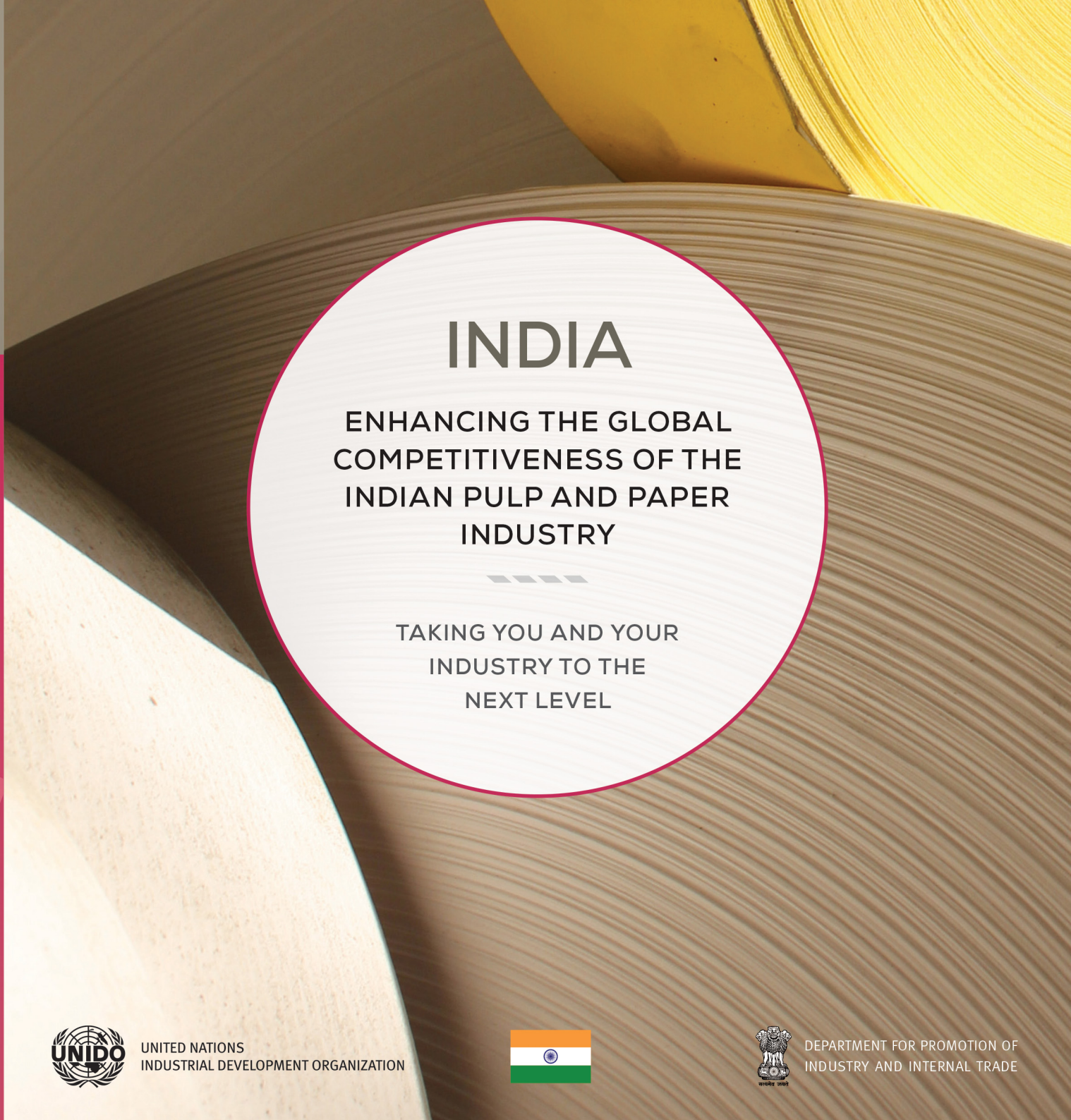

INDIA

ENHANCING THE GLOBAL COMPETITIVENESS OF THE INDIAN PULP AND PAPER INDUSTRY

TAKING YOU AND YOUR INDUSTRY TO THE NEXT LEVEL

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

DEPARTMENT FOR PROMOTION OF INDUSTRY AND INTERNAL TRADE

INDIAN PULP & PAPER INDUSTRY

KEY INDICATORS

1970 ▸▸ 2019		TODAY
0.2 MTPA MILLION TONNES PER ANNUM	**20** MTPA MILLION TONNES PER ANNUM	THE INDIAN PAPER INDUSTRY PRODUCES DIFFERENT **TYPES/GRADES OF PAPER,** INCLUDING:
RAW MATERIALS: • WOOD • BAMBOO **MAJOR PRODUCT:** WRITING/PRINTING PAPER	**RAW MATERIALS:** **73%** RECYCLED PAPER **18%** WOOD **9%** AGRO-RESIDUE FIBRE	**60%** PACKAGING PAPER **35%** WRITING /PRINTING **5%** NEWSPRINT PAPER

INDIA IS AMONG THE WORLD'S FASTEST GROWING PULP AND PAPER MARKETS

GLOBAL RANKING

4%
SHARE OF GLOBAL PRODUCTION

MARKET GROWTH
6-7% ANNUAL RATE

DIRECT JOBS
~650,000

COMPETITIVENESS AND SUSTAINABILITY: In order to enhance the competitiveness and sustainability of the pulp and paper industry, there is a need to work towards increased production efficiency, cleaner production processes and environmental management

*Source: Paper industry associations and CPPRI

PHASE I: 2015-2018

'DEVELOPMENT, TRANSFER AND ADOPTION OF APPROPRIATE TECHNOLOGIES FOR ENHANCING PRODUCTIVITY IN THE PULP AND PAPER SECTOR'

Adopting a 'meso-to-micro' approach, UNIDO has previously completed a project that aimed to strengthen the capacities and capabilities of the nodal technical institution for the industry, the Central Pulp and Paper Research Institute (CPPRI), as well as industry associations. The objective was to enable these institutions to provide better technical and management support to the industry.

The project was supported by the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India.

Building on this strengthened meso-level capacity, UNIDO is currently implementing a project with focus on providing firm-level support.

PHASE II: 2019-2022

'FIRM-LEVEL DEMONSTRATION OF TECHNOLOGY AND PRODUCTIVITY ENHANCEMENT FOR THE PULP AND PAPER INDUSTRY'

OBJECTIVE:

To enhance the productivity and competitiveness of the Indian pulp and paper industry.

APPROACH:

Demonstration of process improvement interventions as well as the applicability of two innovative technologies in Indian paper mills.

- PROJECT DURATION: 36 MONTHS
- DONOR: DPIIT, Government of India
- BUDGET: USD 1,495,781
- IN-KIND: USD 314,154 (INDUSTRY CONTRIBUTION)
- TOTAL BUDGET: USD 1,809,935

DEMONSTRATION ACTIVITIES

WILL BE CARRIED OUT IN PAPER MILLS:

A

OF VARIOUS CAPACITIES AND PRODUCTS

PACKAGING

WRITING/PRINTING

NEWSPRINT

B

IN CLUSTERS ACROSS THE COUNTRY

C

USING DIFFERENT TYPES OF RAW MATERIALS

WOOD

RECYCLED FIBRE

AGRO RESIDUES

GEOGRAPHICAL COVERAGE/CLUSTERS: NORTH (4) UTTAR PRADESH, UTTARAKHAND, PUNJAB, HARYANA. **EAST** (3) WEST BENGAL, ODISHA, NORTH-EASTERN STATES. **SOUTH** (2) TAMIL NADU, ANDHRA PRADESH. **WEST** (1) GUJARAT.

TECHNICAL ASSISTANCE

I. DEMONSTRATION OF OPTIMIZATION AND PRODUCTIVITY ENHANCEMENT MEASURES (PEMs) IN PAPER MILLS:

- Optimization of process parameters pertaining to technical aspects of paper production
- Adoption of manufacturing excellence tools

II. DEMONSTRATION OF TWO INNOVATIVE TECHNOLOGIES AT PAPER MILLS:

- **Membrane filtration:** to facilitate maximum recycling of process water by treating paper mill effluents to reduce colour, total dissolved solids (TDS), chemical oxygen demand (COD) and other pollutants as per prescribed regulatory norms
- **Black liquor heat treatment:** to improve the energy efficiency of the chemical recovery system by reducing the viscosity of black liquor, enabling achievement of higher black liquor solids during evaporation in agro-based pulp and paper mills

OUTCOMES

- Demonstrations of technologies and PEMs at 20 paper mills across the country
- Training and dissemination workshops for the other mills in the same regional clusters

The interventions are expected to facilitate technology uptake and firm-level innovation, leading to increased productivity and competitiveness.

EXPECTED IMPACT

- Enhanced product quality, productivity and process efficiency
- Improved water management (increased recycling, reduced freshwater consumption and wastewater discharge)
- Increased compliance with discharge norms prescribed by regulatory authorities

The adoption of these technologies is aligned with various development programmes of the Government of India, such as the 'Swacch Bharat Mission' (i.e. Clean India Mission) as well as the National Mission for Clean Ganga.

DIGITALIZATION
TECHNOLOGY
INNOVATION

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