



REVIEW ARTICLE

# AN OVERVIEW OF NATIONAL STRATEGIES FOR INTEGRATION OF SDGS IN PHARMACEUTICAL SECTOR

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## ABSTRACT

Integration and implementation of the Sustainable development Goals by UN is important of achieve the goal by 2030. The defined 17 SDGs delivers the goals, targets and plan to execute and achieve the substantial plan that are the key measures of growth of any country. Importantly, for implementing the goals the budget and national policies are the prosecutors. The drafting of the national strategies and successful implementation to achieve the agenda “no one should leave behind” is most crucial one under national government. Looking at the various perspective, the current review highlights the various national strategies under Indian government for integration of UNSDG under pharma sectors. The review will talk in details about the key points and consideration while implementing the policies in national framework, various government policies designed by NITI AAYOG and current schemes implemented by Indian government. The review will also provide the consolidated data of various registration under various schemes. In conclusion, the review will provide the detailed overview of various national strategies for implementing the SDGs under Indian pharma and health sectors.

**Keywords:** Sustainable Development Goals (SDGs), National Strategies, Government schemes, Pharma regulation

## INTRODUCTION

In the year 2015, the United Nations proposed “The Sustainable Development Goals” (SDGs) to eradicate the global issues like poverty, hunger, environment pollution, malnutrition, poor health, quality education etc (Fig.1). There are total 17 SDGs, which are aimed to be completed by the year 2030. Out of 17 SDGs, the 3<sup>rd</sup> goal

is good health and well-being. The aim of this goal is to provide basic health care to those 400 million people across the globe who can not either access it or afford it. One of the sub-goals of the 3<sup>rd</sup> goal is to support research & development in vaccines and medicines for communicable and non-communicable diseases & disorders [1]. (Fig.2)



Figure 1: United Nations Sustainable Development Goals [1]

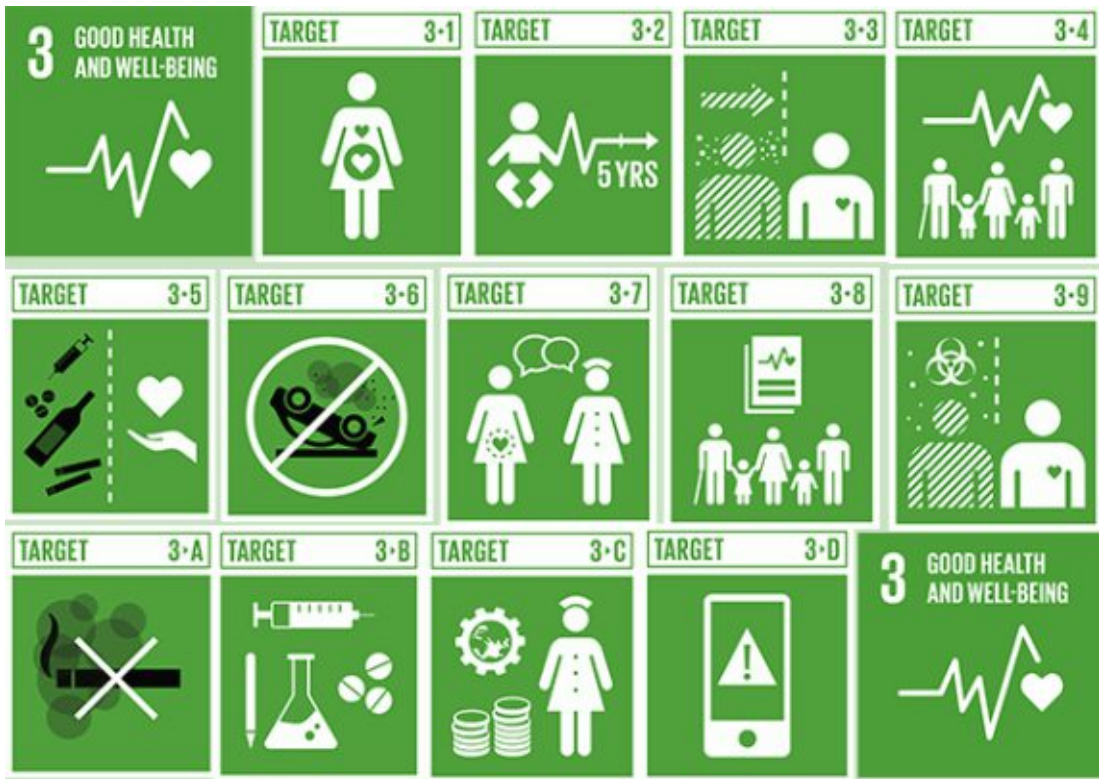


Figure 2: United Nations 3<sup>rd</sup> SDG Targets [1]

### General National Strategies

Although each and individual country need to have its own national plan, strategies, program to achieved the 17 SDGs goals. However, in General a few can be considered common strategies to consider [2]. Some are as below:

1. National Action Plans: Many countries develop comprehensive National Action Plans for the SDGs. These plans outline specific targets, indicators, and strategies for achieving each goal and involve various government ministries and stakeholders.
2. Policy Alignment: Governments align their existing policies, plans, and programs with the SDGs to ensure coherence and avoid contradictory actions. This often involves conducting a gap analysis to identify areas where additional measures are required.
3. Data Collection and Monitoring: Establishing reliable data collection systems and monitoring mechanisms is crucial for tracking progress toward the SDGs. Governments invest in data infrastructure and capacity-building to monitor and report on indicators related to each goal.

4. **Engaging Stakeholders:** Engaging with civil society, private sector, academia, and other stakeholders is fundamental for successful SDG integration. Partnerships and collaboration help share responsibilities, resources, and expertise.
5. **Financing and Budgeting:** Allocating adequate financial resources and integrating the SDGs into national budgeting processes are critical steps. Governments often explore innovative financing mechanisms and private sector involvement.
6. **Capacity Building:** Building the capacity of government officials, civil servants, and institutions in areas related to sustainable development and the SDGs is essential for effective implementation.
7. **Inclusive and Participatory Processes:** Ensuring inclusivity and participation of marginalized groups in decision-making processes is crucial to avoid leaving anyone behind and promote equitable development.
8. **Legislation and Policy Reforms:** Countries may need to introduce new laws, regulations, and policies to address specific SDG-related challenges and enable sustainable development practices.

These all points can be considered as referencing while nation or international

strategies to be formed while integrating SDGs in system.

## **NATIONAL STRATEGIES AND SDG INTEGRATION**

As of the other countries, India had also actively participated and involved with other UN country member to achieve the 17SDGs by 2030. In India, this been earlier started by our honourable prime minister Shri Narendra Modi Ji with “SBKA SATH, SABKA VIKAS” resembling much with UN SDGs goals that “no one should leave behind”. The government of India made several strategies plans to achieve the goals. This is been comes up as “New India” with the goals that India should be poverty free, zero hunger, less terrarium and many other which can be build up by developing the infrastructure and resources [3].

### **India and the SDGs**

Government of India is strongly committed to UN SDGs agenda 2030, this been endorsed by the prime minister of India in sustainable development summit in New York. The parliament of India has taken several initiatives to get/ propel UN SDGs agenda 2030. The National development agenda outlining the measurement of government initiatives taken place by the government of India [3].

Mainly NITIAYOG, Mo SPI, UTI are responsible for planning and strategic programming for for SDGs agenda for 2030.

## SDG India Index 2018

Considering the importance of agenda 2030, NITI Aayog has decided to estimate the progress through a single measurable index that would serve as an advocacy tool. SDG India Index is proposed to deliver a holistic opinion on the social, economic and environmental status of the India and its states along with union territories.

### Embedding the National Policies and Strategy: Pharma Sector

With the ancient India capture Vasudhaiva Kutumbakam, much resembled goal of UN principles one to all. Line to this, the national strategy document, 'Strategy for New India@75, deep down a long strategic

plan for making india, comprising 41 sectors- each mapped to the relevant SDGs. Further, the major 11sectors (majorly the pharma) been divided into several major cluster such as infrastructure, inclusion and governance [4].

### The Various Schemes and Programs

NITI Aayog has taken the several initiatives and introduces the various schemes under the in line agenda 2030 (Fig 3). Many schemes and programs are *PMJAY-Ayushman Bharat*, *The Pradhan Mantri Kisan Samman Nidhi (PM-Kisan)*, *National Rural Drinking Water Mission*,

*Swachh Bharat Mission*, *National Health Mission (NHM)*, *Pradhan Mantri Awas Yojna (PMAY)*

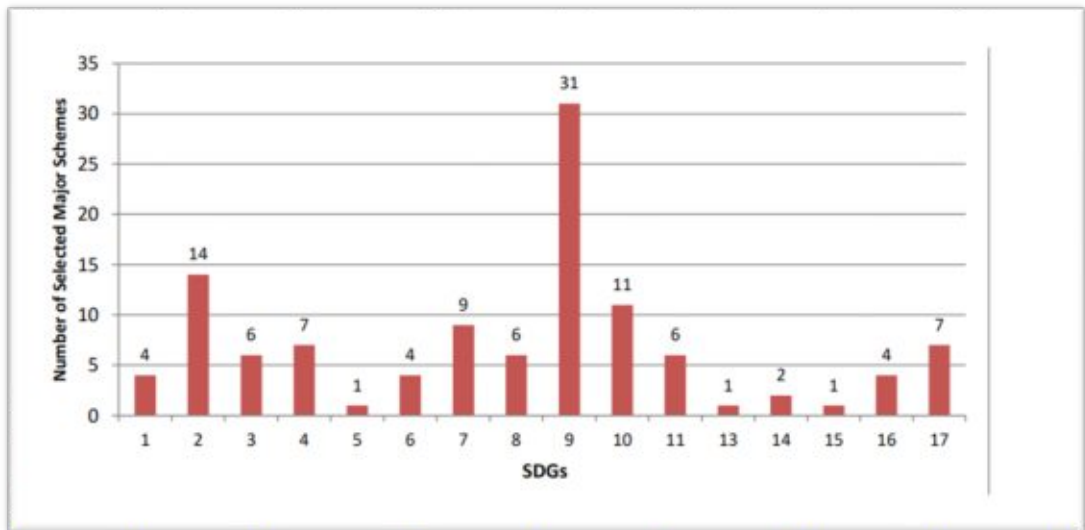


Figure 3: Major Schemes of India – For Various SDG [4]



The data released by the NITI ayaog itself speaks a lot. Many programs like s Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) for life insurance and Pradhan Mantri Suraksha Bima Yojana (PMSBY) for accidental death insurance have also been launched for the health sector as per the agenda 2030.

Similarly, talking about more in detail to the pharma and health sector a many of the scheme are being run by the government of india. POSHAN Abhiyaan, Mid-Day Meal scheme is the largest program run by the government as world largest program for providing the food and nutritious food to

around 120 million children for improving the health and nutrition [5].

A remarkable achievement was under national heath mission till date and many more strategic plan are being implementing by the government of India to achieve the height towards leading to agenda 2030. Talking about the Ayushman Bharat, world’s largest health protection scheme provides an annual cover of INR 500,000 (USD 6,666.7) to 100 million families from economically weaker groups [6]. Lots of budget been allocated to achieve the individual goals by the government of india (**Table 1**).

SDG Goal	2017-2018	2018-2019	2019-2020 (RE)	2020-2021 (BE)
9	1841.18	2071.80	2332.84	2702.39
2	746.36	834.31	1467.19	1848.76
1	697.31	760.08	872.31	789.29
3	377.83	401.94	466.18	513.64
4	320.02	374.78	450.97	485.96
11	247.64	282.03	302.62	358.79
8	96.66	161.28	215.53	265.27
6	278.88	231.67	211.92	254.34
10	188.35	194.75	205.51	215.92
7	131.40	162.49	176.69	167.24
16	77.82	90.52	96.74	89.14
17	70.96	65.94	74.65	70.38
13	18.90	19.04	17.89	21.50
5	9.45	11.38	9.61	11.63
14	3.21	4.85	9.00	11.37
15	9.55	9.78	7.87	9.26
<b>Total</b>	<b>5115.53</b>	<b>5676.64</b>	<b>6917.52</b>	<b>7814.88</b>

**Table 1: SDG Goal -wise Expenditure for Various Schemes [6]**

As per the data available, SDG 3 goal, that is good health and wellbeing been successfully. Very well example, During the COVID 19, the India was the heighten in terms of vaccine production and distribution to other market. Pharma sector played a remarkable contribution toward the SDG 3 on good health and wellbeing[7].

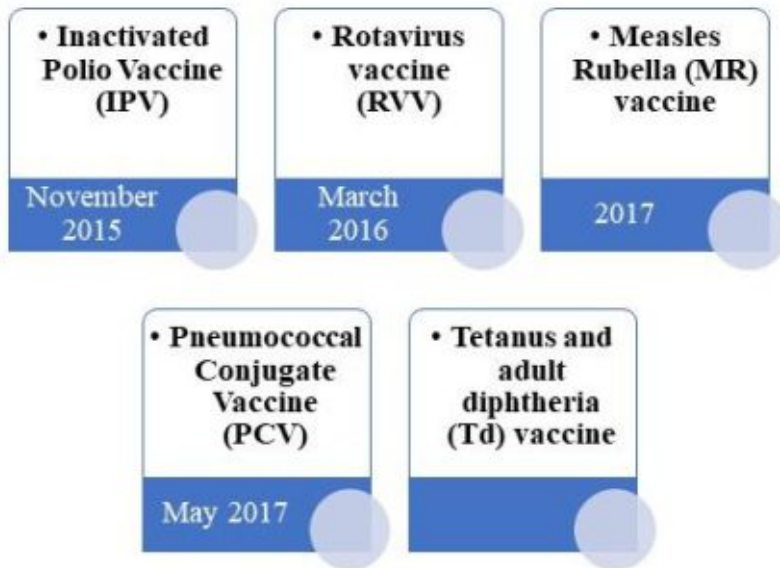
### **Promotional Schemes by Government of India to Promote Immunization (Vaccination) as Sub Part of 3<sup>rd</sup> SDG by UN**

#### *Universal immunization programme*

In the year 1978, India launched the its' first immunization programme. The programme was aimed to immunize urban population. The programme was renamed as "Universal Immunization Programme" in 1985 and it was expanded to rural areas also. In 1992, the programme was included in "Child Survival and Safe Motherhood Programme" and subsequently in 1997 it was included in the realm of "National Reproductive and Child Health Programme". The Government of India launched "National Rural Health Mission" in 2005, since then "Universal Immunization Programme" has always

been an integral part of it. The features of the "Universal Immunization Programme" is as follows [8]:

- It is one of the largest public health programmes immunizing nearly 2.67 crore new-borns and 2.9 crore pregnant women annually.
- It is one of the most cost-effective public health interventions and largely responsible for reduction of vaccine preventable under-5 mortality rate.
- It provides free of cost vaccination against 12 diseases (Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, severe form of Childhood Tuberculosis, Hepatitis B and Meningitis & Pneumonia caused by Hemophilus Influenza type B, Rotavirus diarrhoea, Pneumococcal Pneumonia and Japanese Encephalitis)
- A child receives all 12 vaccine within 1st year age of child.
- With the implementation "Universal Immunization Programme" India was able to eradicate polio completely in 2014 (**Fig.4**).



**Figure 4: New vaccines developed under “Universal Immunization Programme”**

### *Vaccine Maitri*

Vaccine Maitri was a philanthropical initiative by the Government of India to provide corona virus vaccines to the under developed, developing and needy developed countries around the world [9]. In the end of February 2022, India had distributed around 16.29 crore (162.9 million) doses of vaccines to 96 countries. India donated 2 lakh doses of COVID-19 vaccines to UN for distribution to the needy people under the mission “Vaccine Maitri” (“Vaccine Maitri”).

### ***Production-Linked Incentive (PLI) for ‘Atmanirbhar’ Vaccine Industry***

On 21<sup>st</sup> December 2022, a newspaper article in e-newspaper “Mint” published the news about the announcement of new

Indian government incentive scheme to boost vaccine industry by providing <sup>1</sup> 2,500 crore financial assistance. The programme was aimed for enhancing the production of vaccine raw materials to improve self-sustainability if there is again increase in number of covid cases worldwide.

The programme aims to reduce import dependency for filters, cassettes and cartridges used in vaccine manufacturing and increase production of immunization shots in the country.

In July 2022, survey was carried out from the vaccine & biopharmaceuticals manufacturers about the problems they are or industry is facing due to the import of the raw material, excipients and packaging materials. With this process, department



was able to collect the list of critical raw materials, micro-reactor bags, cell culture media, filters, cassettes, cartridges, and chromatography resins. The manufacturers requested the government for possible support to manufacture these materials [10].

### Promotional Schemes for Vaccine Research and Development

Department of Biotechnology (DBT), Ministry of Science & Technology, Government of India is actively supporting

various schemes for basic and translational research for strengthening vaccine science in the country[11] (Fig.5). Various schemes currently under implementation are

- Indo – US Vaccine Action Programme (VAP)
- National Biopharma Mission (NBM)
- Ind-CEPI Mission
- Mission COVID Suraksha

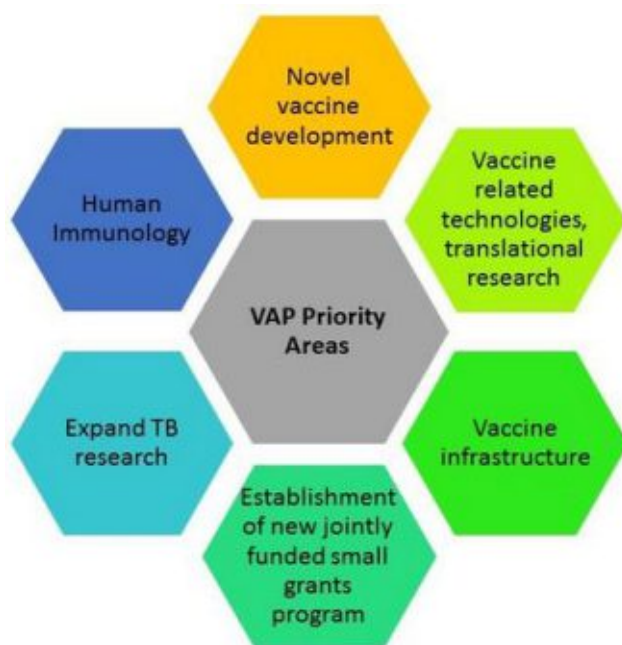
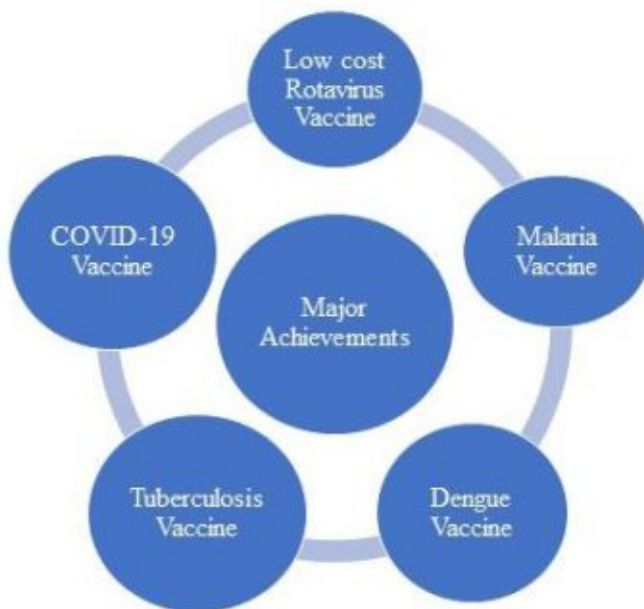


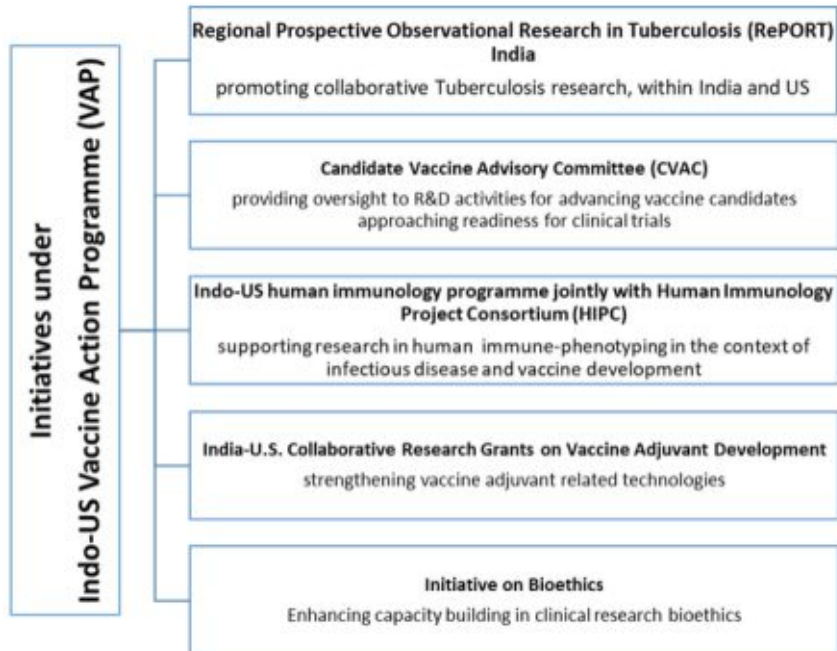
Figure 5: DBT Support for Development of Vaccine & Stage [11]

## Indo-US Vaccine Action Programme (VAP)

The Indo-US Vaccine Action Programme (VAP), is a flagship programme of the

DBT jointly with the National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), USA, since 1987.

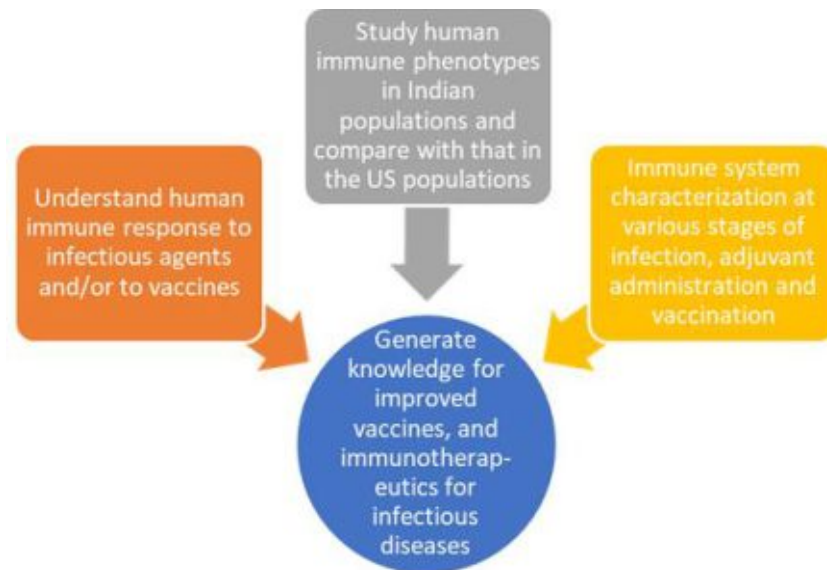




**Figure 6: VAP Major Achievements, Priority Areas & Initiatives [11]**

Indo-US human immunology programme jointly with Human Immunology Project Consortium (HIPC) provide Indo-U.S. Bilateral Collaborative Research Grants on

Human Phenotyping and Infectious Diseases (Fig.6). The programme is designed to support research efforts as depicted below:



**Figure 7: HIPC Work Flow [11]**





## Coalition for Epidemic Preparedness Innovations (CEPI) Mission

The DBT is supporting the implementation of the Ind-CEPI Mission. CEPI is an innovative global partnership between public, private, philanthropic, and civil society organizations. CEPI's endeavour is to accelerate the development of vaccines against emerging infectious diseases caused by viruses such as Ebola, Zika, Chikungunya, Nipah and SARS viruses, in alignment with the priority list established by the WHO in its "R&D Blueprint for action to prevent epidemics"

The Ind-CEPI Mission was approved on March 27, 2019, for a period of five years and is part of a broader Initiative called the 'Atal Jai Anusandhan Biotech Mission - Undertaking Nationally Relevant Technology Innovation (UNaTI)', which is expected to transform Health, Agriculture and Energy sectors during the next 5 years. The Ind-CEPI Mission aims to support vaccine development for potential outbreak threats and enhance inter-ministerial co-ordination for rapid vaccine development (Fig.9). The total funding available was <sup>1</sup> 312.92 Crores[13].



Figure 9: CEPI Mission Wordcloud [13]



## Scheme for “Strengthening of Pharmaceuticals Industry

Department of Pharmaceuticals, Government of India proposed Production Linked Incentive (PLI) scheme on 11<sup>th</sup>

March 2022 for the enhancement of manufacturing capabilities by increased investment in green field projects. Before introduction of this scheme, 3 schemes were there for pharmaceutical MSMEs given as follows [14] (**Fig. 10**)



**Figure 10: Existing Schemes by Department of Pharmaceuticals [14]**

### 5.1 Financial Outlay

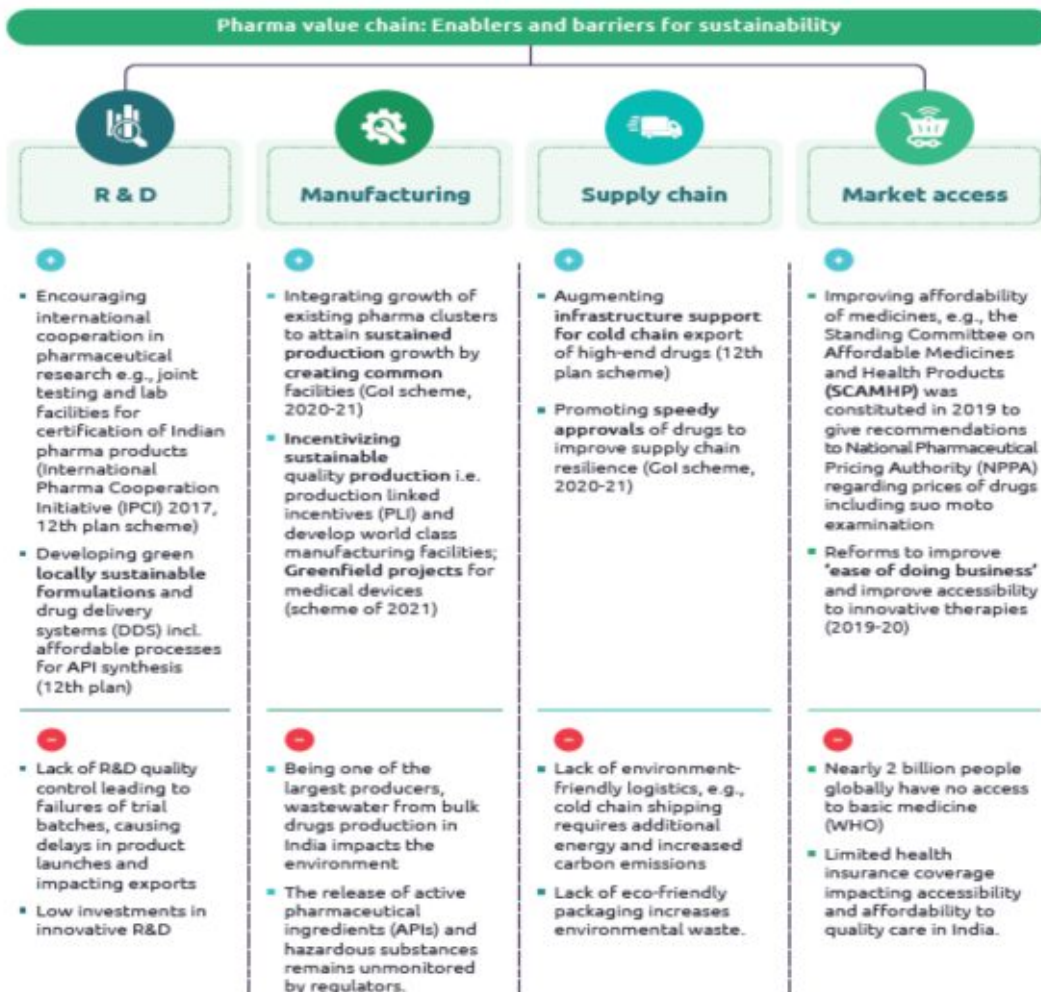
Assistance to Pharmaceutical Industry for Common Facilities (API-CF)						
Financial Year	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	Total
Financial Outlay (Rs. in crore)	10.30	36.60	61.90	54.10	15.50	178.40
Pharmaceutical Technology Upgradation Assistance Scheme (PTUAS)						
Financial Outlay (Rs. in crore)	00	53.60	104.30	120.70	21.50	300.10
Pharmaceutical & Medical Devices Promotion and Development Scheme (PMPDS)						
Financial Outlay (Rs. in crore)	1.50	5.00	5.00	5.00	5.00	21.50
<b>Total Financial Outlay</b>	<b>11.80</b>	<b>95.20</b>	<b>171.20</b>	<b>179.80</b>	<b>42.00</b>	<b>500.00</b>

**Figure 11: Financial Outlay of Various Schemes by Department of Pharmaceuticals [15]**

## Indian Pharmaceutical Industry and Sustainability



Roadmap for Indian Pharmaceuticals Sustainability [15]



**Figure 12: Enablers and Barriers for Indian Pharmaceuticals Sustainability [15]**

In conclusion, the Indian government has implemented several strategic plans, policies to reach towards the UN SDGs goals and agenda 2030. Wherein several policies were made by the government of the pharma sector pirating the quality standard maintain to others. Several schemes are being run by the government like Ayushman and other for achieving the

Sustainable Development Goals. Since, the pharma sector in India is huge and embracing the sustainability is major challenge, not only governance also the pharma industry need to work together and need to take some bold moves with well define strategies to successfully navigate the journey towards the sustainability and towards the achievement of UN SDGs goal by 2030.

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