

## Sustainable Development, Energy and Climate Change -

- UNSDG - adopted by Sept 2015

↓  
Social, economical and Environmental dimension  
(MDG Now SDG)

17 SDG → 169 targets - 2030 AD

- PMJDY - World largest financial inclusion  
(Contribute to SDG)

↓  
Social Inclusion &  
Empowerment of Poor.

- Voluntary National Reviews (VNRs)

at the high level Political Forum 2017

↓ 1st VNR on implementation of SDG on 19 July 2017

VNR - Report focused on 7 SDG - (i) Poverty

(ii) Zero Hunger (iii) Good Health and well being (iv) Gender equality

(v) Industry, Innovation and Infrastructure

(vi) Life below water (vii) Partnership for goals.



National SDG Indicators are being developed -  
Ministry of Statistics & Programme  
Implementation with Input from  
Center Ministries and Various Stakeholder.

SDG BASE YEAR 2016

NITI AAYOG - Collect, Validate & Document  
best practice in Implementation of SDG.

URBAN IND And Sustainable Development  
SDG (11) States - "Make Cities Inclusive  
Safe & Resilient and Sustainable"

Parameter for delivering India Sustainable  
Development agenda will be the development  
Path Chosen by urban India.

World Economic <sup>& Social</sup> Survey - 2013

Social, Economic Development,  
environmental Management and effective  
urban governance. - UN World Cities Report - 2016

2030 (INDIA) 7 mega Cities with population  
above 10M - (Census 2011)

31.16% population live in urban.



3 Indian Cities. Multiple problems of poverty, inadequate provision of urban services, congestion, pollution, waste etc.

ULB (Urban Local Bodies) - Raise resources through various innovative financial instruments such as Municipal Bond, PPS, Credit Risk Guarantee.

39 lakh (Gore at 2009-10 prices)

↓ for Urban Infra.

Next 20 years

17 lakh Gore (44%) for Road

8 ————— (20%) for Services (Water)

SEBI - notified a new regulatory framework issue and listing of debt securities by Municipal Regulation for Issuing Municipal bond in Ind.

SDGs due to its deep inter linkage will all other goals.

Indoor Air Pollution - 4.3 m/y Died  
burning of Solid fuel  
firewood and dung cake



Women Spend around 374 Hr/yr year  
for collection of firewood

(Global alliance for clean Cookstove, 2014)

modern energy reduce — positive impact  
girls education & employment

Reduction in Gender Gap

PMUY & "UJJWALA Plus"

(DDU Gram Jyoti Yojna) - 2015 (100% electricity)  
and Saubhagya Scheme - Sept 2017.

India was 330860.6 MW (30 Nov 2017)

18% from Renewable energy

PPAC Power Purchase Agreement

Building Energy Efficiency Programme May 2017  
(EESL)

one Crore LED, 15 lakh Ceiling fans  
1.5 lakh A.C.

ISA - 6 Dec 2017

International Intergovernmental treaty based  
IND (Cruxgram)

100 Crore as one time fund for ISA fund  
Corpus

US \$ 2 B Line of Credit (LOC)



African Country for Implementation of Solar and related project out of its total US\$10 B LOC under the Indian Development and Economic Assistance Scheme.

France govt - €300 M for ISA Member

ISA 3 Programme -

- Scaling Solar application for Agricul. use
- Affordable finance at Scale and Scaling Solar Mini-grids

Launch 2 more Programme -

Scaling Solar Rooftops and Scaling E-mobility & Storage

UNDP World Bank, EIB, EBRD - France

CRM - "Common Risk Mitigation Mechanism!"

Digital Infopedia - Platform to Interact, Connect, Communicate and Collaborate



The Rainfall in Ind Shows great Variation unequal seasonal and geographical distribution and frequent departures from the Normal

- Global Technology Watch Group - Renewable Energy Technology advance Coal technology Enhanced Energy Efficiency, Green forest, Sustainable Habitat, water, Sustainable Agriculture and Manufacturing.

Climate Change Action Programme - 2014  
Central & State level  
National Adaption fund on climate change.  
2015

Despite ongoing Development

forest into a net Sink owing to national policies aimed at Conservation and Sustainable management of forest. India's growth in the forest cover has been in the positive territory, while that for Indonesia and Brazil which are countries with Sustainable forest cover



'Feminisation' of Agriculture Sector  
Integrated Management and use of diverse  
Natural resources to meet the daily  
household need. (FAO-2011)

- Enhanced access to resource like land water, credit technology and training
- 30% of budget allocation for women beneficiaries
- Initiating Women Centric activity / prgr
- focusing SCM - Micro Credit
- 15 October Women farmers day

Global Net Cropland Area -

India 1st Rank 179.8 Mha  
(9.6% of the GNCA) of net Cropland  
area according to US Geological Survey  
2017

India has tremendous Potential for  
Crop diversification.

↓  
Soil health, productivity and thereby  
profitability of cultivation.



Signification of extension Services and Capacity of farmers to adopt new innovation technologies and input for improving productivity become pertinent.

↓  
Small / Marginal farm holdings

↓  
→ Improve the educational status  
Increase their capacity to absorb tech  
and adopt risk Mitigation measures.

Seed Replacement Rate (SRR)  
Varietal Replacement Rate (VRR)

↓  
Seed production in Agricultural Crops.

Irrigation - net irrigated area to total  
Cropped area was 34.5%  
Punjab & Uttar Pradesh

PMKSY - Per Drop More Crop  
(2015) 28% More

use the Improved Implement has  
potential to Increase productivity up to 30%  
and reduce the Cost of Cultivation up to  
20%.



URBAN Population in 2050 50%.

Agricultural work force 2001-58.2%.

In 2050 drop 25.7%.

Enhance the level of farm Mechanization

Intensive Involvement of Labour

0.043 KW/ha 1960-61

0.77 KW/ha 2014-15

\* Needed to Consolidate the land holdings to reap the benefits of agriculture Mechanization there is a need to innovate Custom Service or rental model by Institutionalization for high Cost farm Machinery Such as combine harvester, (Crop, Sugarcane) etc.

less than 5% of the cultivation agricultural household insured their Crops.

Not aware about the Crop Insurance.

The lack of awareness about the availability of the facility for the harvested Crop was the Second highest reported reason for not insuring the crops.



## Reason for Crop loss -

Inadequate rainfall / drought was most reported reason for Crop loss for all the selected Crops except Coconut and ~~urad~~ during the first half of the agricultural year.

Adopting Climate change resilient agriculture.

Climate Smart Agriculture



address adaptation and rural development in an integrated manner.

guide Action needed

Support Development and ensure food Security in changing climate

three main Aim -

- Sustainably increasing agricultural productivity and income
- adapting and building resilience to climate change
- Reducing and/or removing GHG emission where possible



## 7. Agriculture & Food Management

↓  
Foundation of any Civilization and Stable Economy.

### • Agriculture and Subsector

As agriculture entails risks related to production, weather, prices & policy. Capitalizing the structural changes in the agriculture sector by diversifying income generating activities can mitigate the risks and sustain growth of the economy.

The process of Development inter alia results in decline share of agriculture in Gross Value Added (GVA)

Improve productivity and make way for Sustainable growth.

50% of Agriculture in India is rainfall dependent which aggravate the production risk.

↓  
Indian agriculture fluctuating

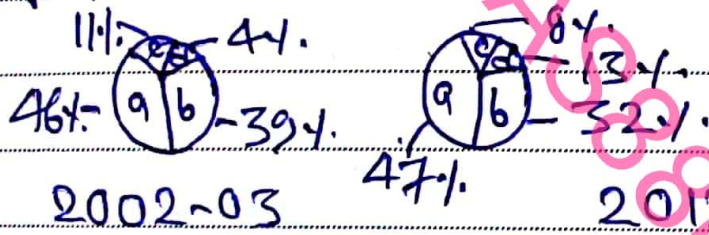


Gross Capital Formation (GCF) in Agriculture and allied ~~Service~~ Sector relative to GVA in this Sector has been showing a fluctuating trend ↓

2012-13	2013-14	2014-15	15-16	2016-17
18.2	18.6	18	17.5	17.4

The decline can be attributed to reduction in Private Investment.

The share of Livestock in GVA in Agriculture has been rising gradually, the share of crop Sector in GVA has been on the decline from 65% 2012-13 to 60% 2015-16



a = Cultivation b = Wages c = Non-farm Business  
d = Livestock

Policy for Women farmers  
agricultural & allied field - main crop  
production, horticulture, post harvest  
operation, agro/ Social forestry, fisheries etc.

55% were Agriculture labourers; 24% were  
Cultivation (total female Main worker) -  
Census - 2011



## • Science Express Climate Action Special Train

- Zero Effect Zero Defect
- National Mission for Clean Ganga
- Financial Market - greener action
- SEBI - Listing of Green bond Securities

30 May 2017

- प्रधानमंत्री कृषि बीमा योजना (PMFBY)

जून 2017

30-40%, 2017-18

50%, 2018-19

- Feb. 2017 World's first Interoperable Quick Response (QR) Code.

Bharat QR

pre-2020 Climate Change Commitment and Implementation has found a Significant place in COP 23.



## Global Climate Index 2018

India Six most vulnerable countries population under poverty live in areas prone to climatic shift and in occupations that are highly climate-sensitive

Climate change has been given high importance in policy decision

15th Finance Commission term of Reference outlined climate change as an important aspect for consideration.