

# Internship Report



Submitted by

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(H2021NRG008)

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## **Introduction:**

The organisation I interned with is “**SaciWATERS**” in the project named “**Increasing the resilience of coastal populations in South Asia through regional partnership, strengthening civil society and introducing innovative climate-adapted technologies**” under the supervision of “**Sunil Kraleti**”.

## **About organisation:**

SaciWATERS, the South Asia Consortium for Interdisciplinary Water Resources Studies, is a policy research institute based in Hyderabad, India. From its inception in 2001, it has focused on critical issues related to water resources management in south Asia. Accordingly, it partners with universities and academic institutions from across global north and south to fundamentally reshape water resources knowledge systems in south Asia.

South Asia is endowed with vast water resources, yet the struggles around water scarcity and unequal access are perpetual. Global processes of urbanisation and climate change are further contributing to this profound water insecurity. This challenge demands a holistic and integrated approach. SaciWATERS aims to achieve water security in South Asia through a holistic pro-poor human development approach.

## **About supervisor:**

Sunil Kraleti is a sustainable development professional with domain knowledge in the areas of water and sanitation (Solid & liquid waste management) planning and disaster risk reduction.

## **About project:**

This project focuses on the climate change impacts in most vulnerable countries i.e. Sri Lanka, Bangladesh, and India of south Asia and climate change adaptive technologies in these regions. Also, it focuses on how sustainable energy is being implemented and being cost effective in these countries.

Under this project, I worked in two south Asian countries Sri Lanka and Bangladesh. In this project, I worked on the policies implemented related to climate change and its adaptive technologies. I have done desktop (secondary) research on these policies, implementations, and ongoing projects under them.

**Researched areas:**

The areas I researched are Sustainable energy, Organic farming, Mangroves and coral reefs, Climate change and environment, Alternative livelihoods, Fisheries and aquaculture. Also, I studied about the Coastal regulation zone Act in India.

**SRI LANKA****Sustainable (Renewable) energy:**

Sri Lanka started implementing renewable energy from the 90s. It mainly focused on hydro in the beginning and later on wind power. In recent years, it shifted focus to solar energy. Government started implementing schemes (Ex: Subsidy schemes for implementing solar rooftops) and policies in this energy to reduce the burden on the economy for importing fossil fuels and also to reduce the impacts of climate change. Many NGOs from around the world started working on renewable energy implementation by distributing solar lanterns for fishermen to replace the harmful kerosene lamps and solar lamps for school children to help them study at night time.

**List of policies and plans:**

1. Sri Lanka sustainable energy authority act.
2. National energy policy and strategies of Sri Lanka
3. Sri lanka energy sector development plan.

**Organic farming:**

Organic farming is an age old practice of Sri Lanka which is being followed till now. Government banned the use of pesticides and fertilizers to reduce the impact on soil, health of people and also to reduce the burden of importing these fertilizers, pesticides etc. Many farmers started shifting to organic farming after this. But the government faced many criticisms like shifting to organic is the reason for the present crisis due to the ban as the shift gave late results of production and profit. But still farmers are following traditional methods, since the products of Ceylon organic are famous, farmers are getting good profit from exporting them. Ceylon tea and spices are the most famous organic products from Sri Lanka.

**Mangroves and coral reefs:**

Sri Lanka is very rich in coastal environment. Mangroves are mostly found in the northern hemisphere whereas corals are mostly found eastern, western and southern coast lines. These are protected under Fauna and Flora protection ordinance. But they are at risk due to climatic changes and human activities like overfishing, rising sea level, tourism, coastal development, marine pollution, aquaculture, deforestation. There are some acts by the government to recover the lost area and many NGOs are working on ground to protect these valuable species from extinction. MFF (Mangrove for future) and seacology are two NGOs working and investing on coastal ecosystem conservation.

### **Climate change:**

Sri Lanka is one of the most climate change vulnerable countries in the South Asian region. Actions and plans on climate change impacts were taken from 2003 in the country. All the acts were taken in order to reduce the GHG emissions, pollution and conservation of valuable resources and traditional methods. Some of the climate change policies are the Haritha lanka programme, kigali amendment, INDC(Intended nationally determined contribution), Kyoto protocol, National action action plan for climate change etc.

### **Alternative livelihoods:**

Alternative livelihoods and migration are the only option for many fishermen communities in the country. Degradation of resources and climate change impact can be seen as major reasons behind this. Fishermen are migrating from one place to another within the country where they can get a good catch. Also, many are shifting their livelihoods to work far away to get income. Also, some NGOs started helping these communities to get an alternative source of income by giving training in sewing, making handicrafts and batic. Also, conserving the mangroves and coral reefs are also being promoted as alternative livelihood options for people. Aquaculture is also chosen as an alternative livelihood in the country.

## **BANGLADESH**

### **Sustainable energy:**

Bangladesh also started implementing renewable energy from the 90s. But it is far more developed than Sri Lanka. The country is generating power from solar, hydro, wind, biogas and biomass. Out of which 73.7% comes from solar, 25.8% comes from hydro, and remaining from other 3 sources. It implemented these sources of energy through government funds and contributions by NGOS in the country. We can find solar homes, solar parks, solar mini grids, solar irrigation, solar rooftops, solar water heater, solar water pumps etc. in the country.

### **List of policies and plans:**

1. Sustainable and renewable energy authority act.
2. Bangladesh climate change strategy and action plan.

### **Organic farming:**

Bangladesh has the most fertile land with good water resources from the Gangetic rivers flowing almost throughout the country. But the concept of organic farming can't be seen more in the country since it is most prone to climate change impacts like floods and cyclones. It is also listed as the top 6 in the most climate change vulnerable countries in the world. This has become the biggest disadvantage for the farmers who are practicing the organic methods of cultivation. Since, there are more frequent cyclones and floods, and also the result of organic takes time farmers are not getting a good income through this method. So they shifted to the artisanal methods of using fertilizers and pesticides on fields. There are programs like Mati Bangladesh promoted by NGOs for shifting into organic.

### **Mangroves and coral reefs:**

Sundarbans situated in between South western Bangladesh and south eastern India is one of the most famous and largest mangrove forests in the world. This region is also a biosphere reserve. Conserving these are now becoming a serious issue for the country since these save the country from effects of floods and cyclones. These are being vanished in the name of development, land filling, tourism and some human activities etc. Coral reefs are found in the Northeast region of Bay of Bengal in Saint Martin Island. There are some unique species of both mangroves and coral reefs found in the country.

### **Climate change:**

Bangladesh is also taking serious action plans in order to reduce the impacts of climate change. It also signed the NDC, INDC, Kigali amendment and Kyoto protocol etc. It also adapted to climate change impact reduction technologies like using renewable energy. Climate change trust fund act is the act in which the government collects funds from various ministries, NGOs and contributions from the world which is being used for climate change adaptive measures like disaster management, implementing policies and introducing new projects.

### **Alternative livelihoods:**

Rural Bangladesh is slightly transforming its livelihoods from farm and fisheries to non-farm and non-fisheries sectors. People are choosing other livelihoods like establishing small shops, tailoring, agri labour, petty traders etc. Some NGOs started training rural people to be independent of forest products and in return conserving the forest areas. They trained them on vegetable farming, cattle rearing, betel nut production, fruit farming etc. These alternative livelihoods are providing them an income and also increasing the forest areas.

## **COASTAL REGULATION ZONE ACT (INDIA)**

Coastal regulation zone is the coastal area which gets influenced by the HTL (high tide line) and LTL (low tide line). The 1st regulation took place in 1986 through the environment protection act. These zones are characterised into 4 zones (CRZ-1, CRZ-2, CRZ-3, CRZ-4) and only certain activities are permitted. The regulations for these zones are released as amendments by the central government. Also, these are monitored by the central government and some are under state government. This act helps in governing the human and industrial activities near coastal sensitive areas to protect the ecosystems near seas.

## Format of policy reviews:

The following is the format which I followed to write the policy reviews for the researched policies.

Coastal protection project - Saciwaters  
GNF project

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### 5 step Rapid policy review

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#### Step 1:

**Define the problem/ Issue:** For what has the policy has been drafted for. – 3 sentences.

#### Step 2:

**Define the core objectives of the policy.** This is generally listed in the policy. Just notify the same - Sentences as defined in the policy document.

#### Step 3:

**To which Institution/ ministry is the policy being implemented:** Many climate change/ environment related policies are instrumented through various ministries, hence - 5 to 6 sentences

- Define Ministry
- Define department (If any)
- Any budgetary provision. (If available)

#### Step 4:

**Is the policy addressing the issue:** This requires desktop research on the issues in the sector and is the policy in any way addressing the issue. Define the issues in the sector broadly and then check if the policy is performing well or not. 5 Sentences

#### Step 5:

**Observations, review and perspectives:** You write your review here. What do you feel on the same, what points of policy need to be defined in detail etc. I need your review here on what you think about the policy. - 5 sentences

### My learning's:

- I learned how to write quick policy reviews.
- I also learned about how south Asian countries are taking step towards mitigation of climate change.
- How countries are implementing policies and projects under them.
- Also, NGOs are taking many initiatives at ground level in implementing programs related to these polices.

## **Annexure**

### **Policy reviews submitted:**

#### **SRI LANKA:**

##### **1. National Aquatic Resources Research and Development Agency 1981**

This agency was developed under the act 54 of NARA to develop the research and increase the aquatic resources around Sri Lanka. NARA also provides services for development and sustainable utilization of living and non-living aquatic resources.

Objectives:

- Increase freshwater and mariculture fish production in Sri Lanka by catering to the major issues pertaining in the sector
- Introducing new technologies for the aquaculture sector
- Introducing novel technologies for the development of ornamental fish, plants and sea weeds culture / export industry
- Suitable recommendations to minimize harbour pollution
- Provide recommendations to relevant government authorities for sustainable management of Fishery Harbours
- Establishing of Sea level and Meteorological observations network around the Sri Lanka

Schemes/ Projects under this policy:

Several mini projects are developed under this action plan to improve the aquatic resources and aquatic life.

Ministry and Departments:

Ministry of Fisheries / State Ministry of Ornamental Fish, Inland Fish & Prawn Farming, Fishery Harbour Development.

Budgetary provision:

Ministry of finance, consolidated fund.

This act was developed and organised to improve the aquatic resources and aqua culture to promote the fisheries and aqua life to balance the aqua life and to create livelihood to aqua workers. Industries which are working on this livelihood are focussed to achieve the targets of this plan.

Review:

Sri Lanka is mainly depended on Fishery Exports. This act is beneficial to Ministry of Fisheries where this was proven to achieve the development of aqua life in Sri Lanka. All the aqua workers within the nation got benefitted and increased the exports across the nation. All small-scale industries working on fisheries are benefitted with subsidiaries and policies with this act.

## **2. NATIONAL ENERGY POLICY & STRATEGIES OF SRI LANKA 2008**

This policy was developed to implement the strategies to manage the energy sector in the upcoming years to achieve the goals.

Objectives:

- Electricity will be made available to all feasible areas by extending the national grid and focussed rural energy initiatives using off-grid technologies.
- Every player in the petroleum sub-sector downstream retail business shall maintain a strategic fuel reserve equivalent to a minimum of 30 days' consumption at any given time.
- The lifeline tariff to domestic consumers will be limited to Samurdhi Beneficiaries and to a monthly household consumption of 30kWh.
- Delivery of energy efficiency services will be accelerated by further developing the capacity of private and public sector energy service providers.
- A special fund will be created for the purpose of funding the Rural Electrification (RE) programmes.

This scheme was introduced under the Ministry of Power and Energy.

Budgetary provision:

Ministry of finance, consolidated fund.

Energy supply in Sri Lanka is mainly based on three primary resources, namely, biomass, petroleum, and hydroelectricity. With the increasing demand for energy to provide for the country's economic and social development, total primary energy demand is expected to increase to about 15,000 kTOE by the year 2020 at an average annual growth rate of about 3%. Electricity and petroleum sub-sectors are likely to record higher annual growth rates of about 7-8%.

Capacity of the Ministry in charge of the subject of energy will be developed and strengthened to develop integrated long-term energy plans and conduct policy analyses in the energy sector as a sustainable continuing activity.

The management capability of the energy sector institutions will be enhanced through appropriate training, empowerment, and proper delegation of authority.

Review:

Minimum dependence of non-indigenous resources and optimum development of local energy resources was achieved to minimise the vulnerability of energy supplies to external factors. This plan supported proper subsidies and targeted prices for everyone. Mutual collaboration with industries to regularise the usage of energy was achieved. This plan helped to prioritise the access of energy in rural areas.

Sri Lanka should also pave way for policy making towards renewable energy, Conserving the energy is good initiation as well as that energy should be created by renewable sources.



### **3. NATIONAL ENVIRONMENTAL POLICY AND STRATEGIES 2003**

This policy was implemented to bind all organizations and individuals who use environmental resources and create awareness on avoiding environmental degradation.

Objectives:

- To promote the sound management of Sri Lanka's environment in its entirety without compromise, balancing the needs for social and economic development and environmental integrity, to the maximum extent possible while restricting inimical activities.
- To manage the environment by linking together the activities, interests, and perspectives of all groups, including the people, non-government organizations and government at both the central and the local levels.
- To assure environmental accountability.
- Industries practice waste treatment and recycling of water and avoid discharging harmful effluents to the environment.
- Adequate protection provided, by in-situ conservation measures, to all species of fauna and flora that are threatened, including the wild relatives of cultivated species.

This policy was implemented under the Ministry of Environment and Natural Resources.

Budgetary provision:

Ministry of finance, consolidated fund.

This policy concentrated on conserving environmental factors and managing the framework in caring the environment. This focusses on the impact of human activity on the natural resources individually on the environment.

With the help of this policy, Sri Lanka achieved below

- Good land management and sound agricultural practices adopted in all cultivated land in the island.
- Special protection provided for highly erodible areas, inland and coastal, and areas prone to landslides.
- The use of mineral deposits is systematic and planned so as to bring long term, optimum benefits to the people.
- An uninterrupted and adequate supply of water of the required quality maintained.
- Adequate protection given to streams, irrigation and drainage canals, reservoirs, tanks and other water bodies.
- Agricultural and aqua-cultural practices that minimize the use of chemicals and other substances while maintaining high productivity are promoted.
- The emission of gaseous and particulate matter that is injurious to health, from industry and transport and other anthropogenic source, reduced to a minimum

Review:

Implementing this policy Sri Lanka made tremendous changes in land, water, atmosphere, and biological diversity. Conserving the nature in all its forms helped the country towards sustainable development.

Implementing necessary policies according to the time and situations matters a lot.

#### **4. Sustainable energy authority act, 2007.**

This act was formulated to analyse and recommend policies and prepare plans aimed at promoting and developing renewable energy resources by establishment of sustainable energy authority.

Objectives:

- 1) Identify, assess and develop renewable energy resources with a view to enhancing energy security and thereby derive economic and social benefits to the country.
- 2) Identify, promote, facilitate, implement and manage energy efficiency improvement and energy conservation programmes for use of energy in domestic, commercial, agricultural, transport, industrial and any other relevant sector.
- 3) Promote security, reliability and cost- effectiveness of energy delivery to the country, by policy development and analysis and related information management.
- 4) Ensure that adequate funds are available for the Authority to implement its objectives, consistent with minimum economic cost of energy and energy security for the nation.

Projects:

There are hydro, wind and solar generation projects going on in the country under this act.

Ministry:

Ministry of power and energy, Ministry of finance

Ceylon electricity board, Lanka electricity company (other institutions).

This act has been working since the implementation year on promoting, research and development of sustainable energy in the country. This act is the root of the National energy policy of the country and also schemes for implementing renewable energy.

This act is excellent in performing the objectives stated to reduce the economic pressure of the country on importing fuels. Also, this act is implemented in a way to promote clean and sustainable energy to reduce the climatic impacts.

## **BANGLADESH:**

### **1. Climate change trust fund act, 2010.**

This act is implemented to mitigate the climate change impact on the country by taking certain measures.

#### **Aims:**

To make necessary action plan for capacity building for adjustment of the people or groups of people of the affected and risky areas resulting from climate change, upgrading their life and livelihood and facing the long term risk To take measures for implementation thereof to take measures for adaptation, mitigation, technology development and transfer, capacity building and funds for facing adverse effects of climate change on man, biodiversity and nature.

#### **Objectives:**

- (a) to use the fund of the Trust in facing the risk arising from climate change as a special case out of the development or non-development budget of the Government;
- (b) to initiate and implement suitable action plan for implementation of special programme regarding climate change and ensuring sustainable development;
- (c) to initiate project or programme regarding institutional and social capacity building of the local people and development of human resources in the grass root level for facing climate change;
- (d) to undertake necessary action research in the field of adaptation, mitigation, technology transfer and finance and investment for facing climate change and in the light of the research result, to initiate and implement pilot programmes with dissemination of such result;
- (e) to make necessary action plans of different terms for adjustment with climate change and facing damages and to initiate and implement programmes or projects on the basis of them;
- (f) to assist the climate change cells or focal points formed in different Ministries and in the Department of Environment in respect of climate change including the Climate Change Unit established in the Ministry of Environment and Forest for playing their effective role;
- (g) to assist in initiating suitable programmes and implementation thereof in order to eradicate poverty by building up the institutional, social or local people's capacity for creating public awareness on possible environmental disaster arising out of climate change and for facing the disaster;
- (h) to assist any emergency activities following any natural disaster arising out of climate change.

#### **Ministry of Environment and Forests**

##### **Budget:**

- a) money granted by the Government from the National Budget;
- b) money received from the donor countries, organisations and
- c) institutions approved by the Government;
- d) money received from the local and foreign sources approved
- e) by the Government;
- f) income accrued from investment of the fund;

- g) money received from any other sources approved by the
- h) Government.

This act has a close relation with BCCSAP and has close collaboration with NGOs and other organisations which are working on climate change impacts and mitigation. The fund collected is used for the risks arising from climate change effects and a certain action plan is implemented to mitigate the effects.

## **2. Bangladesh climate change strategy and action plan, 2008.**

This action plan was implemented to get adapted and safeguard the well being of people in Bangladesh as the country is most vulnerable to climate change and natural disasters. This plan also includes eradication of poverty and achieving economic and social well being of people in the country.

### **Objectives:**

- 1) Food security, social protection and health.
- 2) Comprehensive disaster management.
- 3) Infrastructure Development.
- 4) Research and knowledge management.
- 5) Mitigation and low-carbon development.
- 6) Capacity building and institutional development.

Schemes or projects under this act:

There are a lot of ongoing programmes under each objective with respective ministries working along them.

### **Ministry:**

Ministry of Environment and Forests.

### **Budgeting by:**

Ministry of Environment and Forests, National climate change fund.

This plan is mostly focused on adaptation of climate change and mitigation. Also, developing climate adaptive technologies in every sector. This plan also includes the entire ministries of the country in order to make it more effective in time and cost.

### **Review:**

This plan focused on adapting climate change at low cost but didn't really work on implementing clean sustainable energy to reduce the carbon limit rather than focused on increased forest and decreasing the GHG emission by factories.

### **3. The Sustainable and Renewable Energy Development Authority Act, 2012.**

This act was implemented to ensure energy security, contribute to the decrease of global warming and mitigate the GHG emissions by decreasing the use of fossil fuels and increasing the use of renewable energy.

Objectives:

- 1) to take necessary measures to create public awareness and motivation for efficient use of power and energy and its conservation;
- 2) to encourage the use of power and energy efficient equipment and take necessary steps for standardisation and labelling of power and energy using equipment and appliances;
- 3) to establish testing laboratories or provide assistance in establishing laboratories in order to test and certify on standard equipments of using energy;
- 4) to encourage energy efficiency and conservation related research and development and to identify innovative financing for implementation of projects or associated works relating thereto, and arrange necessary training in this behalf;
- 5) to assist the Government in making and implementation of energy efficient building code;
- 6) to make regulation for qualification and competency of energy manager and energy auditors and selection of accredited energy auditor firm;
- 7) to coordinate the implementation activities of energy efficiency and conservation in government, semi-government and autonomous bodies and create commercial market for sustainable energy in private sector through demonstration;
- 8) to assist the Government in making necessary laws, rules, regulations for sustainable energy development;
- 9) to identify energy inefficient equipment and take necessary measures to stop its production, import and sales;
- 10) to take necessary measures to declare designated consumers of different energy consumers or category of consumers;
- 11) to prepare and update inventory of renewable energy resources and associated technologies, indicating its geographical location of sites and verify its suitability for commercial use after assessing possibilities of its exploitation;
- 12) to provide necessary technical assistance in preparing CDM or similar type of activities;
- 13) to prepare short, medium and long term development project to extend the use of renewable energy with specific targets and take necessary steps to implement it;
- 14) to provide technical and financial assistance in research, development, demonstration and training on renewable energy;
- 15) to take necessary steps for creating public awareness and motivation in order to encourage the use of renewable energy in public and private sector;
- 16) to assist to identify sources of financing and make necessary arrangement to provide financial incentives to attract and encourage private investment in renewable energy sector;
- 17) to send tariff proposal of renewable energy to Bangladesh Energy Regulatory Commission established under section 4 of Bangladesh Energy Regulatory Commission Act, 2003 (Act No. 13 of 2003), upon discussion with the Government;

- 18) to assist the Government to coordinate the implementation of renewable energy development related activities in government, semi-government and autonomous bodies;
- 19) to encourage commercialization of renewable energy and energy efficiency activities in private sector through implementation of pilot project
- 20) to assist the Government to formulate, update and implementation of policies made under this Act, including revision of Renewable Energy policy;
- 21) to coordinate with different Ministries, Divisions and organisations in matters related to sustainable energy;
- 22) to establish linkage with regional and international organisations on sustainable energy;
- 23) to perform such other functions as may be prescribed by rules or by the Government, from time to time.

**Ministry:**

Ministry of power, energy and mineral resources ( Sustainable and renewable energy development authority (SREDA)).

**Budget:**

The budget for this act comes from SREDA fund which includes grants from government, loan obtained from the Government, grants made by the local Authority, grants or loans obtained from any other source, sums received from CDM or any such similar projects implemented under any other activities, sums acquired for providing consultancy services, sums received from the fee imposed for any act done under this Act and sums received from any other source.

This act is excellent in implementing the renewable energy sources in the country. Solar parks, irrigation systems, rooftops, hydro and wind energy resources were developed through this act. Also, the country is now generating nearly 890mw of energy through these resources. This act can be considered as a great achievement of country in decreasing the use of fossil fuels and stepping towards mitigation of global warming and GHG emissions.

**INDIA:**

**Coastal regulation zone:**

India is a peninsular country with coastline of approximately 7500kms (including islands). These areas are eco-sensitive and disaster prone areas with frequent cyclones, tsunamis ect. For development, conserving and safeguarding these sensitive areas, the government has identified them as Coastal regulation zones. These zones are identified and set under the Environment Protection Act, 1991 in section 5.

Coastal areas of seas, rivers and backwaters which get influenced by tides up to 500m from High Tide Line(HTL) and the land between LTL(low tide line) and HTL is declared as coastal regulation zone (CRZ).

- HTL: HTL means the line on the land up to which the highest water line reaches during the spring tide.
- LTL: LTL means the line on the land up to which the lowest water reaches during the spring tide.

- Spring tides: The highest tides which occur when the sun, earth and moon are on same line i.e. On full moon and new moon periods.

### **Importance of Crz:**

- These zones help govern the human and industrial activities on the coastal line to protect the ecosystems near the sea.
- These zones restrict certain activities like large constructions, setting up of new industries, storage or disposal of harmful material, mining etc within a certain distance from the coastal line.
- These acts were implemented to protect and conserve the coastal environment.

### **Classification of CRZ (2011 notification):**

- CRZ 1: Ecologically sensitive areas like mangroves, coral reefs, biosphere reserves.
- CRZ 2: Areas which are developed up to the shoreline and falling in municipal limits, villages and towns which are already well developed.
- CRZ 3: Areas that are relatively undistributed and do not fall under CRZ 1 or 2 and also rural and urban areas that are substantially developed.
- CRZ 4: The aquatic area from LTL to territorial limit.

### **Classification of CRZ (2018 notification):**

- CRZ 1: Intertidal zone (area between LTL and HTL) and eco sensitive areas.
- CRZ 2: Urban settlements (developed urban and rural areas) near the shore line.
- CRZ 3: Land between intertidal zone and urban settlement i.e., areas which do not fall under CRZ 1 and CRZ 2.
- CRZ 3A: Areas with population more than 2,161 persons per sqkm as per 2011 census.
- CRZ 3B: Areas with population less than 2,161 persons per sqkm as per 2011 census.
- CRZ 4: Aquatic area between LTL to country territorial limit i.e., 12 nm from shore line.

### **Regulations (2011):**

- CRZ 1: No new constructions shall be permitted except projects related to atomic energy, roads and trans-harbour sea link without affecting the tidal flow. Also, schools, roads, salt harvesting, extraction of natural gas, desalination plants, storage of edible oils etc. are permissible in areas which are not ecologically sensitive.
- CRZ 2: Constructions are permissible on landward side, desalination plants and some heavy constructions based on guidelines issued.
- CRZ 3: In 0-200 metres from HTL, is taken as NO DEVELOPMENT ZONE, where no new constructions are not allowed except projects related to extraction of rare minerals, extraction of natural gas, agriculture, forestry and some specific public facilities are allowed. In 200-500 metres from HTL, activities above, construction of local community houses and tourism projects are allowed.
- CRZ 4: No dumping of waste and no limit for traditional fishing in this zone.
- Ecologically sensitive areas like sundarbans are given some special regulations where no development or constructions are allowed and a certain management plan is developed with local communities. Also, some beaches are identified as turtle nesting areas which are conserved under the wildlife protection act.

**Reasons for new amendments:**

The main reason for amending the 2011 notification is a report submitted by Shailesh Nayak committee in 2015. This report requested to dilute the powers of the central government in CRZs except for areas which need environmental clearances. This report also recommended regulating some rules to boost tourism, port construction and real estate.

**Regulations amended in 2018:**

- CRZ 1: No constructions or human settlements are allowed.
- CRZ 2: Development and constructions are allowed but towards land not towards the shore. The FSI has been relaxed to meet the emerging needs which is frozen in 1991 regulations.
- CRZ 3A: The NDZ has been decreased from 200mts to 50mts from HTL since these areas are already developed urbans.
- CRZ 3B: No development zone is declared from HTL to 200mts.
- CRZ 4: Traditional fishing is permitted but artisanal fishing should be granted permission by authorities.
- Tourism facilities are allowed in NDZ with 10mts distance from HTL.
- Activities specified in CRZ 1 and 4 should be dealt with by the Ministry of environment, forest and climate change whereas activities specified in CRZ 2 and 3 should be dealt with by local coastal authorities.

**Benefits of new amendments:**

These new amendments help in development and promote tourism, which results in economic growth in coastal areas. It also helps in the increase of employment generation. These amendments are expected to recreate coastal areas by focusing on vulnerabilities.

**Drawbacks of these new amendments:**

- Decreasing of NDZ in CRZ 3A, can give high chances to real estate people to build high structures without any limits and it also affects the livelihoods of local fishing communities.
- The generation of waste will be increased in the coastline with these developments. Since the government permitted waste management plants on shore it has high chances of releasing toxic generated again in the sea which damages the life inside it.
- It also increases the chances of vulnerability and damage by climate change of coastal areas.

**References:**

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