Extension (IMAGE)

GEF AGENCY:
Food and Agriculture Organization of the United Nations (FAO)

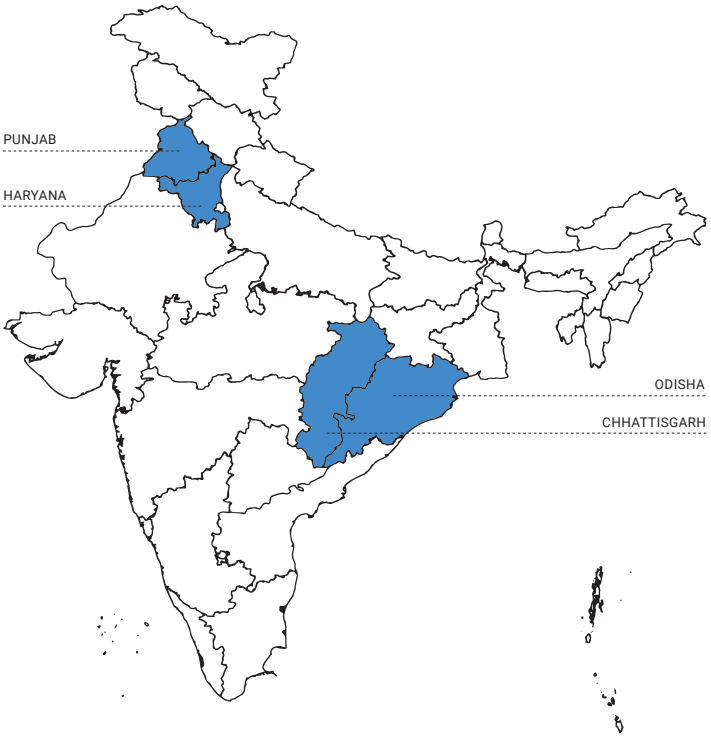
SOURCE OF FUNDS:
GLOBAL ENVIRONMENT FACILITY (GEF) Trust Fund

GEF PROJECT GRANTS: US $20,366,972

CO-FINANCING: US $342,427,048

TOTAL FINANCING: US $362,794,020

SUSTAINABLE DEVELOPMENT GOALS (SDG) LINKAGES:



BACKGROUND

India's tryst with agriculture, post independence, started in 1960s with launch of the Green Revolution, which transformed the country's status from food deficient to food secure and surplus. Although there have been productivity gains in almost all the agricultural crops, but due to policy interventions and diet preferences of a large section of society, only two crops have been the main focus, i.e. wheat and rice. The productivity of these two crops has plateaued in the key Green Revolution states, while in many others it is still far below optimum levels. Moreover, crop intensification has led to over-exploitation of land and water resources.

The impacts are particularly significant with globally important food crops like rice and wheat that are produced, consumed and exported from India.

The Government of India aims to address these challenges in collaboration with GEF, FAO and other key players through this five year project (2023-2028) titled, "Promotion of Sustainable Food Systems in India through Transforming Rice-Wheat Systems in Punjab, Haryana, Odisha and Chhattisgarh."

The project will greatly accelerate India's efforts to evolve a new model of sustainable agriculture, to transition towards healthy landscapes and ecosystems, providing for the needs of multiple user groups, and resulting in several Global Environmental Benefits (GEBs). Key elements will also include design of policies related to food systems and landscape management.

OUTCOMES

Policy Transformation

The project will greatly accelerate India's efforts to evolve a new model of sustainable agriculture, to transition towards healthy landscapes and ecosystems, providing for the needs of multiple user groups, and resulting in several Global Environmental Benefits (GEBs). Key elements will also include design of policies related to food systems and landscape management. National and State policy frameworks strengthened to support sustainable rice and wheat landscapes and value chains to enhance delivery of GEBs and sustainable livelihoods.

Management Transformation

Promotion of more participatory and comprehensive land use planning as a basis for integrated land management specifically tailored to address drivers of environmental degradation that stem from inadequate governance and planning, coordination and collaboration, and non-inclusion of all relevant stakeholders.

Promotion of sustainable practices and responsible value chains to address drivers related to agricultural expansion and misaligned policies.

Restoration of natural habitats by promoting ecological approaches, and improving governance through collective action, learning by doing and inclusion of key stakeholders.

As part of the FOLUR Global Platform (capacity, policy and knowledge management) address knowledge gaps, inadequate technical capacities, and misaligned policies.

Some of the expected results are:

- National and State level planning frameworks developed/updated for sustainable food systems.
- Sustainable farming practices implemented at target landscapes.
- Enhanced conservation and restoration of habitats/ecosystems in production landscapes for GEBs and enhanced ecosystem services.
- Results based monitoring and knowledge sharing platform.

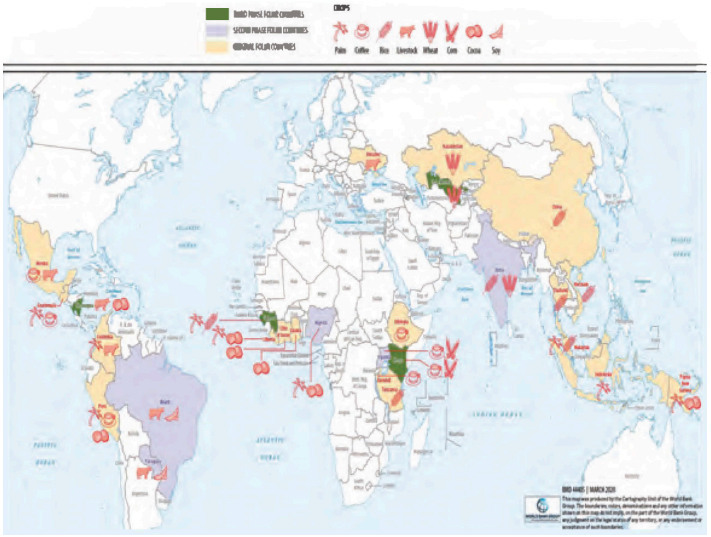
FOLUR IMPACT PROGRAM - GLOBAL PROJECT

The project is part of GEF's larger Food, Land Use and Restoration (FOLUR) Impact Program (IP). GEF's vision for the FOLUR IP recognizes that the way we produce food and use land over the coming decades is critically important for the health of the planet.

The FOLUR IP focuses on global commodities that include: Food Staples (Rice, Wheat, Maize, Cocoa, Beef and Palm Oil).

FOLUR promotes:

- sustainable food systems to tackle negative externalities in Value Chains
- deforestation-free agricultural commodity supply chains
- large-scale restoration of degraded landscapes for sustainable production



Long term outcomes

- Sustainable food systems promoted; negative externalities in Value Chains of key global commodities reduced
- Landscape scale restoration promoted for production and ecosystem services
- Reduced degradation of forests and natural habitats

→ Global Environment Benefits

FOLUR Components

- Development of Integrated Landscape Management System
- Promotion of sustainable food production practices and responsible commodity Value Chains
- Restoration of natural habitats
- Global coordination and collaboration

Opportunities

- Country level commitments
- Companies committing to green Value Chains
- New approaches and technologies

Focus on Global Commodities

- Food Staples (Rice, wheat and maize)
- Cocoa
- Beef
- Palm oil

Drivers

- Commodity supply chains that result in agricultural expansion and unsustainable practices
- Knowledge gaps on sustainable production practices
- Conflicting policies and misaligned incentives

Challenges

- Ecosystem degradation
- Loss of biodiversity and ecosystem services
- Green House Gases (GHGs) and climate change vulnerability

CHHATTISGARH

The State of Chhattisgarh can be divided into three agro-climatic zones, viz. the Chhattisgarh Plains, the Northern Hills of Chhattisgarh and the Bastar Plateau. The southern and northern regions are home to rich and diverse forests, which cover about 44% of the geographical area of the State and play a central role in the livelihoods of forestdependent communities along these belts. Chhattisgarh has the seventh-largest tribal population in India.

The main crops of Chhattisgarh are rice, wheat, maize, groundnut, pulses and oilseeds. The State is also called the 'ricebowl of India' being home to more than 23,000 native varieties of rice.

Agriculture accounts for 83% of the total groundwater extraction. It also contributes substantially to groundwater contamination through the excessive use of chemical fertilizers and pesticides.

HARYANA

Haryana falls in the TransGangetic Plains agro-climatic zone. It is the second largest contributor of food grains to the Central Pool, contributing about 6% of food grains despite having only 1.4% of the total geographical area of the country. Haryana accounts for more than 60% export of Basmati Rice and is leading in wheat and mustard production and productivity. Sugarcane, cotton and oilseeds are the other major crops in the State.

The groundwater levels in the State have been declining over the years. Studies reveal that this decline has been consistent in the districts of Kamal, Kaithal, Kurukshetra, Panipat, Sonipat and Yamunanagar, where rice-wheat is the dominant cropping sequence. 55% area of the State is affected by poor quality underground water.

ODISHA

Odisha is divided into ten agroclimatic zones. The State also has a coastline of about 480 km. It has the third-largest tribal population in India.

The cropping pattern has witnessed some changes in the last decade, with share of rice declining and that of pulses and vegetables increasing. However, rice continues to be the lead crop in the State, with almost half the share of gross cropped area. The State is also significant for traditional rice varieties. The Jeypore tract in South Odisha has been identified as a putative secondary center of origin of cultivated rice.

Agriculture in Odisha is highly dependent on monsoons and the performance and growth of this sector is very sensitive to weather conditions, which results in wide variations in the sector output.

PUNJAB

The State is divided into three agro-climatic zones — Sub mountainous Zone or Kandi area, Central Alluvial Zone or Central Plains and Southern Dry Zone.

Punjab has been at the heart of the 'Green Revolution' and is called the 'bread basket' of India. It is predominantly an agricultural State, with 83% of the total geographical area under agriculture. It enjoys the status of being 'India's granary' — contributing towards 12% of the country's rice production and 18% of wheat production. In 2018-19, the State's share in the central pool of rice and wheat was 25.53% and 35.45%, respectively.

Excessive irrigation and overuse of fertilizers have completely degraded about 39% of the State's soil. In addition, 50% of the soil is acutely low in nitrogen and 25% low in phosphorus content. Further, the organic carbon content, which was about 4% in the 1970s, has fallen to approximately 0.4%.

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