

# **Green Club and Sustainability Cell**

## **SRM Institute of Science and Technology**



***Sustainable Development Goals Promoting  
Activities***

**Prof. Kantha Deivi Arunachalam**  
**Co – Ordinator**

## **Introduction**

Green Club and Sustainability Cell of SRM Institute of Science and Technology organizes various programmes for promoting the Sustainable Development Goals among the University Students, Faculties and Staffs. The Cell solely functions with the aim of achieving the goals of SDGs by creating awareness, organizing various programmes, taking initiatives, making sustainable policies of the Institute, fixing targets and achieving it. Courses with special reference to promote SDGs are being included in the syllabus of various courses.

### **List of Activities Promoting Sustainable Development Goals**

<b>S. No</b>	<b>Activity</b>	
1	WED 2018	<i>Booklet</i>
2	Course work in Curriculum	
3	Poster Presentation	
4	SRM Core Group Meeting for Promoting SDG	<i>Booklet</i>
5	Roundtable Consultation on Mainstreaming SDGs in Education by Building Partnership through Smart Campus Cloud Network (SCCN)	<i>Booklet</i>
6	WED 2019	<i>Booklet</i>

# **Course Work in Curriculum**

# Course Work in Curriculum

As a step forward to create awareness among the student community of SRM, courses thrusting the SDGs are included in the syllabus and being taught. The course Masters of Public health (MPH) has a subject which thrusts the SDGs. Around 45 students have learned this subject as a part of their curriculum and cleared their examination. As an extension activity of this subject, a workshop entitled as **Gateway for Sustainable Development Goals – Leadership Demand and SRMIST Social Responsibility** was conducted. The details of the workshop is included in this report.

The Details of the course work is

Course Code	Subject Name	Credit
PH18205	Environmental health and Sustainable Development	4

# **SYLLABUS**

## **PH18205 - Environmental Health & Sustainable Development**

### **Unit 1: Environmental Impact on Human Health**

Pollution Types, Health impact of pollution, global environmental concerns, multilateral efforts in reducing environmental degradation

### **Unit 2: Environmental Epidemiology**

Principles of Environment Epidemiology, Environment Risk assessment, Health Impact Assessment, Environmental research methods

### **Unit 3: Conceptual frame work of Sustainable development**

Importance of Sustainability in development, Threats for sustainable development. Challenges in adopting, sustainable strategies,

### **Unit 4: Sustainable development Goals**

Evolution of SDGs, Concept and Rationale for each of SDGs, Implication of SDG for Human development, Ethical basis for SDGs. Efficiency and sufficiency SDGs.

### **Unit 5: Politics and Economics Sustainable development**

Environmental protection and economic growth. Roles private sector and public sector in furthering sustainable development efforts, Challenges in combining sustainability and business success

### **Text book:**

Essentials of Environmental Epidemiology for Health Protection: A handbook for field professionals - Irene A. Kreis et al. First Edition OUP Oxford; 2012

## **Reference books**

1. Environmental Health Criteria. -WHO. 2005-WHO. 2005
2. Topics in Environmental Epidemiology -Steen and Kyle-Oxford University Press 1997
3. New York / London (W.W. Norton) Perman, Roger et al. (2011): Natural Resource and Environmental Economics, 4th ed., Harlow (Pearson)
4. Perkins, Dwight H. / Radelet, Stefen / Lindauer, David L. (2006):Economics of Development, 6th ed.,
5. The Challenge of Sustainability, Global Environment Facility. Washington, D.C: World Bank, 2002.

# Workshop



## **GATEWAY FOR SUSTAINABLE DEVELOPMENT GOALS – LEADERSHIP DEMAND AND SRMIST SOCIAL RESPONSIBILITY**









Seminar and Poster Presenting Competition was held on - March 29<sup>th</sup> 2019. Students from 1<sup>st</sup> year Master of public Health, SRM School of Public Health, SRMIST participated and presented their posters. The programme was organized in collaboration with Unnat Bharat Abhiyan Cell, Center for Environmental Nuclear research and School of public Health. Around 150 students gathered for witnessing the Poster Presentation, organized at Dr. Vikram Sarabhai Hall, SRMIST. Prizes were distributed for the best posters.

**The list of students participated in the competition:**

<b>S.NO</b>	<b>POSTER PRESENTATION</b>	<b>AUTHOR</b>	<b>PRIZE</b>
1	Impact of Climate Change on Human Health in India	Dr. M. Shiffani	FIRST PRIZE
2	Impact of Climate Change on Marine Life	Dr. P. Keerthi	SECOND PRIZE
3	One Health-One Planet	Dr. Judyangel D, Dr. G. Indhu	THIRD PRIZE
4	Integrated Approach in SDG To Achieve Good Health and Well Being	M. Arunachalam D. Krishna Kumar	-
5	Planetary Health – The Future Is Now	N. Saravana Kumar	-
6	Description of Seasonal Changes, Prevention of Disease and Diet in Siddha System of Medicine	Dr. S. Jebas Arun Sing	-
7	Attaining Sustainable Development Through Artificial Intelligence	M.Shrimadhupriya S. Janana Priya	-
8	A Planetary Health: We Live in A Political World		-
9		Dr. S. Jebas Arun Sing	-

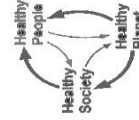
<b>S.NO</b>	<b>ORAL PRESENTATION</b>	<b>AUTHOR</b>	<b>PRIZE</b>
1	Environmental Protection	Mariyam	First Prize
2	Sustainable Business Practices	Dr. Judyangel D	Second Prize
3	Challenges in Combining Business Success and Sustainability	Dr. Suhanya Rajakumari	Third Place
4	Role of Public and Private Sector in SDG Effect and Climate Change	D. Krishna Kumar	-

## WE LIVE IN A POLITICAL WORLD : PLANETARY HEALTH

<b>Learn About Planetary Health</b>  <p>Planetary health is the highest standard of health, well being and equity world wide. Human systems are responsible for shaping the future of human civilization and the earth's natural system.</p>	<b>Reduce Food Waste</b>  <p>30 to 50 % of all food produced is never consumed. Reducing food waste means less land is needed for agriculture; saving energy, water, helping to protect biodiversity and improving food security.</p>	<b>Healthy Diets with a Low Environmental Impact</b>  <p>Diets low in red meat with plenty of fruits and vegetables reduce the risk of heart disease. Dietary changes could reduce greenhouse gas emissions and land use requirements by upto 50%.</p>	<b>Better Governance</b>  <p>Coordinated global, national and local policies that reduce environmental damage and improve health need to be implemented.</p>
<b>Use Water Efficiently</b>  <p>Although drip or trickle irrigation methods are more expensive to install, they can be 33% more efficient in water use.</p>	<b>End Deforestation</b>  <p>Since 2000 we have cut down, over 2.3 million km<sup>2</sup> of primary forest. The REDD+ mechanism aims to reduce greenhouse gas emissions and improve local livelihoods.</p>	<b>Family Planning</b>  <p>Around 225 million women who want to avoid pregnancy are not using effective contraception. Access to family planning by almost 30% and improve food security.</p>	<b>City Planning</b>  <p>Planning healthy and sustainable cities can increase resilience to environmental change, reduce environmental impacts and improve people's health.</p>



**“Our Human fate depends on the natural world that is Human health depends on Planetary Health”**



M. M. SHIFFANI,  
MPH 1st Year,  
SPH - SRM

## SEEDS OF SAFE MOTHERHOOD - FUTURE COMBINE APPROACH

S.Jebas Arun Singh  
SRM School of Public Health, First Year MPH

**INTRODUCTION**

Anemia is one of the most commonly encountered medical disorders during pregnancy and sometimes it causes to some problems. According to world health organization estimates, up to 56% of all women living in developing countries are anemic. Anemia is a major public health problem that needs total elimination. It is estimated that globally two billion people suffer from anemia. In our world we are having a lack of combine work so we need to give a combine work which will reflect further develop in cost based and effect base analysis in both alternative and modern medicines.

**GOAL**

To improve a well being of mothers through a comprehensive approach of providing the promotion, preventive and curative health care and reduce the anemia status and reduce c section delivery rate.

**OBJECTIVES**

To give a future approach for combine work.  
Educate people about alternative approach.

**BASIC PRINCIPLES OF SAFE MOTHERHOOD**

**METHODS**

**Literature Review**

- Articles, Journals, Books
- Database: Safe Motherhood & Maternal Death
- Findings: Cost benefits, Statistical data Safe Motherhood

**“SIX PILLARS” OF SAFE MOTHERHOOD**

Safe Motherhood

FP ANC Obs. PNC Post Natal Care Control of STD/ HIV/ Syphilis/ Gonorrhea

Communication for behavior change

Primary health care

Equity & Education for women

**HOW TO REDUCE MATERNAL MORTALITY ?**

The strategies to reduce maternal mortality are

- Community Based Interventions
- Healthcare System Strengthening
- Emergency Obstetric and Neonatal Care (EMONC)
- Skilled Birth Attendants (SBAs)
- Contraceptive Methods
- Safe Abortion Services
- Emergency Transport Services
- Referral Systems
- Emergency Obstetric and Neonatal Care (EMONC)
- Skilled Birth Attendants (SBAs)
- Contraceptive Methods
- Safe Abortion Services
- Emergency Transport Services
- Referral Systems

**COMPARISON OF BOTH ALLOPATHY & TRADITIONAL SYSTEM OF MEDICINES ON SAFE MOTHERHOOD**

ALLOPATHY MEDICARE	SIDDHA MEDICARE (Amma sanjeevi care kit)
Medicines: Ferrous sulphate, Pyridoxine	Medicines: Amma sanjeevi care kit
Taste and odour: Metallic taste and it produces bad taste in mouth	Taste and odour: Taste depends on herbal, it produce a good taste in mouth because its adjuvant is honey and milk
Side effects: Constipation and stomach pain	Side effects: None
Availability: easily can get	Availability: Not able to get in everywhere
Cost : Low rate	Cost : High rate
Normal delivery based medicines: Not available	Normal delivery based medicines: Available in the kit

**CONCLUSION**

The combination of financial, human, combined medicines and organizational resources that is needed to provide services required to the people who need them.

## Description of Seasonal Changes, prevention of diseases and Diet in Siddha system of Medicine

3 JEEBAS ARJUN SANKAR  
2023 | 1<sup>st</sup> YEAR

### Concepts regarding habitat and season

- Siddhacharias designed basic regimen in harmony with the habitat (Nilam) and seasons (Poruthu), food patterns Ayurvedha, research papers related to seasonal changes and Food Patterns.
- "Pudathalilalasa-Pudam."
- Pudathalilalasa-Pudam...

Sattamam Gramam

- This verse means and it taught that the environment is same within and outside our body which indicates that the body physiology must be tuned according to the habitat and the prevailing season. Food pattern as an adaptive and preventive measure for one's health.

### Geographical divisions

Habitat indicates the place where people lives. On the basis of certain characteristic features like geographical (landscape) conditions, climatic conditions, flora, fauna, etc., habitat is categorized as follows:

- Hilly tract (Kummi)
- Sylvan tract (Mullai)
- Agricultural tract (Marudham)
- Coastal tract (Neithal) and
- Arid tract (Palaia)

### Methods

- Data were collected from relevant classical text of available in Siddha and Ayurvedha, research papers related to seasonal changes and Food Patterns.

### Objective

- To describe the relationship between seasonal changes, food and diseases prevention in Siddha medicines

Characteristics	Vellam	Pitham	Katham
Activities	Voluntary and involuntary	Body changes involving decrease/increase in metabolism	All constructive processes are performed
Characteristic	Dryness, lightness, coolness and mobility	Heat, more of the nervous force of the body	Smoothness, firmness, viscosity, heaviness
Components	Controls the nervous actions i.e. movement, sensation, activity	Controls the nervous system by these and controls the metabolic activity of the body such as digestion, warmth, hunger, intellect, assimilation	Controls the stability of the body such as strength, potency, smooth motion of joints
Predominance	In the zone	In the tissue blood	In other tissues
Location	Pervades the body	In alimentary canal from cardiac end of stomach to end of small intestine	In chest, throat, head and joints such as attachment to end of small intestine to the body

### Cyclic representation of seasonal effects on the three humors



Season	Preferred taste	Preferred Pungent, Astringent	Preferred diet	Preferred lifestyle
Spring April-June	Sweet, Sour, Salty	Bitter, Pungent, Astringent	Plenty of Water and semi-solid food	Avoid heavy diet and daytime sleep
Summer June-August	Sweet	Sweet	Coolant, Diet mixed with honey	Reside in ventilated area. Avoid food that is digested with difficulty excessive physical exercises
Monsoon August-October	Sweet, Sour, Salty	Sweet, Sour, Salty	Hot potency and digestible food	Use dry clothing. Avoid butter milk
Autumn from October - December	Sweet, Bitter, Astringent	Sweet, Bitter, Astringent	Dry and cool food, light diet	Avoid curd, oil, fat, daytime sleep sunlight, dew, heavy meals and early diet.
Early Winter December-Feb	Sweet, Sour, Salty	Sweet, Sour, Salty	Cool	Use boiled meat, bananas. Exposure to evening sun light and slight warm's good
Late Winter Feb-April	Sweet, Sour, Salty	Sweet, Sour, Salty	Avoid diet that increases vatham	Use boiled meat, bananas. Exposure to evening sun light and slight warm's good

A better understanding knowledge of seasonal diseases and suitable food according to traditional basis is likely to get a good result in disease control strategies.

# IMPACT OF CLIMATE CHANGE ON MARINE LIFE

## Introduction

P. KEERTHI, MPH, SRM School of Public Health

Marine biodiversity, ecosystem health and fisheries are currently threatened by overfishing, but also by pollution and other anthropogenic impacts. Climate change further challenges our ability to devise sustainable management and conservation plans to maintain ecosystem services, as it has begun to alter ocean conditions, particularly water temperature and various aspects of ocean biogeochemistry. Marine biodiversity responds to shifting temperatures and other ocean conditions through changes in organismal physiology and phenology, as well as population dynamics and distributions. (<https://doi.org/10.1037/journal.pone.0194537>)





#### INTRODUCTION

- The Sustainable Development Goals are collection of 17 Global goals set by the United Nations General Assembly in 2015.
- Theme of SDG: "Transforming our World: The 2030 Agenda for Sustainable Development"

#### Introducing SDG India Index 2018

- NITI Aayog has constructed the SDG India Index spanning across 13 out of 17 goals (12,13,14 and 17). The Index tracks the progress of all the States and UTs on a set of 62 Priority Indicators, measuring their progress on outcomes of the interventions.
- The SDG India Index is intended to provide a holistic view on the Social, Economic and Environmental status of the country

#### METHODOLOGY

This Paper specifically focus on how Goal 3 (Good Health and Well Being) is closely interrelated with other Goals.

1. End poverty = Zero Hunger
2. Quality Education = Gender Equality
3. Clean water and Sanitation = Reduced Inequalities
4. Sustainable Cities & Communities = Sustainable Consumption

#### So far, Good health and well being has achieved

1. Maternal Mortality Ratio : 130 per lakh Live births
2. Under 5 Mortality : 50 per 1000 Live birth
3. Immunization coverage among children aged 12-23 month: 62%
4. 138 cases of TB per lakh Population
5. Governmental health workers : 221 per lakh

#### RESULTS AND CONCLUSION

- A mission magnanimously scaled as Swachh Bharat Abhiyan had multiple objectives across rural India.
- Report from SBA says that majority of the population in India goes for open defecation, it might affect Goal 3 of SDG.
- India's National Health Policy 2017 (NHP-2017) and Ayushman Bharat Program 2018 is fully aligned with the concept of "Universal Health Coverage" and in turn it helps in achieving the targets of SDG.
- National Health Protection Scheme – aims at increase in Accessibility, Availability and Affordability of Primary, Secondary and Tertiary health care services in India .
- Programmes such as Swachh Bharat, National Health Mission, Ayushman Bharat etc , helps people exactly to overcome Poverty, Improve Health status and Literacy.
- Government should specifically focus on success schemes and expand them to achieve the targets of SDG's as a whole.

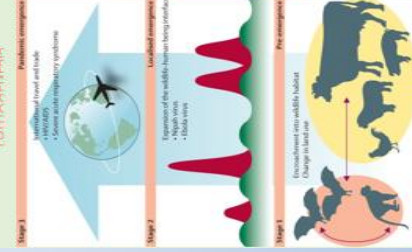


#### ONE HEALTH CONCEPT – A PLANETARY VISION

One Health – "The collaborative effort of multiple health science professions, together with their related disciplines, and institutions working locally, nationally, and globally to attain optimal health for people, domestic animals, wildlife, plants, and our environment". -One Health Commission



#### BIODIVERSITY OF WILD LIFE AND HOST- PATHOGENESIS



#### ZOOZOSIS

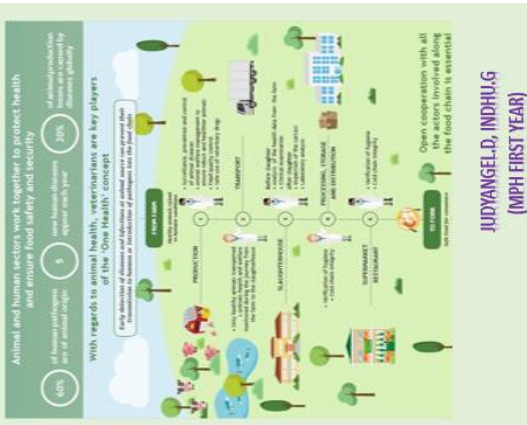


#### INSIGHTS OF ONE HEALTH APPROACHES

#### Global Action Plan on Antimicrobial Resistance



#### FOOD SAFETY AND SECURITY PRACTICES



#### CONCLUSION:

"planetary vision for one health" encompasses important aspects of both the "one health" and "planetary health" frameworks to better connect ongoing global health efforts in disease control and preparedness to pressing issues of environmental change, equity and sustainability.

#### References:

1. The Lancet Commission - Rabinowitz PM, Pappalardo M, Bandish KL, Conti L.A planetary vision for one health. BMJ global health. 2018 Oct;13(5):e001137.
2. World Health Organization for Animal Health website

# IMPACT OF CLIMATE CHANGE ON HUMAN HEALTH IN INDIA

IPCC (InterGovernmental Panel on Climate Change) states that "Climate change in the state of the climate that can be identified by changes in the mean and / or the variability of its properties and that persists for an extended period typically decades or longer."

UNFCCC (United Nations Framework Convention on Climate Change)

"A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods"

Major area that will be impacted by climate change - South Asia - India



India is a large developing country, with the great Himalayas, the world's 3rd largest ice mass in the north, 7500km long & densely populated coast line in the south

Nearly, 700 millions of over one billion population living in rural areas directly depends on,

Climate-sensitive sectors (agriculture, forests & fisheries)

Natural resources (such as water, biodiversity, mangroves, coastal zones, grasslands)

Heat wave, floods (land & coastal)

Droughts

Malaria, malnutrition & diarrhea (major public health problems)

The rich & industrialized countries account for maximum greenhouse gas emission

Major Health Effects due to Change in Climate

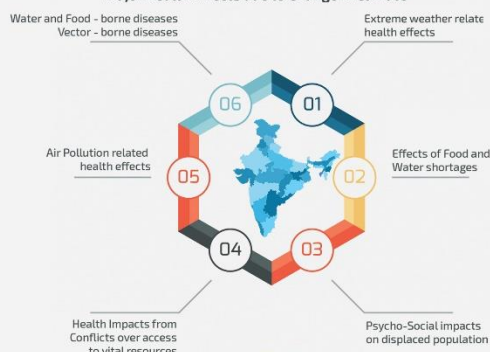


Table 1: Some major disasters in India

Year	Name of the Event	State and Area	Fatalities
2004	Tsunami	Coastline of Tamil Nadu, Kerala, Andhra Pradesh, Pondicherry and Andaman and Nicobar Islands of India	10,749 deaths, 5,640 persons
2008	Cyclone Nisha	Tamil Nadu	204 deaths
2008	Kosi Floods	North Bihar	527 deaths, 19,323 livestock perished, 2,23,000 houses damaged, 3.3 million persons affected
2009	Floods	Andhra Pradesh, Karnataka, Orissa, Kerala, Delhi, Maharashtra	300 deaths
2013	Floods	Uttarkhand (Bageshwar, Chamoli, Pithoragarh, Rudrapur, Uttarkashi)	5748 deaths
2015	Floods	Chennai	-
2016	Drought	Marathwada, Maharashtra	3228 farmers committed suicide (2015), 339 (2016)
2018	Floods	Kerala	483 deaths, Most recent disaster

Figure - 1: Number of cases and deaths due to diseases in India

Japanese Encephalitis		
Year	Cases	Deaths
2000	2593	556
2007	4110	995
2014	4482	774

Malaria		
Year	Cases	Deaths
2000	2031790	931
2007	1508927	1311
2014	1533169	1068

Acute Respiratory Infection		
Year	Cases	Deaths
2000	0	0
2007	36171496	6948
2014	26544613	2813

Acute Diarrheal Diseases		
Year	Cases	Deaths
2000	8870507	2918
2007	10993639	3603
2014	11224319	1762

Viral Hepatitis		
Year	Cases	Deaths
2000	153034	1038
2007	110055	544
2014	110586	586

Source: Compiled from National Family Health Survey

Sustainable Development Goals

TARGETS



1. Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
2. Integrate climate change measures into national policies, strategies and planning
3. Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
4. Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020
5. Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities

Goal 13: Take urgent action to combat climate change and its impacts

Conclusion

Climate variability and human health indicate a great deal of heterogeneity.

In 2008 India developed the National Action Plan on Climate Change,

- Provision of enhanced public health care services
- Assessment of increased burden of disease due to climate change
- Providing high-resolution weather & climate data to study the regional pattern of diseases
- Development of a high-resolution health impact model at a state level
- GIS (Geographic Information System) mapping of access routes to health facilities in areas prone to climate extremes
- Prioritization of geographic areas based on epidemiological data & the extent of vulnerability to adverse impacts of climate change
- Ecological study of air pollutants & pollen (as the triggers of asthma & respiratory diseases) and how they are affected by climate change
- Studies on the response of disease vectors to climate change
- Enhanced provision of primary, secondary & tertiary health care facilities & implementation of public health measures, including vector control, sanitation & clean drinking water supply.

Countries with good GDP would be able to introduce the best available tools of intervention & fill up the lacunae in health system

By M.M.SHIFFANI, MPH 1st Year, SPH-SRM





# SUSTAINABLE DEVELOPMENT GOALS

