



### **Ensure people to have Healthy lives and have a wellbeing at all ages.**

Some Major Recommendations towards the Achievement of SDG-3.

- HEIs to establish a special yoga, meditation, and counselling infrastructure to improve the physical and mental well-being of students, faculty and the local community.
- The Government should encourage the Health and Wellness Centres to be formed in states. nationwide and the scheme "Mission Vikas Pariwar" should be nationwide. More money should be allocated to health education because there is shortage of doctors in the country and in addition to this there are 60 lakhs of students who wish to become doctors each year and by this data, medical college positions are only 85000 per year moreover the seats should be increased in medical colleges.
- In India, medical education is costly in the private colleges and cannot be afforded by the common man and government medical colleges are restricted. A balance needs to be struck and more seats need to be provided at reasonable costs to deserving students. We should endeavor to develop new models, in order that we can give good medical education to the students and also good medical facilities to the people. There should also be a mandatory system of checking drug addiction among the young people in HEIs.
- Arrange internship program to all the students of the medical HEIs at PHCs level and also the medical HEI should have special training centres to prepare Anganwadi workers. Encourage the HEIs to work with pharmaceutical companies to create and produce promote ethnographic research alongside medicines and enhance traditional medicine CAMS (Complimentary Alternative Medicine System)





## **Background and Present situation of SDG-3.**

### **1.1 The Background and the present situation.**

Bad health is a form of misery and deprivation of the simplest of amenities and opportunities. In the past years, great strides have been made to increase life expectancy and cure some of the most common causes of infant and maternal death. Even with this global trend, the infant mortality in Sub-Saharan Africa and South Asia is still increasing in proportion. Despite the declining instances of major infectious diseases like HIV/AIDS, malaria and tuberculosis across the world since the year 2000, there has been a threat of the emergence of the diseases and new pandemics in the future in many regions across the world. The world has come a long way in coming up with new therapies, vaccines and other health care technologies that enhance good health and well being, but it cannot be universal and accessible to all at affordable prices. Not only does disease impact the well being of a particular individual, but it also creates a burden on both the family and the general resources, damages societies, and squanders potential. As a result, the health and well-being of people of all ages are one of the key priorities of sustainable development. The first fundamental need is protection against disease to live, to make everyone live and make economic development and prosperity much more effective.

SDG-3 dedicates the international community to a universal endeavor to eradicate disease, improved treatment and medicine and to deal with novel and emergent health problems. It uses more innovation and research in these directions to enhance the efforts of the public policy. This holistic vision of enhanced health will require equal access to healthcare services and cheap supply of drugs and vaccines. It also highlights the need to re-direct attention to mental health problems. The second leading cause of worldwide death among the 19 to 25 age group is suicide. Moreover, since health and well-being are closely connected to the quality of our environment, SDG-3 is supposed to contribute to a significant decrease in the morbidity and mortality due to air, water and soil pollution.





## 1.2 United Nations Sustainable Development Goal 3 Targets.

A set of ten goals and ten indicators that measure the achievement have been set to realize SDG-3. of the targets. Table 1 contains these targets.

**Table 1: UN Goals and Indicators of SDG-3 (Good Health and Wellbeing).**

<b>3.1</b>	<p>Reduce the worldwide rate of maternal death to fewer than 70 per 100,000 live births by the year 2030.</p> <p><b>Indicators:</b></p> <p>3.1.1 the ratio of maternal mortality</p> <p>3.1.2 percentage of births attended by qualified medical professional.</p>
<b>3.2</b>	<p>By 2030, end preventable deaths of neonatal and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.</p> <p><b>Indicators:</b></p> <p>3.2.1 Under-five mortality rate</p> <p>3.2.2 Neonatal mortality rate</p>
<b>3.3</b>	<p>By 2030, end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, water-borne diseases, and other communicable diseases.</p> <p><b>Indicators:</b></p> <p>3.3.1 Number of new HIV infections per 1,000 uninfected populations, by sex, age, and key populations</p> <p>3.3.2 Tuberculosis incidence per 1,000 population</p> <p>3.3.3 Malaria incidence per 1,000 population</p> <p>3.3.4 Hepatitis B incidence per 100,000 population</p> <p>3.3.5 Number of people requiring interventions against neglected tropical diseases</p>
<b>3.4</b>	<p>By 2030, reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.</p> <p><b>Indicators:</b></p> <p>3.4.1 Mortality rate attributed to cardiovascular disease, cancer, diabetes, or chronic respiratory disease</p> <p>3.4.2 Suicide mortality rate</p>





3.5	<p>Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.</p> <p>Indicators:</p> <p>3.5.1 Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation, and aftercare services) for substance use disorders</p> <p>3.5.2 Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol</p>
3.6	<p>By 2020, halve the number of global deaths and injuries from road traffic accidents.</p> <p>Indicators:</p> <p>3.6.1 Death rate due to road traffic injuries</p>
3.7	<p>By 2030, ensure universal access to sexual and reproductive health-care services, including family planning, information and education, and the integration of reproductive health into national strategies and programs.</p> <p>Indicators:</p> <p>3.7.1 Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods</p> <p>3.7.2 Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group</p>
3.8	<p>Achieve universal health coverage, including financial risk protection, access to quality essential health-care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all.</p> <p>Indicators:</p> <p>3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, neonatal, and child health, infectious diseases, non-communicable diseases, and service capacity and access, among the general and the most disadvantaged population)</p> <p>3.8.2 Proportion of the population with large household expenditures on health as a share of total household expenditure or income</p>
3.9	<p>By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination.</p> <p>Indicators:</p> <p>3.9.1 Mortality rate attributed to household and ambient air pollution</p> <p>3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene (exposure to unsafe Water, Sanitation, and Hygiene for All (WASH) services)</p> <p>3.9.3 Mortality rate attributed to unintentional poisoning</p>





<b>3.A</b>	<p>Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate.</p> <p>Indicators:</p> <p>3.A.1 Age-standardized prevalence of current tobacco use among persons aged 15 years and older</p>
<b>3.B</b>	<p>Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, and provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.</p> <p>Indicators:</p> <p>3.B.1 Proportion of the target population covered by all vaccines included in their national program</p> <p>3.B.2 Total net official development assistance to medical research and basic health sectors</p> <p>3.B.3 Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis</p>
<b>3.C</b>	<p>Substantially increase health financing and the recruitment, development, training, and retention of the health workforce in developing countries, especially in the least developed countries and small island developing States</p> <p>Indicators:</p> <p>3.C.1 Health worker density and distribution</p>
<b>3.D</b>	<p>Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction, and management of national and global health risks</p> <p>Indicators:</p> <p>3.D.1 International Health Regulations (IHR) capacity and health emergency preparedness</p> <p>3.D.2 Percentage of bloodstream infections due to selected antimicrobial-resistant organisms</p>





### 1.3 Overview of SDG-3 Implementation Progress at Global level.

Sustainable development requires people to adopt healthy lifestyles and promote the health of people of all ages to alleviate the massive suffering of the billion people caused by COVID-19, disrupt the lives of billions of people, and damage the world economy. The health of millions of people had already been dramatically improved before the pandemic. Significant progress has been achieved in extending life expectancy and in reducing some of the leading causes of death among mothers and babies. Further improvements in efficient healthcare funding, hygienic practices, and the availability of doctors are needed to fully eradicate a number of diseases and to address various ongoing and emerging health challenges.

International health crises like COVID-19 are a major threat that underlines the need to be ready. The United Nations Development Programme observed substantial differences in the capability of countries to address and overcome the COVID-19 problem. Pandemic has shown us that there is more to be done regarding the preparedness of the population in terms of health, and that applies to both developed and developing countries.

#### Child Health

An approximate of 6.2 million deaths among children and teenagers under the age of 15, the vast majority of deaths being preventable, were estimated in 2018, most in the first five years of life, with over half of these occurring in the first month. In Sub-Saharan Africa and Southern Asia, the infant mortality rate remains higher than that in other regions of the world; here, children under the age of five years represent four out of every five infant deaths.

In Sub-Saharan Africa, the death before age five of a child is fifteen times more likely than that of a child in a high-income country. Malnourished children are more vulnerable to die because of common childhood diseases such as malaria, pneumonia and diarrhea. About 45 percent of deaths among children are attributed to diet related reasons.





## Maternal Health

- In over 40 percent of all countries, practices of medicine are carried out by less than 10 physicians to every 10,000 people, and practices of nursing and midwifery are carried out by less than 40 nurses and midwives to every 10,000 people.
- Maternal mortality has been reduced almost by two-thirds in Eastern Asia, Northern Africa and Southern Asia.
- It is estimated that 810 women died each day in 2017 due to pregnancy and childbirth causes that are preventable.
- A young teen (10-14 years old) is more likely to have pregnancy issues and die compared to other women. However, in developing countries the maternal death rate (ratio of number of mothers who die in giving birth to number of mothers who survive) is high.

## Malaria, HIV/AIDS, and Other Diseases

In 2019, 38 million people in the world were HIV positive, 25.4 million people took antiretroviral therapy, 1.7 million people had the first infection, and 690 000 people died of AIDS-related diseases. Since the pandemic began there have been 75.7m cases of HIV infection.

Since the beginning of the pandemic, AIDS-related diseases have taken the lives of 32.7 million. Tuberculosis remains the cause of death of HIV-positive patients and constitutes approximately one-third of all deaths related to AIDS.

Adolescent girls and young women across the world are vulnerable to violence, marginalization, discrimination, and gender-related inequality, which makes them more susceptible to HIV infection.

Globally, HIV causes the death of the most fertile women. At present, AIDS is the number one cause of death among teenagers (ages 10 to 19) in Africa (or rather the second leading cause of death in the world). In the period between 2000 and 2015, nearly 6.2 million deaths due to malaria were prevented, especially of children less than five years of age in Sub-Saharan Africa. The malaria indicator rates of the whole world have been reduced by 37 percent and the death rates by 58 percent.





### Goals and Results of the Indian Government on SDG-3.

The development of SDG-3 in India will be measured by ten national-level indicators. Eight of the thirteen SDG objectives under this goal in 2030 are represented by these. These were selected by using subnational data to ensure consistency between the states and territories on this objective. The two sections below show the combination of the states and territories on this objective.

The SDG Index Score of states varies between 59 and 86, whereas the UT varies between 68 and 90, indicating that India in comparison with the individual states/units is performing excellently in Goal 3, as illustrated in Table 2a and 2b respectively [8-12].

Table 2a: SDG-3 as far as India is concerned, progress over targets and achievements.

Area	Percentage of children in the age group 9-11 months fully immunized	Monthly per capita out-of-pocket expenditure on health as a share of Monthly Per capita Consumption Expenditure (MPCE)	Percentage of institutional deliveries out of the total deliveries reported	The total cases notified in a ratio			The death rate due to road traffic accidents	Mortality ratio	Tot



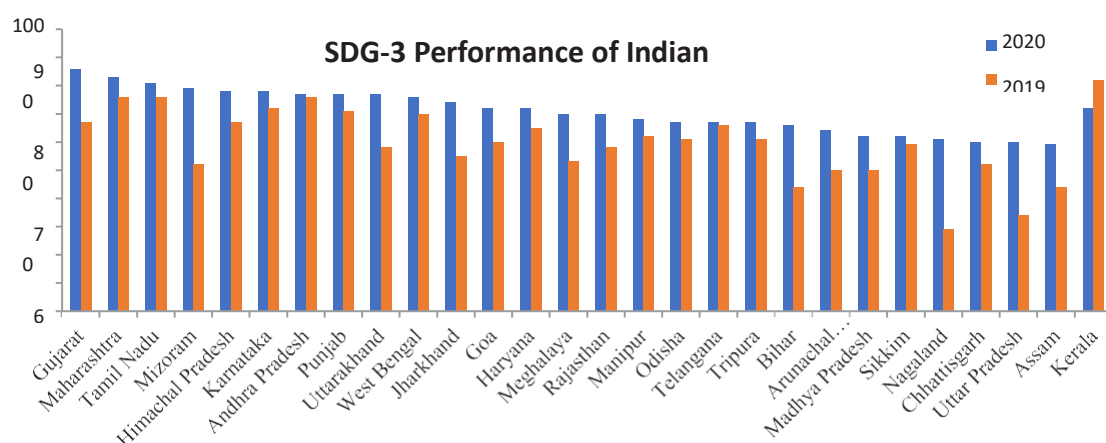


				f t u b e r c u l o s i s						
Ta rg et	100	7.83	100	242	0	3.5	5.81	70	25	45
In di a	91	13	94.4	177	0.0 5	10.4	11.5 6	113	36	36.8 4

**Table 2b: State-wise Performance of SDG-3**

S. N.	Category	States and UTs (shown in alphabetical order)
1	Front Runner	Andaman and Nicobar Islands, Andhra Pradesh, Bihar, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Ladakh, Lakshadweep, Maharashtra, Manipur, Meghalaya, Mizoram, Odisha, Puducherry, Punjab, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttarakhand, West Bengal
2	Performer	Arunachal Pradesh, Assam, Chhattisgarh, Madhya Pradesh, Nagaland, Sikkim, Uttar Pradesh
3	Aspirant	---

**Source:** NITI Aayog, 2020



**Figure 1: SDG-3 scores: States and UTs (NITI Aayog Report, 2020)**

***Some specific measures that have been undertaken by some Indian States are listed below:***

As part of the concept, Kerala has been in the lead to develop Aardram, a strategy to modernize the system of public health and introducing more services that are easy to access by patients. Improving facilities of secondary and postsecondary education is given precedence over health promotion and prevention.

It is remarkable that Tamil Nadu has come a long way bearing in mind that the state uses just about 1 percent of its gross domestic product on health care, a network of primary health care clinics functions efficiently, the immunization program is expanding on time, the state has a consistent supply of vital drugs, and the community health workers are doing well.

ASHA Soft: Web-Based Monitoring and Payment: A Web-based program has been introduced in Rajasthan to monitor the payment of the community health workers in a timely and transparency manner. The program has been introduced in all the districts in the state which has 4,700 community health workers. The computer programme has also enhanced the key-in of beneficiary information in Pregnancy and Child Tracking Systems.





### **1.4.1 Reduce Maternal Mortality**

Goal 3.1 is to achieve a maternal mortality ratio (MMR) of 70 per 1,000 live births by 2030, as compared with 113. Kerala (43), Maharashtra (46, 60, 63, 65), Tamil Nadu (65), Telangana (65), and Andhra Pradesh (215) have all achieved this goal.

#### **Schemes and Initiatives**

Mission of National Health

Medical Education and Health Human Resources.

AYUSH National Mission

PMMVY is Pradhan Mantri Matru Vandana Yojana.

Overarching ICDS

### **1.4.2. End Preventable Child Deaths under 5 Years of Age.**

The SRS Bulletin 2016-18 recorded that every thousand live births, 36 children have died before attaining age five in India, a target that is set to decline to 25 in global target 3.2. Several States such as Kerala, Tamil Nadu, Maharashtra, Punjab and Himachal Pradesh have already achieved the target.

#### **Schemes and Initiatives**

National Health Mission

Mission Indra Dhanush

National AYUSH Mission

Umbrella ICDS

### **1.4.3. Fight Communicable Diseases.**





**Tuberculosis Notification:** Notifying cases is one of the most critical areas in controlling and preventing spread of infectious diseases in the country. In 2019, India recorded 2.4 million tuberculosis cases. The country had 177 cases of tuberculosis per 100,000 population.

Haryana has the highest notification rate of the states with 1 million population whereas Tripura has the lowest with only 70 cases reported. Chandigarh and Delhi have the highest notification rate per 1,00,000 population in the country with a notification rate of 606 and 575 respectively.

**HIV Incidence:** The HIV incidence per 1,000 uninfected individuals is projected to decline to 0.07 by the year 2017 and then to less than that.

0.05 in 2019. In 2019, it was Mizoram with the highest HIV per 1,000 uninfected population (1.18), then Nagaland (0.73) and Manipur (0.34). Himachal Pradesh, Karnataka, and Kerala have HIV incidence rates of 0.02, the closest to reaching the global goal of zero HIV incidence. Jammu and Kashmir and Ladakh lead the UTs in HIV incidence with 0.02 per 1,000 uninfected people.

### **Schemes and Initiatives**

NHM - Communicable Disease Flexible Pool.

National AIDS Control Programme.

National AYUSH Mission

Swachh Bharat Mission (SBM)-Rural.

National Rural Drinking Water program

Swachh Bharat Mission (SBM)-Rural.

Atal Mission rejuvenation and urban transformation (AMRUT)

Shyama Prasad Mukherjee RURBAN Mission.

Pradhan Mantri Ujjwala Yojana.

Pradhan Mantri Kisan SAMPADA Yojana.

Special Central Assistance to tribal Sub Scheme..

Umbrella Programme to develop Scheduled Tribes.





#### **1.4.4. Reduce Mortality from Non-Communicable Diseases and Promote Mental Health**

Noncommunicable Diseases (NCDs) are responsible for 41 million deaths annually, which is 71 percent of the total number of deaths around the world. Each year, the most common NCD is cardiovascular disease which is the leading cause of death (17.9 million), then cancer (9.3 million), respiratory diseases (4.1 million), and diabetes (1.5 million). The four types of diseases represent over 80 percent of all premature NCD related deaths.

##### **Schemes and Initiatives**

NHM- Non-communicable Diseases, Injury and Trauma Flexible Pool.

NHM-Human Resources of Health and Medical Education.

Strengthening of the State Drug Regulatory System of NHM.

National AYUSH Mission

Special Central Assistance to Tribal Sub Scheme

Umbrella Programme to develop Scheduled Tribes.

#### **1.4.5. Avert and cure Substance Abuse.**

Four years since the SDGs came into force, the progress towards the health-related SDGs in the European area can now be revisited. These areas make only little improvement in relation to alcohol drinking, smoking, overweight children, and death due to suicide. With respect to each of these issues we consider existing policies, ongoing issues, and potential solutions. Considering the perspective of the European Public Association (EUPHA), we point out the possible role of civil society groups towards the achievement of the health-related SDGs.

##### **Schemes and Initiatives**

Alcoholism and Substance (Drugs) Abuse Prevention Scheme.

National AYUSH Mission

Police Infrastructure (Narcotics Control Bureau, etc.)





#### **1.4.6 Minimise Road Traffic Injuries and Deaths.**

Fatalities caused by Road Traffic Accidents.

The Accidental Deaths and Suicides in India Report states that 11.56 deaths per 100,000 in road traffic incidents occurred in the year 2019. Goa had the highest death rate of 19.38 and Nagaland had the lowest death rate of 1.02. The States and UTs which have met the target include Manipar, Meghalaya, Mizoram, and Nagaland as well as Andaman and Nicobar Islands and Lakshadweep.

##### **Schemes and Initiatives**

Road Safety Schemes (Publicity and awareness generation, NHARSS-National Highway Accident Relief Service Project, Institute of Driving Training and Research, etc.)

#### **1.4.7 Universal Access to Sexual and Reproductive Care, Family Planning and Education.**

A new resolution by the World Health Assembly WHA57.12 made the WHO Global Reproductive Health Strategy. This resolution called on the Member States out of urgency, to make reproductive and sexual health an inseparable component of national planning and budgeting in order to enhance the capacity of health systems to provide universal access to sexual and reproductive health care and to ensure that all the aspects of reproductive and sexual health are incorporated in the national monitoring and reporting of progress towards the achievement of the development goals of the United Nations Millennium Declaration.

##### **Schemes and Initiatives**

National Health Mission (RCH Flexible Pool)

National AYUSH Mission

Umbrella ICDS





### **1.4.8 Realize Universal Health Coverage.**

Vaccination among children.

According to the Routine Immunization Programme Dashboard (Health Management Information System), a total of 91 percent of an infant aged 9 to 1 month in India received 1 dose of BCG, 3 doses of DPT, and OPV, and 1 dose of measles vaccine between April 2019 and March 2020. It should be raised to 100 percent nationally. This has been achieved in Maharashtra, Jammu and Kashmir and Ladakh. The lowest immunization rates in the country are found in Nagaland and Puducherry at 54 percent.

#### **Schemes and Initiatives**

National Health Protection Scheme (Ayushman Bharat).

National AIDS Control Programme

Central Government Health Scheme medical treatment and state Government Health Scheme medical treatment.

NHM-Human Resources in health and medical education.

Umbrella Programme to develop STs and Minorities.

Minority Development Programme.

Jan Aushudhi Scheme

### **1.4.9 Minimize Diseases and Mortality due to Hazardous Chemicals and Pollution.**

One of the greatest risk factors to human health in the 17 Sustainable Development Goals of the United Nations is public exposure to dangerous chemicals.





## **Schemes and Initiatives**

Environment Protection, Management and Sustainable Development (Pollution Abatement).

National River Conservation Programme.

Research and Development and execution of national water mission.

## **Description of some of the chosen Missions.**

**National Health Mission:** National Health Mission (NHM) comprises of two Sub-Missions namely the National Rural Health Mission (NRHM) and the recently formed National Urban Health Mission (NUHM). The National Health Mission (NHM) is aimed at making the health care accessible, affordable, of high quality to all people, responsive to their needs, and accountable. It also aims at capturing the wider social determinants of health by effective intersectoral convergent action. The main programmatic elements include Communicable and Non-communicable Diseases, Neonatal-Child and Adolescent Health (RMNCH+A), Reproductive-Maternal and Health System Strengthening in Rural and Urban Areas.

**Human Resource Management (HRM)** involves obtaining, training, compensating, maintaining and utilizing human resources. Capacity development is also a part of it. Human resources development plans in order to achieve the objectives of priority health programs.

**The National AYUSH Mission (NAM)** is focused on the development of the AYUSH medical system by offering affordable AYUSH services, supporting educational institutions, and helping to provide quality control measures regarding Ayurveda, Siddha, and Unani and Homeopathy (ASU&H) medicine. The NAM also aims at securing the ASU & H raw materials on long-term basis. Currently, there are 0.8 million registered AYUSH practitioners in the country that deal with modern and traditional Indian medicine. AYUSH has a great infrastructure with 24,289 dispensaries and 3,277 hospitals. Several state level efforts have been made to relate AYUSH to medical activities as well. An example is a trial project initiated in Tamil Nadu to offer AYUSH services as part of feeding program. The best outcomes of the initiative were a reduction in maternal and newborn mortality rates and a reduction in female anemia.







The main objective of the Umbrella Programme on Development of STs and Minorities is to enhance the access of these groups to services including housing, health facilities, education and other resources.

Road Safety Schemes: The government has now made increased efforts to sensitize the masses on the different ways road safety can be observed, the financial and social consequences of accidents, and what must be done to reverse the constantly rising number of accidents. This will enable many stakeholders to play an important role in enhancing road safety.

The National Programme AIDS Control: The National AIDS Control Programme Phase III was launched so as to prevent and reverse the spread of the HIV/Aids epidemic in India. To achieve a decentralized response that is responsive to local needs, the National AIDS Control Organization will build capacity, develop policy, and guide implementation at this stage.

### **Status of Role of HEIs and Status of SDG-3 Adoption: Higher Education Institutions (HEIs).**

The University Grants Commission (UGC) has introduced a number of programs that support global health and well being through Higher Education Institutions (HEIs). The commission has urged Indian HEIs to participate in the 45-minute Common Yoga Protocol (CYP) on the 21st of June which is International Day of Yoga (IDY). All HEIs asked instructors and students to attend the day online and follow all the COVID-19 regulations and guidelines. The UGC approached the varsities to perform yoga during COVID-19 under the theme Be with Yoga, be at home to improve immunity and alleviate stress.

Trying to make yoga popular among representatives of all social layers, the Ministry of Ayush and Morarji Desai National Institute of Yoga have created the smartphone app "Namaste Yoga". As an informational medium, 10 episodes on various dimensions of CYP were broadcasted on DD India at 7 p. m. during the week June 14- June 21 (a week).

The Indian Ministry of AYUSH recognizes yoga and naturopathy as Indian medical systems. This system has been gaining popularity all over the world in the past few years. The University Grants Commission has introduced the following additional degrees with the approval of the Central Government to promote health and wellbeing: There are three degrees, one is Bachelor of Ayurved in Naturopathy (B.Nat. Ayu.), the other is Master of Ayurved in Medicine and Surgery (MSAM) and the third is Bachelor of Ayurved in Pharmacy (B.Pharm Ayu.).






In a study aimed at establishing the role of rice as a pathway of exposure to inorganic arsenic, the Department of Earth and Environmental Sciences at The University of Manchester has shown that the microbes that enhance the release of arsenic in sand and silt use rice as a means of exposure to the chemical, with the view to dealing with the problem of elevated levels of arsenic and other chemicals in groundwater and the resultant increase in cancer and cardiovascular disease. The work resulted in recommendations that highlighted the dangers of groundwater irrigation that focused on rice preparation and selection procedures. A University of Manchester team trained Indonesian health workers on cardiovascular disease and risk factors and on how to use the SMART health app technically benefited 48,000 people.

One of the fastest approaches that HEI can use to start delivering the SDGs is by making Massive Open Online Courses. (MOOCs). There are already many universities and UN-funded platforms offering MOOCs with a diverse range of SDGs as their key point. Some of these are listed in Table 3.

Table 3: SDGs-related MOOCs that are provided by other HEIs and the UN.

Course Title			SDG Focus	Platform	Sponsor
Driving Business Toward Sustainable Development Goals			Generic	Coursera	Erasmus University Rotterdam
Introduction to Yoga and Physiology			Generic	Coursera	New York University
Health Society and Wellness in Covid-19 Times			SDG-3	Coursera	University of Colorado, Boulder
The Science of Well Being			SDG-3	Coursera	Yale University
Mindfulness and Well Being			SDG-3	Coursera	Rice University
Age of Sustainable Development			Generic	Edx	SDG Academy





<b>Sustainability and Development</b>	Generic	F u t u r e Learn	Hanken School of Economics
<b>The Challenges and Global Health</b>	SDG-3	Coursera	Duke University
<b>Health and Society</b>	SDG-3	edx	Harvard University
<b>Global Public Health</b>	SDG-3	edx	SDG Academy
<b>An Introduction to global health</b>	SDG-3	edx	Karolinska Institutet
<b>Global Health: An Interdisciplinary Overview</b>	SDG-3	Coursera	University of Geneva
<b>Urbanization and Health: Promoting Sustainable Solutions</b>	SDG-3	Coursera	University of Copenhagen
<b>Global Health and Humanitarianism</b>	SDG-3	Coursera	University of Manchester
<b>Foundations of public health practice: Behaviour and behavior change</b>	SDG-3	Coursera	Imperial College London
<b>Public health perspectives on sustainable diets</b>	SDG-3	Coursera	Johns Hopkins University

The United Nations new 2030 Agenda of Sustainable Development highlights the need to respond efficiently to education during the transition to sustainability. Education is among the 17 Sustainable Development Goals (SDGs) and is named directly as a goal in its own right. Many of the targets related to education can be found in other SDGs since it can be used to achieve all the targets. Education for Sustainable Development (ESD) should be employed in order to promote the transition to sustainability at each level of education, starting at the early childhood stage and going up to the lifelong learning stage. More possibilities in the field have become available thanks to the growing popularity of Massive Open Online Courses (MOOCs), which have attracted widespread media attention and provide a range of innovative teaching and learning opportunities.

Its central question is: What can the world economy continue to do to grow in a manner that is environmentally and socially sustainable? Online-based awareness-raising has assisted universities all over the world in one way or another in promoting the success of the various SDGs.





The product of such educational activities is learning that is holistic and transformative, i.e. that which deals with pedagogy, learning environment, learning content, and learning outcomes. This may be both an inter- and transdisciplinary perspective of learning, and may be a problem- and action-focused approach to learning. A project like this would focus mainly on the sustainability related material that should be incorporated in higher education curriculums.

2      **Proposed MEs to HEIs so that SDG-3 can be accomplished.**

Higher education institutions are needed in training and educating decision-makers to build more sustainable societies and new paradigms. They have an aim to share new information and knowledge with their students, to develop their institutional competencies and encourage development through research and teaching.

The aim of sustainable development education is to help everyone acquire the knowledge, skills and values necessary to help in building and creating a more sustainable society. This involves changing teaching resources to reflect domestic as well as international challenges. It should also reinforce strategies of instruction that allow students to develop skills in multidisciplinary thinking, integrated planning, understanding of complexity, decision-making in teams, and participation in regional, national and international processes that facilitate sustainable development.

Scholars and decision-makers believe that HEIs can contribute to the successful, long-term transition of organizations. Additionally, the HEIs play strategic roles in the achievement of the SDGs by their initiatives. They must establish common strategies and collaborate with HEIs to apply principles-based entrepreneurial ecosystems in a sustainable manner.

Table 4 enumerates the necessary steps that Higher Education Institutions (HEIs) must take to implement SDG-3 properly, considering the global and national context of the goal.

Table 4: The HEI Minimum Recommended Actions to be taken to implement SDG-3.





SDG-3 HEIs Targets		Minimal Recommended Actions for
3.1		<ul style="list-style-type: none"> <li>● Create an Extension Cell at HEIs for awareness of local communities.</li> <li>● Medical HEIs to organize internship programs for students at the PHCs level.</li> <li>● Promote maternal health awareness programs through Anganwadi workers.</li> <li>● Medical HEIs to train Anganwadi workers.</li> </ul>
3.2		<ul style="list-style-type: none"> <li>● HEIs to participate in forming an inspection team at the village level in all Anganwadi Centres.</li> </ul>
3.3		<ul style="list-style-type: none"> <li>● HEIs to conduct awareness programs for testing and vaccination for the Human Papillomavirus Virus. Providing access to affordable health and well-being services on campus.</li> <li>● Providing well-being programs for staff and students to reduce the incidence of diseases and promote mental health.</li> <li>● Implementing 'Eat Right Policies' on campuses.</li> <li>● Ensuring appropriate practices are in place for dealing with hazardous substances.</li> </ul>
3.4		<ul style="list-style-type: none"> <li>● Establish Health Centres/Yoga Centres/Vyayam Shala/Gym.</li> <li>● Promote physical activities in adolescents and youth.</li> <li>● Establish programs to reduce frustration, guilt, and depression and boost Hopefulness, self-confidence, social awareness, optimistic attitude, and emotional quotient. (Example: Yoga Meditation &amp; Counselling centres at each school &amp; HEIs to boost Physical &amp; Mental health).</li> <li>● Take initiatives for character-building programs &amp; value-based education.</li> </ul>
3.5		<ul style="list-style-type: none"> <li>● To organize mass awareness programs based on drug addiction and its harmful effects on health.</li> <li>● Police patrolling and surprise checking to the hostels are mandatory at all HEIs.</li> <li>● Counseling cells must be available in HEIs for providing regular socio-psychological and spiritual counseling to stop drug addiction</li> <li>● A collaborative effort must be done by HEIs with the nearest psychotherapy centers and medical health care centers.</li> <li>● Identification and monitoring of drug addiction cases and socio-psychological research must be part of HEIs.</li> </ul>
3.6		<ul style="list-style-type: none"> <li>● Training of students in Emergency First Aid procedures.</li> <li>● Introduce Road safety training programs.</li> </ul>
3.7		<ul style="list-style-type: none"> <li>● Provide services for female sexual and reproductive health care.</li> </ul>
3.8		<ul style="list-style-type: none"> <li>● Provide free health cover for its employees.</li> </ul>
3.9		<ul style="list-style-type: none"> <li>● Implement '<b>Swachh Bharat Mission</b>' in each degree program as Social activity.</li> <li>● All HEIs must follow a proper chemical waste disposal system. Hazardous chemicals are to be disposed of according to Environment, Health, and Safety (EH &amp; S)</li> </ul>





### 3 Research Proposal to HEIs and Government.

Through analysis of past study and its relationship with SDG-3 targets, a number of key areas of research that HEIs should consider have been identified. It is recommended that the undergraduate and graduate level courses be redesigned according to the SDG. Table 5 shows the proposed areas of research.

**Table-5: core research areas and models that could be trailed to implement SDG-3.**

Fields	Key Activities
<b>Policy and plans</b>	Design and implement plans and policies: <ul style="list-style-type: none"> <li>To improve maternal and newborn health and prevent stillbirths.</li> <li>To prevent the spread of communicable diseases like AIDS, tuberculosis, malaria, hepatitis, and water-borne diseases.</li> <li>To prevent mortality from non-communicable diseases through and promote mental health and well-being.</li> <li>Strengthening the prevention and treatment of alcoholism and narcotic drug abuse.</li> </ul>
<b>Response and resilience</b>	Design a preparedness and response plan, and have a coordinated mechanism for its implementation, ensuring procurement of emergency supplies, and monitoring survival and health outcomes.
<b>Investments</b>	Allocate sufficient domestic and international resources: <ul style="list-style-type: none"> <li>To strengthen the health systems.</li> <li>To strengthen the research funding infrastructure for AIDS, tuberculosis, substance abuse, etc.</li> </ul>
<b>Quality of care</b>	Implement the WHO standards for respectful, effective patient care, and have a system for learning from experience.
<b>Health workforce</b>	Design and implement strategies and increase the number, distribution, mentoring, and retention of personnel for maternal and new born health, AIDS, malaria, tuberculosis, drug addiction, etc.



                	<table border="1"> <tr> <td data-bbox="203 199 430 357"><b>Medical commodities and technologies</b></td><td data-bbox="430 199 1347 357">Ensure timely procurement, equitable distribution, access, appropriate use, and maintenance of essential medical commodities e.g., quality essential healthcare services and access to safe, effective, quality, and affordable essential medicines and vaccines.</td></tr> <tr> <td data-bbox="203 357 430 483"><b>Data for action</b></td><td data-bbox="430 357 1347 483">           Routinely tracking, collecting, and using data:           <ul style="list-style-type: none"> <li>• to monitor neonatal mortality and stillbirths.</li> <li>• to monitor the spread of communicable &amp; non-communicable diseases.</li> </ul> </td></tr> <tr> <td data-bbox="203 483 430 609"><b>Research and innovation</b></td><td data-bbox="430 483 1347 609">Encourage Collaborative research for holistic health and well-being to promote ancient Indian or alternative medication</td></tr> <tr> <td data-bbox="203 609 430 735"><b>Accountability</b></td><td data-bbox="430 609 1347 735">Design and implement accountability mechanisms to improve health outcomes, including coordination of stakeholders and processes to count and review deaths and promote a shift in potentially harmful social norms.</td></tr> </table>	<b>Medical commodities and technologies</b>	Ensure timely procurement, equitable distribution, access, appropriate use, and maintenance of essential medical commodities e.g., quality essential healthcare services and access to safe, effective, quality, and affordable essential medicines and vaccines.	<b>Data for action</b>	Routinely tracking, collecting, and using data: <ul style="list-style-type: none"> <li>• to monitor neonatal mortality and stillbirths.</li> <li>• to monitor the spread of communicable &amp; non-communicable diseases.</li> </ul>	<b>Research and innovation</b>	Encourage Collaborative research for holistic health and well-being to promote ancient Indian or alternative medication	<b>Accountability</b>	Design and implement accountability mechanisms to improve health outcomes, including coordination of stakeholders and processes to count and review deaths and promote a shift in potentially harmful social norms.
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