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India

Statement on the CRZ Notification and Post-Tsunami Rehabilitation in Tamil Nadu

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INTRODUCTION TO THE REPORT

The tsunami that struck several nations in the Indian Ocean on December 26, 2005 destroyed the lives and livelihoods of numerous coastal communities and resulted in significant damage and destruction of property and infrastructure. An accurate total economic estimation of the losses is currently unavailable and will be a challenge to compute. With the passing of the emergency relief stage, the actual complexity and seriousness of rehabilitation and reconstruction is becoming evident. The Government of Tamil Nadu is presently faced with the urgency of launching shelter programmes, reconstruction activities and overall rehabilitation measures in the affected areas. However, the State Government and the UNDP recognise that the tsunami-induced damage can easily deteriorate into a rehabilitation nightmare for coastal communities if these efforts lack direction, clarity of purpose and especially if rehabilitation activities violate existing legal norms and requirements.

It is in this context that this joint ATREE-UNDP report titled '*Statement on the CRZ Notification and Post-Tsunami Rehabilitation in Tamil Nadu*' has been drafted¹. The report attempts an analysis of the position of the law regarding potential rehabilitation efforts along the Tamil Nadu coast. The position of India's principal coastal legislation, the Coastal Regulation Zone (CRZ) Notification, 1991, is examined here. The CRZ Notification is a specialised legal instrument for governing development activities throughout her coastal stretches.

The report is intended to provide government and non-government rehabilitation agencies with a clear understanding of the role and position of the CRZ Notification in any of the rehabilitation efforts that may take place in areas under the jurisdiction of this law. The report is divided into the following sections:

Section 1	<i>Commentary on the CRZ Notification, 1991 and its Implementation.</i>	<i>Page 2-6</i>
Section 2	<i>Post Tsunami Coastal Regulation and Rehabilitation In Tamil Nadu</i>	<i>Page 7-11</i>
Section 3	<i>Livelihood, Environment and Disaster Mitigation Concerns with Rehabilitation Efforts on the Tamil Nadu Coast</i>	<i>Page 12-16</i>
Section 4	<i>Issues Requiring Clarification from the Ministry of Environment and Forests</i>	<i>Page 17-19</i>
References		<i>Page 19</i>

Annexure 1	<i>Table on Clauses of the CRZ Notification Relevant to Post-Tsunami Rehabilitation Efforts in Tamil Nadu</i>
Annexure 2	<i>The Coastal Regulation Zone Notification, 1991, Consolidated Version [Incorporating amendments up to July, 24, 2003]</i>

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Section 1

COMMENTARY ON THE CRZ NOTIFICATION, 1991 AND ITS IMPLEMENTATION

India has laws guiding anthropogenic activities along the coast, of which the most significant and specialized legislation is the Coastal Regulation Zone (CRZ) Notification, 1991. Some of the post-tsunami rehabilitation activities to be undertaken by governmental and non-governmental agencies in India are likely to take place in areas falling under the jurisdiction of the CRZ Notification. At this crucial phase of rehabilitation, the overall Rehabilitation Plan for the Tamil Nadu coast or the sectoral plans such as the Shelter Plan, to be developed by the Government of Tamil Nadu or other agencies, must take into consideration the provisions of existing laws of the land. The following commentary seeks to clarify issues and queries that may arise and which have relevance to the context of rehabilitation.

1.1 Legal basis for the Coastal Regulation Zone Notification, 1991

As a guiding document, the CRZ Notification remains relevant, particularly at this stage of rehabilitation. The function of the notification as an environmental protocol for human actions in a sensitive region is evident from the principal legislation wherefrom it draws its powers. The importance that the Government of India has accorded to this notification is clear from the fact that considerable powers are vested with the agencies that are responsible for its implementation.

The CRZ Notification was issued in the year 1991 using the provisions of the Environment (Protection) Act, 1986 and the Environment (Protection) Rules, 1986. The crux of the Environment (Protection) Act and its Rules is that it substantially empowers the Centre [the concerned ministry being the Ministry of Environment and Forests (MoEF)] to take actions '*for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution*'. This includes the promulgation of specified notifications for this purpose. The CRZ Notification was issued under Section 3(1) and Section 3(2)(v) of the Environment (Protection) Act, 1986. These clauses outline the powers of the Central Government to protect and improve the quality of the environment and take preventive measures to control and abate environmental pollution. This includes the power to delineate areas where anthropogenic activities can be regulated and restricted. The CRZ Notification is therefore a specialised legislation, which was introduced with the intention of protecting the coastal environment of India.

1.2 Physical Jurisdiction of the CRZ Notification

The coastal stretches of India's mainland and her numerous islands including the Andaman & Nicobar Islands and Lakshadweep, are governed by the Coastal Regulation Zone Notification, 1991. However, the CRZ Notification does not apply to an unspecified area, merely meeting the description of a 'coast'. For the purpose of effectively legislating on coastal protection, the law sets limits to the area under its purview. The Coastal Regulation Zone or the zone under the purview of the CRZ Notification was declared² comprising the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters which are influenced by tidal action (in the landward side) up to 500 metres from the High Tide Line (HTL) and the land between the Low Tide Line (LTL) and the HTL. The 500-metre CRZ boundary is drawn at a radial distance (as the crow flies) uniformly from the HTL, and runs parallel to the coast. The measurement of the 500-metre boundary of the CRZ **does not take into account** the height of elevations of land on the

² See Para 1 of the CRZ Notification.

coast, such as the height of hillocks, promontories or cliffs. The MoEF has recognised this while conditionally approving the Coastal Zone Management Plans (CZMPs) prepared by the coastal states, wherein high cliffs and hillocks are included in the CRZ and the CRZ continues several metres beyond these structures (which measure more than 500 metres in height).

In the case of rivers, creeks and backwaters, the notification states³ that the CRZ would apply to both banks of the water body, but the distance of the CRZ from the HTL may be reduced from 500 metres on a case-by-case basis, with the reasons for the reduction to be recorded in the CZMP of that State. However, this distance was not to be less than 100 metres or the width of the river, whichever was less⁴. Therefore, lands in these areas are also subject to the regulations of the notification.

1.3 The CRZ Notification and the regulation of activities on the coast

The jurisdiction of the CRZ Notification is not just defined by its physical boundaries but also by the nature of the activities that it regulates or restricts in the zone. The text of the notification begins by stating that it seeks to declare parts of the coastal stretch as the CRZ and impose restrictions on the *'setting up and expansion of industries, operations or processes, etc'*.

At the outset, it needs to be understood that the CRZ Notification **does not** issue a blanket ban on **all** activities along the coast. The CRZ's regulations apply to a range of human activities taking place within the CRZ areas and especially (but not exclusively) to a range of activities that can be defined as 'industries', 'operations' and 'processes'. The notification provides a list of these activities, some of which are restricted within the CRZ and some of which are permitted under specific conditions⁵. The permitted activities cannot take place in all areas within the 500 metres. The entire CRZ area is classified as CRZ-I, CRZ-II, CRZ-III and CRZ-IV depending on its geomorphology and existing settlement characteristics. In each of these zones, different activities are permitted in different areas (See Section 2).

1.4 Categorisation of coastal areas

The areas that fall under the CRZ are classified into I, II, III and IV categories based on certain characteristics.

CRZ – I (i) areas comprise those areas that are 'ecologically sensitive and important, such as national parks/marine parks, sanctuaries, reserve forests, wildlife habitats, mangroves, corals/coral reefs, areas close to breeding and spawning grounds of fish and other marine life, areas of outstanding natural beauty/historical/heritage areas, areas rich in genetic diversity, areas likely to be inundated due to rise in sea level consequent upon global warming and such other areas as may be declared by the Central Government or the concerned authorities at the State/Union Territory level from time to time'.

In the present post-tsunami context, the relevance of the notification's emphasis on protection of mangroves and areas impacted by sea level rise is noteworthy. The notification was early to recognize the devastating impacts of unplanned development in these areas and their impacts on coastal communities. The MoEF in its letter to the Chief Secretaries of all coastal States, lays down that in addition to the areas identified by the State Government as CRZ –I, all mangrove areas that are over 1000 sq.km should be declared as CRZ –I.

CRZ –I (ii) areas are those areas lying between the Low Tide Line and the High Tide Line.

³ See Para 1(ii) of the CRZ Notification.

⁴ Inserted in the amendment S.O.(E).No. 550 (E), dated 21st May, 2002.

⁵ Para 2 of the Notification lists 'Prohibited Activities' and Para 3 provides details on the 'Regulation of Permissible Activities'.

CRZ – II consists of ‘areas that have already been developed up to or close to the shoreline’ (the reference here is to geological characteristics and development levels present at the time of the notification i.e, 1991). For the purposes of the notification, "developed area" is referred to as that area within municipal limits or in other legally designated urban areas which are already substantially built up and which have been provided with drainage and approach roads and other infrastructural facilities, such as water supply and sewerage mains.

CRZ – III areas that are those which are relatively undisturbed and which do not belong to either Category-I or II. These include the coastal zone in rural areas (developed and undeveloped) and also areas within municipal limits or in other legally designated urban areas which are not substantially built up.

CRZ –IV are those coastal stretches in the Andaman & Nicobar, Lakshadweep and small islands, except those designated as CRZ-I, CRZ-II or CRZ-III. None of the small islands on the Tamil Nadu coast are classified as CRZ – IV.

Technically, each zone should be classified by the physical characteristics that existed in 1991 (during which period the coastal states were directed to prepare their Coastal Zone Management Plans) and not by those characteristics that exist at present. However, for the purpose of implementation, the notification also states that in the interim period, till the CZMPs are prepared and approved, all developments and activities within the CRZ shall not violate the provisions of the notification⁶. This implies that in the absence of a fully approved CZMP (with correct categorization of the CRZ areas), implementing agencies should **also** take into consideration the physical characteristics of the coast **along with** the draft CZMPs and arrive at a decision on the area’s categorisation.

It has been alleged by several NGOs that most of the State CZMPs have incorrectly classified the CRZ areas. The MoEF in its letter to all the coastal States’ Chief Secretaries on the subject of approving the CZMPs⁷ has also given directions to re-classify certain zones. The Tamil Nadu State Government is currently in the process of doing the same and getting the CZMP and its revised maps finally approved (Dr, Balaji, Director, Department of Environment, Government of Tamil Nadu, pers. comm.).

1.5 Mechanism for the implementation of the CRZ Notification

The notification states that the respective State Governments should have identified, classified and recorded all the CRZ areas in the State Coastal Zone Management Plans⁸, which was to be approved by the MoEF. In these CRZ areas, from the date of the CRZ Notification i.e 19th February 1991, certain restrictions would be imposed on various anthropogenic activities including the setting up and expansion of industries, operations or processes etc. This would include several activities that would possibly be taken up during the rehabilitation process (See Section 2). The responsibility of implementing the CRZ Notification rests with the State Governments and the MoEF⁹. The notification outlines the activities that are to be permitted by the MoEF¹⁰ and under which conditions. All other activities are to be regulated by the State Governments and Union Territory Administrations within the framework of these approved CZMPs.

⁶ See Para 3(3)(iii) of the CRZ Notification.

⁷ Letters dated 27th September 1996, from the MoEF to the Chief Secretaries of all coastal states. The Letter to the Chief Secretary, Tamil Nadu is No.J-17011/16/93-IA-III.

⁸ Para I(ii) and Para 3(3)(i) of the CRZ Notification state that the Coastal Zone Management Plans should identify and classify the various CRZ areas.

⁹ See Para 3 of the CRZ Notification.

¹⁰ See Para 2 and Para 3 of the CRZ Notification.

On November 26, 1998, the MoEF constituted 13 State Coastal Zone Management Authorities (SCZMA), one for each of the coastal States and Union Territories, and a National Coastal Zone Management Authority (NCZMA) to monitor and implement the CRZ Notification's provisions. The constitution of the SCZMAs varies across the states but their duties and responsibilities are identical. Compared to other authorities constituted by the MoEF under Section 3(3) of the Environment (Protection) Act [EP Act], the SCZMAs have a fairly extensive and important mandate. They are also empowered to "take action and issue directions" — substantial powers in legalese. Among some of its activities, the SCZMAs are mandated to identify ecologically-sensitive and economically-important areas, create integrated management plans and to act as the immediate authority empowered to implement all provisions of the CRZ Notification, including recommending projects for clearances to the government.

The tenure of the Tamil Nadu SCZMAs was extended by three years on January 4, 2002 vide notification No.S.O.23(E). Point VIII of the notification states that the SCZMA is responsible for examining all projects proposed in the CRZ areas and that the SCZMA has to give its recommendations before the project proposals are referred to the Central Government or agencies entrusted to clear projects under the CRZ Notification. In the state of Karnataka, the interpretation of the word 'project' has been expanded to include even proposals for housing. Further, Point IX of the same notification states that the SCZMA shall ensure the compliance of all specific conditions that are stipulated and laid down in the approved Coastal Zone Management Plan of Tamil Nadu. It is clear that the Tamil Nadu SCZMA is the designated authority mandated to legally oversee the regulation of specific activities mentioned in the notification, in the CRZ areas. For the monitoring of compliance and implementation of the notification, it is necessary that the Tamil Nadu SCZMA is an officially functional body.

Ironically, just after the devastating event of the tsunami, the term of the Tamil Nadu SCZMA and those of the other states ended - on January 4, 2005. It is now over two months since their term expired and much longer since the tsunami hit the coast, but the MoEF has not yet renewed the tenure of these authorities. Similarly, the term of the National Coastal Zone Management Authority (NCZMA) also expired on 8th January 2004. The NCZMA is also vested with important responsibilities for coastal protection requiring official tenure to function.

1.6 Concerns with the implementation of the CRZ Notification

While the CRZ Notification is one of the earliest specialized environmental legislations, 14 years since its introduction several anomalies have crept in, resulting in serious problems for implementation. Some of these concerns have been pointed out below and need to be recognized before inferring the position of the law regarding rehabilitation efforts (outlined in the subsequent sections).

- Since 1991, there have been 19 amendments and around 3 corrigenda (up to 24th July 2003) to the provisions of the notification. Each of these amendments have sought to dilute the protective measures of the notification and in the process have introduced newer clauses further complicating and rendering meaningless several of the protective clauses of the original notification.
- Despite the numerous amendments, the MoEF has not yet issued a consolidated notification in the official gazette, incorporating all the changes to the original notification. This makes the interpretation of the various clauses of the notification a real challenge. See Annexure 2 for a consolidated notification, which the author has put together. The MoEF's official website presently has only a few select amendments. All amendments and a consolidated notification need to be made publicly available.
- The series of amendments to the notification have made way for several industrial and large-scale commercial activities. However, none of the amendments have sought to clarify some of the other

ambiguities and uncertainties such as the definition of key terms such as ‘local inhabitants’¹¹, ‘traditional rights and customary uses’¹² (See Section 4.6 on Issues requiring clarification from the MoEF).

- Although the states were supposed to prepare their CZMPs before February 1992¹³, they only submitted the CZMPs after being directed to do so by the Supreme Court in 1996¹⁴.
- The MoEF has only conditionally approved these State Coastal Zone Management Plans¹⁵. However, none of the States have incorporated the conditions laid out by the MoEF and are yet to prepare a revised CZMP that has been fully approved by the MoEF incorporating all its conditions. In the case of Tamil Nadu, the Coastal Zone Management Plan is not fully approved and the MoEF has approved only 10 out of the 31 maps developed for the Tamil Nadu coast. For other areas, one would have to rely on the geomorphologic and other characteristics of the region to determine its classification and get an approval from the Department of Environment of the Government of Tamil Nadu. It has to be clarified by the MoEF if this approach will suffice under the present conditions and for this special context of rehabilitation. For a suggested approach on working with the existing Tamil Nadu CZMP, please see Section 3.5 of this document.
- As mentioned earlier, the term of the Tamil Nadu State Coastal Zone Management Authority has not been renewed yet. This implies that rehabilitation and reconstruction activities within the CRZ that require permissions, cannot take place legitimately. This might lead to unwitting violation of the law and future litigation on this matter. Similarly, the renewal of the NCZMA’s term must be take place immediately.
- The High Tide Line and the Low Tide Line are to be demarcated only by certain authorities that have been designated by the Central Government for this purpose¹⁶. However, the Government of India is still in the process of arriving at a common methodology for HTL/LTL demarcation and is still evolving guidelines.
- In none of the states has the High Tide Line demarcation exercise been done at the ground level, for identification of zones and field implementation of the notification. The MoEF directed the Tamil Nadu Government in its letter dated September, 27, 1996, under Condition A (viii), ‘*The Government of Tamil Nadu shall delineate LTL, HTL, 200 metres, 500 metres lines and other relevant lines in respect of creeks, backwaters and rivers affected by tidal action so that distances can be measured, whenever required.*’ The demarcation of the HTL on the ground, in Tamil Nadu, has only taken place for the stretch between Chennai city and Mahabulipuram. For the remaining 920 odd kilometers of coastline in the State, the HTL and other lines remain unmarked on the ground (T.Mohan, Advocate, Chennai High Court, pers. comm.).

¹¹ See Para 6(2) CRZ-III (ia) and Para 6(2) CRZ-III (iii) of the CRZ Notification.

¹² See Para 6(2) CRZ-III (iii) of the CRZ Notification.

¹³ See Para 3(3)(i) of the CRZ Notification.

¹⁴ Vide order dated April, 18, 1996 in W.P.(C) No.664 of 1993 issued in the petition filed by the Indian Council for Enviro-Legal Action.

¹⁵ On September 27, 1996, the MoEF issued a letter to the Chief Secretaries of all coastal States and to the Administrators of the Union Territories, approving the CZMPs subject to the incorporation of various conditions and subsequent receipt of the revised maps from the States.

¹⁶ In its letter No J17011/8/92-IA-III dated 10.5.99, the Government of India indicated names of seven authorised agencies to whom the work of demarcation of HTL and LTL could be entrusted, names (a) Space Application Centre, Ahmedabad, (b) Centre for Earth Sciences Studies, Trivandrum, (c) Institute of Remote Sensing, Anna University, Chennai, (d) Institute of Wetland Management & Ecological Designs, Calcutta, (e) Naval Hydrographer’s Office, Dehra Dun, (f) National Institute of Oceanography, Panjim, Goa.

Section 2

POST TSUNAMI COASTAL REGULATION AND REHABILITATION IN TAMIL NADU

Tsunami-affected countries such as Sri Lanka and Indonesia have announced their decisions to introduce legislations and policies for the protection of coastal communities and to prevent the large-scale destruction of properties and infrastructure. The Government of Sri Lanka has reportedly announced to the press, its intention to ban construction within a 100-meter coastal zone around the country and a 200-meter zone in the North and Eastern province. The Sri Lankan Government has also announced its decision to regulate all new construction in a 700-metre zone beyond the 300-metre coastal zone, declared under the Coast Conservation Act No 57 of 1981 as amended No 64 of 1988¹⁷. Indonesia is contemplating the creation of a buffer zone for the coastal cities of the tsunami hit Aceh province. The Press reports that these new regulations could include avoiding construction of buildings, shops, markets, shopping centres, offices etc nearly two kilometres from the coast. The proposed two-kilometre zone is to have a buffer of mangroves, followed by fishermen's settlements nearly 1.6 kilometres inland¹⁸. The coastal regulations are currently being modified and renewed in these countries to meet challenges such as future tsunamis and other natural coastal disasters.

Clearly, the practice of legislating for coastal protection is not peculiar to India. Sri Lanka moved earlier than India to enact on coastal protection while India followed a good ten years later with the Coastal Zone Regulation Notification, 1991. However, both countries have had serious problems with the implementation of their legislations (Sharma, 1997). There have been several reported violations of the CRZ Notification in India from across the coastal states, besides several problems with implementation (Divan & Rosencranz, 2001).

2.1 CRZ and fishing activities and settlements on the coast

The tsunami has illustrated powerfully the vulnerability of human populations that choose areas close to the shoreline to establish their settlements. However, for some communities, this choice is somewhat pre-determined by the nature of their occupations and sources of livelihood. Traditional fishing communities are dependent on marine resources and the beach space to carry out ancillary activities such as storing their boats, nets, cleaning, salting and drying fish. These activities and the coastal area are intrinsic to their culture and to their way of life. In some parts of the coast, depending on the nature of the fishing craft in use, fisherfolk construct temporary fishing shelters to store their boats. Temporary hutments made of thatch constructed by fisherfolk, are seen in areas where there are a large number of migrant fisherfolk (including those fishers who shift their hutments along the coast during a particular fishing season). They also construct temporary hutments to stay in and guard their expensive gear and craft. It has been observed that with the introduction of more expensive fishing crafts, like the FRP (Fibre Reinforced Plastic) boats with outboard or inboard motors, these fishers are moving closer to the shore to safeguard their fishing equipment. This is attributed to the lack of any sheltered and guarded facilities for mooring these crafts (Bharat Jairaj, Citizen and Consumer Action Group, Chennai, pers. comm.). Discussions with fisher communities will reveal the nature of facilities they need to ensure the security of their fishing craft and gear and the basic facilities they require for carrying on fishing activities along the coast. There are other inhabitants of the coastal zone, who are not dependent on the resources of the coast for their livelihoods, but who may have inherited or acquired rights over coastal lands. This is especially so in

¹⁷ <http://www.elaw.org/news/press/text.asp?id=2740>

¹⁸ http://abcasiapacific.com/news/stories_to/asiapacific_stories_lofi_1297756.htm

the case of towns and cities. It is generally observed that these constituents of the coastal area possess land titles and records.

The CRZ Notification was an attempt to balance this need to inhabit coastal areas and the need to protect the coastal eco-system from haphazard development, so that the adverse impacts of environmental destruction on human beings are pre-empted. The notification certainly permits human habitation within 500 metres from the shoreline, with specific conditions in the various CRZ areas (See Section 2.2). In its list of prohibited activities, there is absolutely no mention of any blanket ban on the settlement of coastal communities within the 500-metre area. Nowhere in the sections on Prohibited or Restricted activities¹⁹ is there any mention of the fishing activities including drying of fish, storing of boats or fishing equipment in temporary sheds and so on. The CRZ Notification either *extinguishes* the rights of persons to carry out certain activities in certain areas (like new constructions in CRZ –I areas) or it *restricts* their rights to carry out certain activities (e.g the building regulations in CRZ –II and III). What the law does not prohibit is permitted (within the limits of the intent and spirit of the law) because any extinguishment or restriction of a right must be made explicit in the law (T. Mohan, Advocate, Chennai High Court, pers. comm.). In view of this understanding, fishing activities and fisherfolk settlements are permitted in the notification. Activities related to marine fishing could also be construed as activities requiring foreshore and waterfront facilities. The notification states that clearance can be given for activities if they absolutely require waterfront and foreshore facilities²⁰.

2.2 Specific regulations on constructions within the CRZ

CRZ – I:

The Notification states that there shall be no ‘new constructions’ in the CRZ –I areas [both CRZ-I(i) and CRZ – I(ii)²¹]. The definition and interpretation of the term ‘new construction’ is important, although not explicitly stated in the notification.

A lawyer in the Madras High Court, Mr. T.Mohan states ‘*there is a difference in the interpretation of the words ‘no construction’, ‘no new construction’ and ‘no reconstruction’. The term ‘new construction’ need not apply to the reconstruction of an earlier authorised structure that was demolished or destroyed by the tsunami, if it is being reconstructed (as part of rehabilitation measures) provided the reconstructed structure is as per the same specifications, style and design as the earlier construction. There should be no increase in the area occupied or in the height of the construction as earlier*’. However it is not really clear if such reconstruction is permitted within the CRZ – I, though the notification does not explicitly prohibit it.

Applying the above interpretation, reconstruction of structures that were demolished in the CRZ –I areas could be possible but only if they meet the exact specifications of the earlier structures and if they are in conformity with exiting FSI and FAR norms and are constructed for the earlier purpose only. However, there are several practical problems in enforcing this. To determine if a reconstruction activity will result in the same structure as existed earlier, one would have to firstly determine what the earlier construction’s designs and building specifications were. This appears to be an impossible task, considering that there are no such records available for several constructions in both urban and rural areas. It is also likely that a reconstruction will have different impacts on the environment than the earlier one, particularly if it is constructed using certain kinds of building materials.

¹⁹ See Paras 2 and 3 of the CRZ Notification.

²⁰ See Para 3 (1) of the CRZ Notification.

²¹ Amendment S.O. No. 494(E) dated 9th July 1997 permitted certain constructions within the Sunderbans Biosphere Reserve in CRZ –I(ii) areas. This amendment is being contested in the Delhi High Court in CWP 4198/97.

Most importantly, the situation then and now (post-tsunami) has changed drastically, where safety of constructions and design are much more important. The CRZ does not address any of these issues at present since these were simply not matters envisaged during the drafting of the notification.

The notification is clear that no **new** constructions can be allowed within 500 metres of the CRZ – I areas. This would include all new residential homes, temporary settlements, permanent structures, recreational facilities, cyclone shelters, public infrastructure facilities such as roads, bridges, schools, playgrounds, parks, medical facilities, hospitals and health centres, shops etc. Perhaps the reconstruction of these structures, if they were existing authorised constructions, would be possible according to earlier specifications. However, there are valid concerns regarding the impacts of reconstruction activity in areas already demarcated as ecologically sensitive (CRZ- I(i)) and importantly on the safety and appropriateness of reconstruction designs in light of the tsunami disaster.

CRZ – II:

Within the CRZ –II areas, there are more relaxations for constructions and all activities in general. The following are extracted from the provisions of the notification²²:

- Buildings can be constructed only on the landward side of an existing road (or roads approved in the CZMP)²³.
- Buildings can be constructed only on the landward side of existing authorised structures²⁴ (that which is **adjoining** or **nearest to** the proposed construction). It is sometimes wrongly interpreted that construction is possible in all areas on the landward side of the authorised structure that is closest to the shoreline along the stretch of the coast.
- These buildings shall be subject to existing local Town and Country Planning Regulations including the existing norms of Floor Space Index/Floor Area Ratio (FSI/FAR)²⁵.
- Buildings will not be permitted on the landward side of new roads (other than those approved in the CZMP) if these new roads are constructed on the seaward side of an existing road²⁶.
- The above regulations will not apply to approved housing schemes of State Urban Development Authorities, if at least one phase of the construction commenced prior to February 19, 1991. However, MoEF approval would be necessary for the same²⁷.
- The reconstruction of authorised buildings is explicitly permitted in this zone, subject to existing FSI/FAR norms and without a change in the existing use²⁸.
- The construction of buildings should be consistent with the surrounding landscape and local architectural style.

It should be noted that the notification states that permission shall be given only for activities that primarily require foreshore or waterfront facilities. The notification provides explicit building regulations including locations for these buildings. However, for activities that are permissible in the notification and those requiring foreshore or waterfront facilities, no specific location is mentioned in the notification, unless these activities involve the construction of structures that can be defined as ‘buildings’.

²² See Para 6(2) CRZ – II of the CRZ Notification.

²³ See Para 6(2) (i) CRZ – II of the CRZ Notification.

²⁴ See Para 6(2) (i) CRZ – II of the CRZ Notification.

²⁵ See Para 6(2) (i) CRZ – II of the CRZ Notification.

²⁶ See Para 6(2) (i) CRZ – II of the CRZ Notification.

²⁷ See Para 6(2) (i) CRZ – II of the CRZ Notification.

²⁸ See Para 6(2)(ii) CRZ – II of the CRZ Notification.

CRZ – III:

The area up to 200 metres from the High Tide Line is to be earmarked as a ‘No Development Zone’ (NDZ). Within the NDZ, the following regulations exist:

- No construction is possible in this zone unless it is the repair of **existing authorised structures**, which do not exceed the existing FSI, existing plinth area and existing density.
- Certain activities and uses are permitted in the NDZ. The activities mentioned in these clauses which are permitted and which could be relevant or which have a bearing on rehabilitation include agriculture, horticulture, gardens, pastures, parks, play fields, forestry, salt manufacture from sea water, facilities for generating power by non-conventional energy sources, weather radars and the mining of rare minerals²⁹.
- Construction of dispensaries, schools, public rain shelters, community toilets, bridges, roads and provision of facilities for water supply, drainage, sewerage which are required for the local inhabitants may be permitted in the NDZ, on a case to case basis, by the Central Government or the State Coastal Zone Management Authority³⁰.
- The construction of units or structures ancillary thereto for domestic sewage treatment and disposal is permissible in the NDZ notwithstanding the clauses 2(iv) of the Notification³¹.

For the remaining areas of the CRZ –III, in the region between 200 and 500 metres from the HTL, the following construction related activities are permitted:

- Hotels and beach resorts for tourists and visitors are permitted according to certain guidelines³², in designated areas and with prior approval of the MoEF.
- Construction or reconstruction of dwelling units is permitted under the following conditions:
 - As long as they are within the ambit of traditional rights and customary uses such as existing fishing villages and gaothans.
 - As long as the total number of dwelling units in this area are not more than twice the number of existing units.
 - As long as the total covered area on all floors of the dwelling unit does not exceed 33 percent of the plot size.
 - As long as the overall height of the dwelling construction does not exceed 9 metres.
 - As long as the construction is not more than 2 floors (ground floor plus one floor).
- All other construction activities proposed in this area should be permissible activities under the notification including facilities essential for such activities (e.g those requiring foreshore facilities).
- An authority designated by State Government/Union Territory Administration may permit construction of public rain shelters, community toilets, water supply, drainage, sewerage, roads and bridges. The said authority may also permit construction of schools and dispensaries, for local inhabitants of the area, for those Panchayats the major part of which falls within CRZ if no other area is available for construction of such facilities³³. This authority has not yet been constituted and neither has the Tamil Nadu CZMA been authorised in this regard.
- Reconstructions and alterations of existing authorised buildings are permitted, subject to the same regulations above³⁴.

²⁹ The words ‘mining of rare minerals’ was inserted by amendment S.O.550(E), dated 21st May, 2002.

³⁰ This entire clause was inserted by amendment S.O.550 (E), dated 21st May, 2002.

³¹ The clause on the discharge of domestic sewage was inserted by amendment S.O.550 (E), dated 21st May, 2002

³² See Annexure –II of the CRZ Notification.

³³ This clause was inserted by the amendment S.O.494(E), dated 9th July, 1997.

³⁴ See Para 6(2)CRZ –III (v) of the CRZ Notification.

The above interpretations maybe clarified with the Tamil Nadu Coastal Zone Management Authority and with the MoEF.

2.2 CRZ and land tenure

It has been noted that the number of settlements along the coast, and particularly close to the shoreline, have sharply increased over the years. It is not clear how many of these settlements, particularly those of the fishing community, are 'authorised' constructions.

An authorised construction or structure or building could generally be defined as one of the following:

- One where records are available proving that it was constructed prior to February 19, 1991³⁵, (irrespective of the zone) with all other necessary permissions granted to these constructions under the provisions of other laws, such as the Town and Country Planning Act.
- One that was constructed after February 19, 1991, provided the specifications were as per the provisions of the CRZ Notification and where records exist to prove that the structure is authorised (such as a No Objection Letter or Letter of Permission from the Panchayat, or in the form of an entry in the register of the concerned local office of the Department of Land Records).

The CRZ Notification does not permit the construction of unauthorised structures and in fact stresses the legitimacy of all constructions along the coast. Since a large section of the marine fishing community is not in possession of land titles (a long standing demand of the fisherfolk), the Panchayats are unable to authorise their constructions. The numerous 'unauthorised constructions' by fisherfolk needs to seen in this light. There were several structures along the coasts which may not have been authorised and which were destroyed by the tsunami. Strictly speaking, the reconstruction of those structures and dwelling units that were unauthorised prior to the tsunami would not be permitted by the notification in any of the zones. As explained earlier, most of the settlers near the coast have been fisherfolk who are dependent on the coast for their livelihoods and survival. As per the CRZ Notification, such constructions can only be permitted in the CRZ –II and III areas. However, it is expedient that a Coastal Settlement Process takes place immediately to accord land titles for dwelling purposes only to the existing fisherfolk, with full participation of the fishing Panchayats. This will assist in checking future unplanned growth while providing the long-standing demand of the fishing community for security of land tenure.

This report also recommends that one approach to addressing the issue of reconstruction of structures that might have not have the necessary authorisation is to declare the earlier fisherfolk dwellings as approved/ authorised structures. However, this approval should not apply to any other construction other than fisherfolk's dwellings.

2.3 Table on rehabilitation activities and the position of the CRZ (Annexure 1)

The table in Annexure 1 provides the position of the CRZ Notification on various possible activities that can be construed to be part of rehabilitation measures. The list of activities mentioned are only indicative of the range of rehabilitation measures that might finally be undertaken in Tamil Nadu. It can be seen that several of these activities do not find a clear definition in the Notification. However, many of these activities may be considered as 'building constructions', in which case they would have to follow the norms laid out in the Notification (see Section 2.2). There are also some activities for which clarifications need to be sought from the MoEF to determine if these activities can be permitted within the Notification (See Section 4).

³⁵ The date the Notification was issued.

Section 3

LIVELIHOOD, ENVIRONMENT AND DISASTER MITIGATION CONCERNS WITH REHABILITATION EFFORTS ON THE TAMIL NADU COAST

The occurrence of the tsunami in the Indian Ocean and its devastating impact on the Indian coastline has shown that the coast is not immune to such natural disasters. The Bay of Bengal has experienced cyclones and storms that have earlier resulted in large scale human tragedies. It is only prudent that the rehabilitation efforts undertaken now, envisage such disasters in future and are designed to protect coastal communities from their impacts.

3.1 Livelihoods and rehabilitation measures

The CRZ is clear on the position of settlements in one aspect - it requires authorisation for construction. However, as mentioned earlier, there were several hutments and permanent houses that were unauthorised constructions in this area. What will be the position of the State Government on the rehabilitation and reconstruction of buildings that were earlier illegal or did not have the necessary permissions/ records? Several fisherfolk are presently homeless and in need of rehabilitation and shelter. Their present situation needs to be seen in light of the fact that pattas or land titles form the basis for authorisation and the Government of Tamil Nadu needs to undertake a process of settling land claims and rights before declaring these fishing dwellings unauthorised. It should also be borne in mind that the State Government has a responsibility to ensure the welfare of all its citizens and the Directive Principles of State Policy urge that the State should strive to provide its citizens 'shelter' as a basic need. Case Law in the form of Supreme Court judgements interprets the Right to Shelter as a fundamental right falling within Article 21 of the Constitution.

The fishing communities in Tamil Nadu have demanded the conversion of Revenue '*Poromboke*' land (a land category also known as Revenue Wasteland) into '*grama natham*' or Village Common Land. By doing this the rights over this land vests with the village, thereby enabling the Panchayats to authorise or restrict the authorisation of buildings under their jurisdiction.

What is clear is that the new constructions must take place in permitted areas of the CRZ alone and according to the building norms laid out in the notification. In addition, taking into consideration disaster preparedness concerns, the constructions of new settlements would have to be located and constructed such that they are protected from the vagaries of nature. This would mandate building technologies that are appropriate to the surrounding environment and also capable of providing adequate shelter and facilities in the event of another disaster.

There are several other aspects of livelihoods that the CRZ Notification does not address. These are related to reconstructing the lives and livelihoods of people in a manner that the existing pressures on scarce coastal and marine natural resources aren't further intensified. There have been several suggestions from fishworker associations such as the National Fishworkers' Federation (NFF)³⁶ and the NGO Coordination Centre, Nagapattinam to refrain from exacerbating the overcapacity of fishing fleets on the Tamil Nadu coast³⁷. The International Collective in Support of Fishworkers has suggested that livelihood options must be provided that reduce the pressure on the existing marine fishing fleet³⁸ (Mathew, 2005).

³⁶ See full report on http://www.tsunami2004-india.org/modules/xt_conteudo/index.php?id=12

³⁷ See reports on livelihoods at <http://www.tsunami2004-india.org/>

³⁸ See <http://www.newindpress.com/newspages.asp?page=2&Title=Second+Article&aDate=2%2F1%2F2005> for the full article.

The Government needs to decide whether it will restore destructive fishing technologies such as bottom trawling, by reintroducing and distributing trawlers to the fishing community, or whether it will take this opportunity to support and restore sustainable fishing practices such as artisanal fisheries. It has been suggested by fishworker support groups that the labour force earlier employed on trawlers that have been damaged in the tsunami be provided with alternate employment opportunities (Anon, 2005a). It has also been suggested that this opportunity of shifting to non-fishing livelihoods be extended even to the non-mechanised fishing sector (Anon, 2005b)³⁹.

Surveys of fisherfolk, mussel collectors and other coastal communities are being undertaken in some of the affected areas. Estimations of the loss of property should be carried out along with views of these communities on alternative livelihood options. This exercise must be a participatory one, involving the communities concerned. It should be recognised that no alternative livelihood option or settlement option should be forced on these communities, particularly those dependent on the coast, such as fisherfolk. It has been reported that several fishermen do not want to enter the seas immediately. Time must be given for these affected communities to come to terms with the disaster and overcome fears they may have about the sea that sustained them for generations.

3.2 Disaster Mitigation and rehabilitation measures

Clearly the Environment (Protection) Act and the CRZ Notification were both issued by the Central Government in recognition of the sensitivity of the environment. However, 19 major amendments have been made to this notification, nearly all of which have sought to dilute its protective measures. These amendments have introduced several relaxations for industrial activity and activities that really do not require the foreshore and the waterfront in order to be carried out. These include Nuclear Power Installations, Information Technology industries and Special Economic Zones.

The recent tsunami affected areas well inland from the seashore, but completely devastated the near shore settlements. It has been unequivocally expressed by several agencies including fishworker associations, environment groups and other concerned citizens, that the provisions of the CRZ Notification must be implemented. In most areas of the coast, the results of the implementation of the notification are evident from the numerous instances of unauthorised constructions on the coast and the countless petitions pending in courts on non-implementation and highlighting violations of the law. The Supreme Court has also passed explicit orders reaffirming the need to implement the notification.

This combination of nearly 14 years of poor implementation, coupled with 19 major amendments to the notification make the prospect of rehabilitation and especially disaster management according to the present provisions of the CRZ Notification a daunting task. While there exist several questions on the reconstruction of settlements in the CRZ areas, the implementation of these provisions is still possible if there is assiduous follow up by the State Government on the issues such as those identified in this report (See Section 4 on Clarifications and Section 3.5 on Suggestions (collated from various legal experts, NGOs and organisations involved in rehabilitation efforts)]. The real challenge before the State is the setting up of safeguards against natural disasters that strike the numerous industries that have been permitted access to the fragile coastal zone. The MoEF should undertake a process of **Review of the Amendments to the CRZ Notification** immediately, with a view to restoring and strengthening its protective provisions. The MoEF has been repeatedly requested by environmental organisations to do so in the past.

³⁹ See full report on http://www.tsunami2004-india.org/modules/xt_conteudo/index.php?id=8

3.3 Environmental concerns and rehabilitation measures

As a result of poor implementation of the CRZ Notification, several sensitive coastal features such as mangroves, coral reefs and sand dunes have been destroyed. While it is still debatable whether these features would actually provide protection from a force as large as the recent tsunami, anecdotal reports from various areas and news reports in the press suggest that mangrove forests, large sand dunes and in some instances even old forest plantations have been able to provide some measure of protection. These features could possibly provide a buffer against strong winds and break the velocity of oncoming waves.

While the scale of human tragedy is unquestionable and evident, the impacts on the ecosystem are still largely unknown. Rehabilitation efforts must recognise and integrate the knowledge that:

- There are limits to the resilience of the coastal and marine ecosystem.
- Adverse impacts on the ecosystem can affect livelihoods of communities dependent on them.
- Environmental considerations must be central to the precautionary approach in the rehabilitation process.

The coastline is a dynamic area and significant anthropogenic activities could easily result in environmental catastrophes. Constructions such as seawalls and groynes are known to exacerbate erosion problems in the coast. Such constructions are well known to interfere with the natural movement of sand particles causing erosion in other areas of the coast. This also prevents important ecological events such as the nesting of marine turtles on beaches, besides restricting human access to the inter-tidal zone. These constructions also mar the aesthetic value of the coastline, which can reduce potential incomes that could trickle in from truly eco-sensitive tourism.

3.5 Suggestions to determine areas for reconstruction incorporating provisions of the CRZ Notification

The following basic steps A, B and C maybe followed in determining areas for reconstruction and rehabilitation:

A. Identification Exercise to Determine CRZ Areas for Reconstruction and Rehabilitation

1. A list of coastal villages affected by the tsunami with lands located within the CRZ must be identified.
2. The maps from the Tamil Nadu CZMP for these villages needs to be located and checked to see if they have been approved by the MoEF or not.
3. In instances where these maps have been approved, the survey numbers and corresponding CRZ category must be circulated to all Government officials present in these regions, NGOs, Panchayat members and others currently engaged in rehabilitation efforts for verification and feedback. Copies of these must be available for distribution at the offices of the District Collector, at the village land records offices and Panchayat offices.
4. In event of the fact that the CRZ maps and zones for these villages has not yet been approved by the MoEF, the Field Team (see Pt B. below) on the CRZ Notification and Rehabilitation must carry out an identification exercise to assist the State Government in determining the zonation of these areas.

B. Constitution of the Field Team on the CRZ Notification & Rehabilitation

1. The goal of this Field Team on CRZ & Rehabilitation will be to carry out the ground verification of coastal geomorphological characteristics of the relevant coastal villages against the information

- provided in the Tamil Nadu CZMP maps for these areas.
2. This Field Team should consist of lawyers who have a good knowledge of the CRZ Notification, NGO representatives, officials deputed by the State Government, members of the Tamil Nadu State Coastal Zone Management Authority and representatives/ officials of rehabilitation programmes, ecologists, social scientists and a GIS expert.
 3. The Field Team will use the characteristics given in Para 6(1) of the CRZ Notification and the Conditions given in the MoEF's letter to the State Government dated September 27, 1996 to identify the various zones of the CRZ in the field.
 4. The Field Team would have the autonomy to decide on its manner of functioning and may adopt methods that are most suited for the achievement of its aims. This can include training of volunteers, creation of special teams for ground verification and the conducting of meetings.
 5. The team shall call for and conduct public hearings (assisted by the relevant District Collector at the District level and the relevant officers at the Taluka and village levels) for the purpose of identification of the various zones.
 6. The team will also collate information on available Government revenue lands where construction of shelters is possible, based on the conditions and norms of the CRZ Notification and the MoEF's directions.
 7. The team shall also identify the High Tide Line and other distances of the CRZ to be demarcated on the ground in these areas, based on the norms set out in Para 6(1) of the notification and the MoEF's directions.
 8. The report of the Field Team shall be open to inspection and must be made publicly available on the website of the Government of Tamil Nadu inviting suggestions and comments.
 9. Following the finalisation of the report, the Field Team shall carry out a verification exercise at the village, taluk and district level wherever possible, and with assistance from the concerned Government administrative officer.
 10. The Field Team shall submit its report at the earliest possible date incorporating the suggestions and comments from the public and shall provide information to the Technical Group for Rehabilitation (see Pt C. below).

C. Constitution of the Technical Group for Rehabilitation in Tamil Nadu

1. The Responsibility of the Technical Group shall be to identify suitable and appropriate building technologies, designs and integrated settlement designs for the affected areas of the Tamil Nadu coast.
2. The Technical Group shall comprise of an inter-disciplinary team of experts from various sustainable building and appropriate building design experts, experts from bio – developer groups, and representatives from the NGO Coordination / Resource Centre, ecologists, social scientists, disaster management experts, organisations such as INTACH who have developed rehabilitation planning guidelines and principles etc (This is only an indicative list and not complete).
3. The Technical Group shall involve local fisherfolk and other coastal communities in developing such designs such that these structures are appropriate to their cultural and lifestyle needs.
4. The participatory process undertaken by the Technical Group can also be extended to cover the post rehabilitation scenario and put the community in charge of maintenance and upkeep, which is often a gray area in public projects (Anon, 2005c).
5. The Technical Group shall collect and incorporate data from reports on past/recent cyclonic events and other such relevant data, to assess beach dynamics and appropriate settlement designs, from the point of view of disaster management/mitigation.
6. The Technical Group shall develop building norms and designs for both individual residential constructions as well as for the design, rebuilding and integrated rehabilitation of the affected communities.

7. The Technical Group shall pay special attention to life-styles and occupational needs especially in the areas of housing, infrastructure, utilities and distribution of shared spaces (Anon, 2005c).
8. The Technical Group shall also focus on the restoration of ecological features of the coast, where appropriate and shall build in the components of coastal protection using sustainable and ecologically appropriate technologies and designs.
9. The Technical Group shall also undertake a **Review of the Amendments to the notification** with a view to strengthening the protective clauses of the notification, keeping in mind future disaster mitigation concerns.
10. The Technical Group must be supported by the Tamil Nadu Government in the undertaking a demonstration of integrated rehabilitation measures in select villages.

Section 4

ISSUES REQUIRING CLARIFICATION FROM THE MINISTRY OF ENVIRONMENT AND FORESTS ON POST- TSUNAMI REHABILITATION EFFORTS

4.1 Land rights

There were settlements along the coastal stretches that were settlements of fisherfolk and were temporary structures on Government lands. It is assumed that these constructions did not have permission from the Panchayats and did not figure in any of the official land records. These structures would technically be considered as unauthorised constructions. The MoEF needs to clarify some of the questions with respect to reconstruction in CRZ –I areas. In light of the tsunami and the importance of maintaining the integrity of sensitive coastal ecosystems, it is recommended here that the MoEF not recommend reconstruction in the CRZ –I areas. It is strongly urged that adequate compensation, land and shelter be provided to those who were living in the CRZ –I areas prior to the tsunami. However, these new lands need to be located at a distance away from ecologically sensitive and dynamic areas of the coast. This recommendation on reconstruction within the CRZ –I areas needs to be especially flagged as a concern to the MoEF.

4.2 Tamil Nadu State Coastal Zone Management Authority

Point VIII of the notification S.O.23 (E) constituting the TNCZMA clearly states that the SCZMA is responsible for examining all projects proposed in the CRZ areas and that the SCZMA has to give its recommendations before the project proposals are referred to the Central Government or agencies entrusted to clear projects under the CRZ Notification. This implies that the SCZMA is the authority that has to approve or monitor residential constructions besides industrial projects. However, the tenure of the Tamil Nadu SCZMA expired on January 4, 2005 and has not yet been extended. It is not possible for the State CZMAs to function in the absence of an extended tenure. The MoEF should be requested to immediately extend their tenure in light of the recent disaster and the urgency of rehabilitation needs.

4.3 Functions of State and District Coastal Zone Management Authorities

Tamil Nadu has a coastline of more than 900 kilometres. It is not possible for one CZMA to monitor and implement the notification's provisions. The state of Karnataka has begun to demonstrate a positive correlation between the creation of District (empowered) CZMAs and the proper monitoring of the provisions of the notification. The execution of the functions of the State CZMAs across the coast could be greatly facilitated by the creation of District CZMAs whose basic functions would include: a) verification of details⁴⁰ of proposed activities in the CRZ areas, b) periodic monitoring of the coastal stretch to identify violations of the notification, c) booking of violators for violations of the EP Act and d) providing details of violations to the State CZMAs for necessary action.

4.4 Constitution of a Field Team to identify CRZ areas in affected coastal villages

At present, there is no accurate information available on the CRZ categories of the survey numbers along the affected coastal villages. The MoEF has only conditionally approved the Tamil Nadu State CZMP and

⁴⁰ Details could include distance of proposed construction from HTL, presence of authorised structures in the vicinity, physical characteristics of the area, violations of the notification etc

only 10 out of 31 maps have been revised. The correct identification of the various zones in the CRZ is important for the initiation of rehabilitation measures.

To expedite matters, it is crucial that a Field Team with the responsibility to provide field information and verification of CRZ areas and details of anthropogenic activity to the Tamil Nadu State CZMA and the MoEF, is constituted immediately. It is being proposed in this report that a Field Team assists the Tamil Nadu State CZMA in the identification of such zones and areas where rehabilitation and reconstruction can take place in accordance with the provisions of the CRZ Notification bearing in mind livelihood, environment and disaster mitigation concerns (See Section 3). The MoEF needs to be informed of this exercise should the Tamil Nadu Government consider the creation of the Field Team. In addition, the MoEF could consider issuing a notification/G.O/Circular expanding the functions of the TNSCZMA to also provide assistance to the *Field Team for CRZ and Rehabilitation* and the *Technical Group for Rehabilitation*.

4.5. Clarification of activities permitted in the Notification

At present the notification does not mention that fishing, drying and other activities, the storing of boats in temporary sheds made of thatch, etc are restricted or prohibited in any way. However, are these activities permitted in the CRZ –I areas? For the purposes of clarifying this, the MoEF should issue a clarification by amendment, stating the same.

Para 3 (1) of the notification states that clearance can be given for activities if they absolutely require waterfront and foreshore facilities. Logically this should include activities that are carried on by fisherfolk in these areas such as fish drying, making temporary sheds of thatch for the storing of boats and nets etc. the notification should explicate this. The notification states that all other activities require the permission of the State Government.

Para 6(2) of the notification makes certain allowances for CRZ –III areas, where some activities, which do not require a foreshore or waterfront (such as dispensaries), can be permitted in the CRZ –III areas. However, there are no such relaxations stated for CRZ –II areas. Bearing in mind that Para 3(1) mentioned above only allows foreshore and waterfront dependent activities, this implies that these special relaxations are only meant for the CRZ –III areas and not for the CRZ –II areas. The MoEF needs to clarify this point.

4.6. Amendment for appropriate building and settlement norms for tsunami-affected areas identified by the Technical Group

Section 3 of this report suggests the formation of a Technical Group for the identification of appropriate building technologies and integrated settlement designs for the tsunami-affected regions of the Tamil Nadu coast. The Technical Group shall devise norms that are in keeping with the CRZ Notification but shall also identify additional norms that are designed keeping in mind disaster management concerns and with a more holistic and integrated approach to rehabilitation. Some of these norms may be different and more detailed than those in the CRZ Notification at present.

The MoEF needs to be informed of these revised building norms and settlement designs for particular areas of the CRZ. Perhaps the MoEF could be requested to issue an amendment stating that these norms shall apply to the tsunami affected regions in Tamil Nadu, to ensure that there is uniformity in rehabilitation designs.

4.7 Definition of terms in the Notification

In its present state, the Notification does not provide any definitions of the terms used in the Notification. An indicative list of some of these terms is provided below. It may be useful to have a clarification of these terms from the MoEF by means of a glossary. Some of these include 'Foreshore and waterfront activities', 'Traditional rights and customary uses', 'Local inhabitants', 'Gaothans and fishing villages', 'New constructions', 'Reconstruction', 'Repairs', 'Buildings', 'Local architectural styles', 'Industries', 'Projects', 'Processes', 'Activities', 'Temporary structures /sheds'.

REFERENCES

Anon, 2005a, *Towards Post-tsunami Livelihoods Security for Fishing Communities in Tamil Nadu - A Preliminary Proposal from Concerned Citizens*, India

Anon, 2005b, *The Tsunami Disaster – Implications and Lessons for the Future*, Trivandrum, http://www.tsunami2004-india.org/modules/xt_conteudo/index.php?id=8

Anon, 2005c, *Rehabilitation of Tsunami affected communities – A brief statement of objectives*, INTACH, Chennai

Divan S., & Armin Rosencranz, 2001, *Environmental Law and Policy in India, Cases, Materials and Statutes*, Second Edition, Oxford University Press, New Delhi

Kocherry, T., 2005, *First Response to EU Aid Proposal*, <http://www.tsunami2004-india.org/>

Mathew S., 2005, *Helping fishermen: Proceed cautiously*, <http://www.newindpress.com/>

Sharma C., 1997, *Coastal Area Management in South Asia –A Comparative Perspective*, ICSF, Chennai