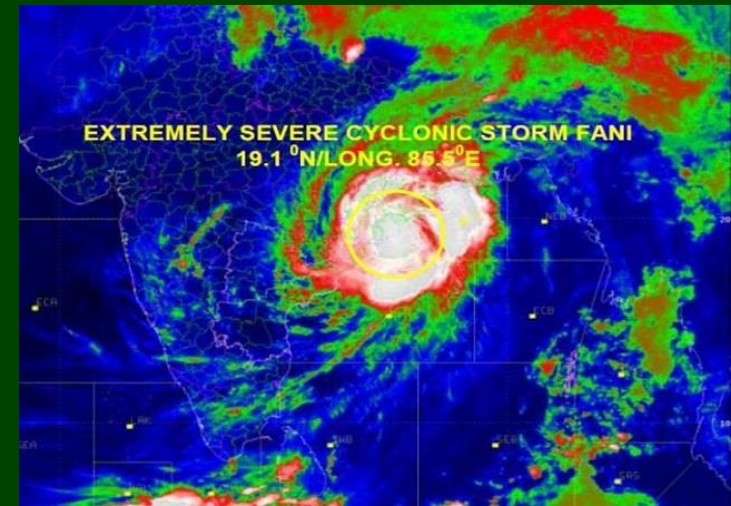
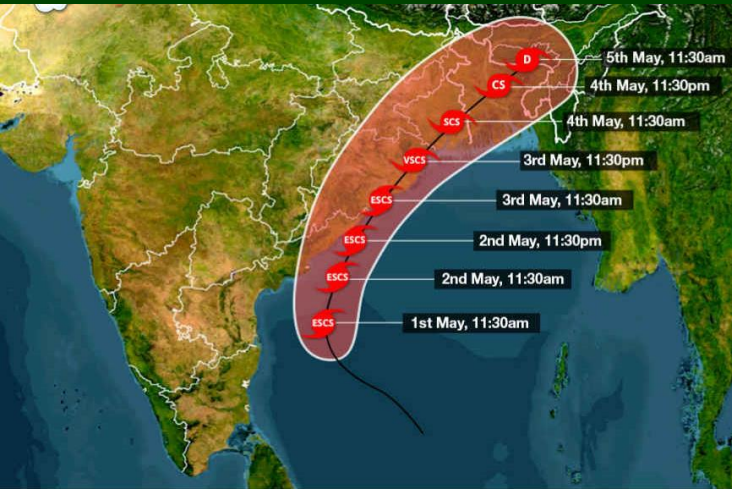


ECO-SYSTEM CONSERVATION FOR DISASTER RISK REDUCTION

POLICY AND LEGAL FRAMEWORK FOR ECO-DRR:



GIDM
GANDHINAGAR
APRIL 20, 2021
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IFS [RETED.]
FORMER APCCF



TWO MAJOR DISASTERS THAT CHALLENGE AND HARM THE HUMAN WELL BEING IN APRIL 2021

➤ CORONA VIRUS PANDEMIC- FREQUENT EPIDEMICS

➤ CLIMATE CHANGE

- ❖ CYCLONES
- ❖ FLOODS
- ❖ DROUGHT/WATER SCARCITY
- ❖ FOREST FIRES _ FURTHER AGGRAVATING CLIMATE CHANGE
- ❖ SPECIES LOSS
- ❖ ADVERSE IMPACT ON AGRICULTURE, HORTICULTURE, FISHERIES [FOOD SECURITY]
- ❖ ECOSYSTEM DEGRADATIONS

COLLECTIVE HUMAN RESPONSE, OFTEN TIMES, IS CRISIS MANAGEMENT, NEGLECTING MEDIUM AND LONG TERM MEASURES FOR DISASTER RISK REDUCTION.

POINTS FOR INTERACTION

1. MATTERS OF **HUMAN WELLBEING & HUMAN DEVELOPMENT** ARE BOTH GLOBAL AND LOCAL.
2. LEARNINGS OF **ECOLOGY** AND **APPLIED ECOLOGY** REVEAL THAT ISSUES , MATERIAL, PROCESSES, ORGANISMS,ETC. ARE ALL INTERCONNECTED AT ONE AS WELL AS AT SEVERAL HIERARCHICAL LEVELS OF DIFFERENT SECTORS AND ASPECTS OF LIFE.
3. SUCH LIFE SYSTEM CALL FOR HOLISTIC APPROACH AND NOT COMPARTMENTALIZED ATTEMPT TO FIND SOLUTIONS AND ACTION PLANS.
4. THEREFORE, SUBJECT OF APPLIED ECOLOGY TO DISASTER RISK REDUCTION FOR HUMAN WELLBEING.
5. FOR US, THE AGE OLD SLOGAN WITH ITS MODIFICATION, THAT **THINK GLOBALLY AS WELL LOCALLY, PLAN & ACT LOCALLY**, IS IMPORTANT & ESSENTIAL.

ECOSYSTEMS and HUMAN WELL-BEING, _MA report 2005

Humanity has always depended on the services provided by the biosphere and its ecosystems. Further, the biosphere is itself the product of life on Earth. The composition of the atmosphere and soil, the cycling of elements through air and waterways, and many other ecological assets are all the result of living processes—and all are maintained and replenished by living ecosystems. The human species, while buffered against environmental immediacies by culture and technology, is ultimately fully dependent on the flow of ecosystem services.

ECOLOGY :

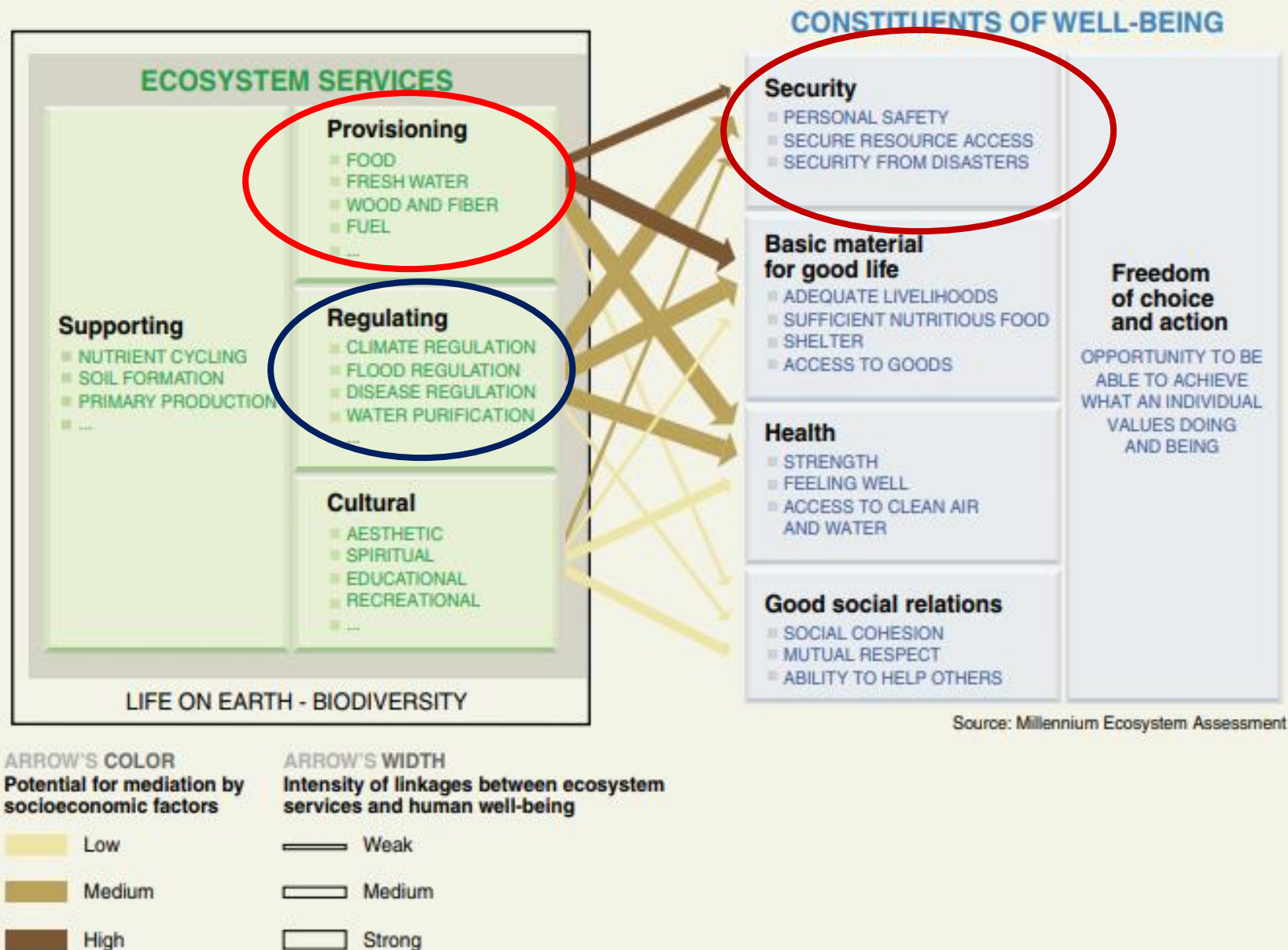
- ❖ The term coined by German Biologist Ernst Haeckel
- ❖ Based on two greek words OIKOS [Home, House , Dwelling] and LOGOS [Science, Study].
- ❖ Study of interrelations between living organism and their environment.
- ❖ How living organisms, including Man live, Survive and perpatuate ? - Dependence on natural environment and natural processes.

ECOSYSTEM:

- ❖ In 1935, **Arthur Tansley**, the British ecologist, coined the term ecosystem, the interactive system established between the biocoenosis (the group of living creatures), and their biotope, the environment, in which they live. Ecology thus became the science of ecosystems.
- ❖ The concept with emphasis on the importance of dynamic transfers of Material and Energy between organisms and their environment. "The whole system, ... including not only the organism-complex, but also the whole complex of physical (Physico-chemical) factors forming the **environment**".

ECOSYSTEM SERVICES :

- ❖ Ecosystem services are the benefits provided to humans through the transformations of resources (or environmental assets, including land, water, vegetation and atmosphere) into a flow of essential goods and services e.g. clean air, water, and food (Constanza et al. 1997).



Ref.:- "Ecosystems and Human Wellbeing _ Millennium Assessment Report, 2005

THE (INDIAN) DISASTER MANAGEMENT ACT, 2005

2. Definitions

(d) “disaster” means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man made causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area;

Hazards :

Events such as Heat Waves, Droughts, Floods, Dust Storms, Cyclones, Earthquakes, Tsunamis, i.e. events that occur in the physical environment and can potentially cause harm to people and property.

Disaster: UN International Strategy for Disaster Risk Reduction (UNISDR)

“A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources”.

Disasters:: Impacts of hazards on a society.

Disasters :: Mainly social constructs _ largely determined by how a society manages its environment, the conditions of vulnerability that are present, its capacity to face adversity and what resources are available for recovery.

Natural hazards cannot be prevented most of the times, the ability for these to result in disasters can on the other hand be prevented or at least mitigated through effective disaster risk reduction (DRR) strategies.

Ecosystems ::Key DRR tool to reduce the damage caused by natural hazards.

"Ecosystem-based disaster risk reduction (Eco-DRR) is the sustainable management, conservation and restoration of ecosystems to provide services that reduce disaster risk by mitigating hazards and by increasing livelihood resilience"

GEOGRAPHICAL CONTEXT

Hazards, that are beyond control of Man occur at different scales.

- 1. Climate Change and Impact: Global**
- 2. Drought : Local, National, Regional**
- 3. Floods: Local, Regional_ Oigin could be at a distant location.**
- 4. Desertification: Local, National, Regional**
- 5. Heat Wave: Local, National, Regional**
- 6. Cyclone, Hurricane: Local, National, Regional-Origin could be at a distant location**
- 7. Earth Quake: Local, Regional**

Therefore, the DRR responses have to be at all the geographical scales

POLICY/LEGAL FRAME WORK

HAZARD/ ECOSYSTEM	GLOBAL	NATIONAL
CLIMATE CHANGE & ITS CONSEQUENCES	UNFCCC, Mitigation, Adaptation and reducing vulnerability.	NAPCC, 8 Missions[Energy, Sustainable Development, water, sustainable Himalayan Ecosystems, Green India(Forestry), Sustainable Agriculture, Sustainable Habitat, Strategic Knowledge for CC.]
DESERTIFICATION	CONVENTION ON COMBATING DESERTIFICATION	Embedded in Forest Policy and Laws, Eco-sensitive Areas and Eco-sensitive Zones under the EPA, 1986
SPECIES EXTINCTION	1.UNCBD 2.CITES	BIOLOGICAL DIVERSITY Act,2002 WLPA,1972 Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Washington Convention INDIAN CUSTOMS ACT
FORESTS	United Nations Forum on Forests	Forest policy, IFA, 1927, FCA 1980
WETLANDS	Ramsar Convention,1971	Wetland Rules under the EPA1986

POLICY/LEGAL FRAME WORK

HAZARD/ ECOSYSTEM	GLOBAL	NATIONAL
COASTAL ECOSYSTEMS [Mangroves, Corals, Dunes, Beaches]	EMBEDDED IN OTHER CONVENTIONS	Coastal Regulation Zone Notification under the EPA,1986
SUSTAINABILITY	SUSTAINABLE DEVELOPMENT GOALS 2015 -2030	NITI AYOGE : EMBEDDED IN EACH SECTORAL POLICY
DISASTER RISK REDUCTION	Sendai Framework for Disaster Risk Reduction 2015-2030	THE [INDIAN] DISASTER MANAGEMENT ACT, 2005

Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030

Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors

Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience



MILLENNIUM DEVELOPMENT GOALS

2000-2015

1. ERADICATE EXTREME POVERTY AND HUNGER
2. ACHIEVE UNIVERSAL PRIMARY EDUCATION
3. PROMOTE GENDER EQUALITY AND EMPOWER WOMEN
4. REDUCE CHILD MORTALITY
5. IMPROVE METERNAL HEALTH
6. COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES
7. ENSURE ENVIRONMENTAL SUSTAINABILITY
8. GLOBAL PARTNERSHIP FOR DEVELOPMENT.

September 2015, the United Nations General Assembly formally adopted the "universal, integrated and transformative" 2030 Agenda for Sustainable Development Goal,

Set of 17 Sustainable Development Goals (SDGs).



SI	S.D.Goal	Targets
1	No Poverty	5
2	Zero Hunger	5
3	Good health & well being	9
4	Quality Education	7
5	Gender Equality	5
6	Clean Water and Sanitation	6
7	Alternate & Clean Energy	3
8	Decent work & ECONOMIC Growth	10
9	Industry, innovation & Infrastructure	5

SI	S.D.Goal	Target
10	Reduced inequalities	7
11	Sustainable cities and Communities	7
12	Responsible consumption & Production	8
13	Climate Action	3
14	Life Below Water	7
15	Life on Land	9
16	Peace, Justice & Strong Institutions	10
17	Partnerships for Goals	19
Total 17 Goals and 169 Targets		

ECONOMICS

Production & Resourcing
Exchange & Transfer
Accounting & Regulation
Consumption & Use
Labour & Welfare
Technology & Infrastructure
Wealth & Distribution

ECOLOGY

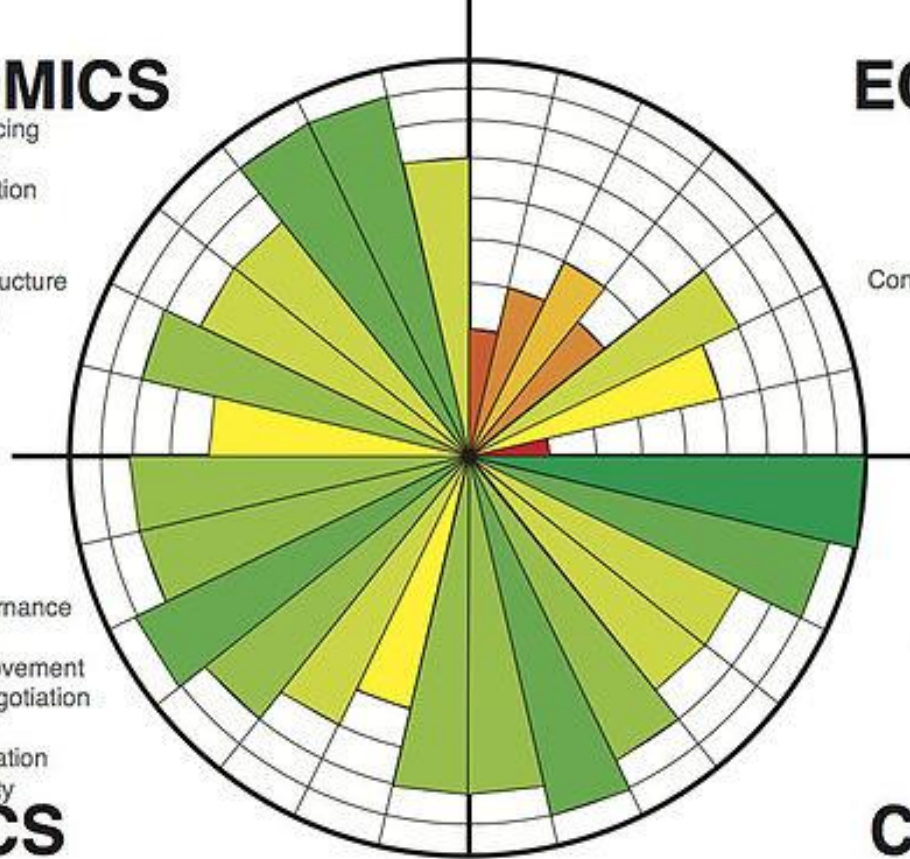
Materials & Energy
Water & Air
Flora & Fauna
Habitat & Food
Place & Space
Constructions & Settlements
Emission & Waste

Organization & Governance
Law & Justice
Communication & Movement
Representation & Negotiation
Security & Accord
Dialogue & Reconciliation
Ethics & Accountability

POLITICS

Engagement & Identity
Recreation & Creativity
Memory & Projection
Belief & Meaning
Gender & Generations
Enquiry & Learning
Health & Wellbeing

CULTURE



THANK
YOU

CIRCLES OF SUSTAINABILITY