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Tsunamis and Coastal Populations

ACCESS TO NEW RIGHTS

by John Kurien*

The human and ecological catastrophe provoked by the tsunami of last 26th December in South Asia provided an intensely rare opportunity and momentum for international solidarity. This disaster has also permitted to discover the immense precariousness of living conditions of coastal populations, particularly fishing communities. Indeed, it is estimated that, out of the 300 000 victims, 40 to 80 % according to the countries affected, were fisherfolk and fishworkers.

Beyond this disaster, some crucial questions continue to be posed and the most asked can be summarized in these few words: How can such a tragedy be avoided ? Various attempts have been made in response. Without underestimating these initiatives, they however answer only partly the enormous challenges posed.

The analysis of John Kurien, attentive and committed observer since many years by the side of coastal communities merits close reading. It brings to light the contradictions of an economic system which was not able, or was not meant to take into account in its "development" plan the close interface between the land and the sea.

But the author's analysis does not stop there. Surely, he says, it is necessary to take adequate measures at all levels and to respect nature, which produces natural defences. But it would especially be necessary for coastal populations to be able to make use of "a new structure of rights" which will enable them to participate in the management of their natural resources and for the good balance of the coastal ecosystem. A goal which can only be realized if international solidarity, which was so generously shown at this occasion, is durably maintained.

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It has taken the rare tsunami event to bring the coastal areas and rural coastal communities in the Asian countries into sustained mainstream attention. In normal times, there has rarely been so much coverage of fisherfolk, and other coastal poor and their problems in the national and international media.

The terrifying images of death and devastation along the narrow 2-kilometre swath of coastline have left a lasting impression on the consciousness of civil society world over. The great risks and the vulnerability faced by coastal communities have been highlighted. It also brought to public attention the wide range of new economic activity that has moved towards the coast in the last two decades. The questions about how to protect coastal lives and coastal ecosystems are now debated much more extensively.

Unique Features of the Coast

There are four features of the coastal area ecosystem (CAE) which make it a particularly unique and sensitive ecological zone. First, the CAE is an 'interface zone' where land meets the sea. It is therefore dynamic and non-static in its geo-physical and chemical parameters. Secondly, the CAE is the ecosystem with the highest primary productivity on the planet.

Thirdly, the CAE is at the tail-end of the terrestrial ecosystem and consequently receives all the negative externalities of upstream terrestrial pollution. Fourthly, it is the ecosystem where the human population density is highest and home to several socially isolated and disadvantaged communities such as fisherfolk. The CAE, particularly in Asia, warrants greater attention than it received in the past. This is an important fallout of the post-tsunami developments and dialogues.

In many Asian countries, the coast has become a ‘new frontier’ for economic expansion over the last two to three decades[i]. Where once only isolated marine-fishing communities existed, we now have a wide array of economic activity. These include star hotels, nuclear power plants, pilgrimage centres, free trade zones, coastal highways, aquaculture farms, beach sand mining units, ship breaking yards, large chemical industry units, oil refinery units, sea cargo terminals, luxury residential apartments, fishing harbours, missile launching facilities and amusement parks.

A spatial analysis of the growth of gross national product (GNP) indicates that it is higher for the coastal tract in many countries. Considering that many of the major and fast expanding industries and cities in Asia are along the coast, such a conclusion is not sur-prising.

However, as with most ‘new frontier’ expan-sion, the new devel-opers – firms and indi-viduals with greater political and economic power -- rarely take the original inhabitants into confidence. The rights (unwritten and written) of the original settlers have not been respected. The freedoms that they once enjoyed have been curbed and they have become the recipients of all the negative externalities of these new development activities. These include displacement from their traditional occupation spaces, air and sea pollution, nuclear radiation, and invasion of their cultural rights, to name but few. Rarely have communities been given adequate compensation for loss of their occupation, dignity, land and cultural rights.

It also makes sad commentary that such development is often undertaken quite contrary to the laws of the respective countries. Loopholes are created and exceptions are made stating that these developments are in the name of ‘national security’, the compulsions of ‘globalisation’ or in the interest of larger ‘societal good’. The consequences of such an approach to development is that the weaker sections, those with little political and economic clout, always bear the negative, unidirectional externalities imposed by these development activities. Coastal people’s groups, fisherfolk organizations and environ-mental activists have systematically opposed such tendencies. However, these efforts have not created any major change in the direction of development policies or investment patterns in the coastal area ecosystem.

Coastal Vulnerabilities

The environmental ill-effects of ‘development’ of the coast must be viewed against this background. In several cases the hazards of development have remained dormant and it was the tsunami which helped focus on the vulnerabilities facing the natural assets and poorer communities along the coast.

Coastal tourism is a double-edged sword. This is particularly evident in southern Sri Lanka and Thailand. It does bring some informal employment for the poorer coastal communities in the service sector. But this is often only after they have been displaced from their main occupations such as fishing. Many have lost their land rights. Tourism has also resulted in a significant cultural invasion and loss of dignity for local women. There has also been the new threat of HIV/AIDS.

In India, the tsunami also exposed a possible nuclear nightmare. The Kalpakkam nuclear facility near Chennai in South India escaped major damage though many scientists in the facility died. This facility is located very close to the sea front in violation of the country’s coastal zone regulation norms. The exemption for location of the plant so close to the sea was granted in the name of ‘national interest’. This now raises many serious questions about the safety norms adopted during its establishment. The reprocessing plant holding glass-matted enriched waste is said to be just about 150 meters from the sea. Will it be safe if another tsunami or a major cyclone strikes?

In the urban coastal tract the property developers have either encroached into coastal land or bought it from the inhabitants at very low prices and built huge high rise flats facing the sea. This ‘enclosure movement’ has deprived many coastal communities of access to the sea. The result has been the development of new slums around these islands of luxury.

Beach sand mining has become a very profitable business in the face of scarcity of sand for construction activity on-land in Indonesia. In some parts of India, the beach sands contain rare earth that is used for production of costly metallic chemical elements like titanium. Considering Indonesia, Sri Lanka and India, there seems to be a close correlation between sand mining and damage caused by the tsunami.

All the pollution spewed into the rivers from upstream agriculture and industrial activity reaches the deltas on the coastal tract. The slower water movement in the deltas gives rise to greater concentration of the harmful effects. The presence of DDT and other more harmful pollutants have been reported. Poorer people using the deltas for bathing and collection of water for domestic use have reported the increase in skin aliments and other water-borne diseases.

The damming of rivers upstream causes a reduction in their deltaic flow in the summer months and this affects coastal agriculture. When land owners decide not to take a second crop, it is the agricultural laborers who are most affected. Tsunami waves made easy ingress deep into such dry river deltas and adjacent agriculture lands. This saline intrusion will affect normal agriculture activity for a few years.

Where sand dunes were removed for ‘beautification’ of the beach for tourism and mangroves cut for setting up shrimp aquaculture units, people’s settlements were more vulnerable and the damage by the tsunami was greater. This was evident in Thailand and in India. In India where coastal communities had nurtured mangroves and sea grass beds there were no human casualties and less damage to property compared to areas without mangroves. Our middle-class ‘stereotype’ image of flat beaches with waves lapping the fine white sand should be altered. Perhaps a more ‘wild and undulating’ coast and naturally vegetated estuaries will serve to preserve both coast and coastal inhabitants in times of cyclones, tidal waves and the rare tsunamis.

The coastal populations are thus faced with a pincer-like ‘double vulnerability’. They are affected by the adverse development from the landward and the seaward sides of the coastal area ecosystem. The coastal ecosystem being the tail-end ecosystem, the coastal populations have to bear all forms of pollution from the upstream and landward side generated by the mainstream society. However, though vulnerability to pollution is a ‘public bad’ it is hardly distributed evenly. The poor in the coastal area, who have historically had less entitlement to land and other human capabilities, carry a greater burden. The tsunami highlighted that it is the very same social group who are also disproportionately affected even by freak nature-induced forces from the seaward side of the coastal area ecosystem.

Negotiating Rehabilitation

The outpouring of global public concern in the form of financial donations for the victims of the tsunami has been overwhelming. The proper utilization of these funds -- both for immediate relief and long-term rehabilitation – will be the most crucial issue. Given the scale and suddenness of the disaster, the relief measures in all the countries has been handled reasonably well, despite some of the initial problems of coordination and the normal accusations of corruption. We have seen numerous examples of good public-private partnership in the provision of relief. The more tricky and complex issues relate to the rehabilitation, which should, in our opinion, focus on reduction of long term disaster-vulnerability of the coastal communities.

The post-tsunami disaster - vulnerability reduction measures, even those provided by the state, are neither 'pure public-goods' nor 'pure private-goods'. These measures often lie in the intermediate terrain of the spectrum between the two. Setting up a tsunami early-warning system is near the pubic-good end and building quake and tsunami resistant homes near the private-good end. Other measures like community facilities and social infrastructure is somewhere in between. It is therefore not just the ***quantum*** of funds and disaster-vulnerability reduction measures, but to ***whom*** they are provided, that matters most [ii]. Governments and international agencies should ensure that a rights-based, egalitarian distribution of assistance, which assigns equal weight to mortality, material loss and injury regardless of a person's wealth or social status, is put in place.

Internationally we need to create a 'moral solidarity' to ensure that public policies in the affected countries give priority to risk mitigation and rehabilitation of those who are less able to acquire it privately because they are poor and dispossessed. While the tourism industry should certainly be revived, the first priority in rehabilitation should however be given to create secure livelihoods for the poor communities in the coastal areas who have lost everything. As we have shown, the special nature of the coastal area ecosystem and its spatial location exposes the poorer communities living there to greater vulnerability and to a variety of environmental risks and disasters. Only a planned approach to enhancing their entitlements and capabilities can ensure current and inter-generation equity for them. International pressure and national commitment will be needed to achieve this.

In this context the long-term protection measures against frequent tidal waves, typhoons, cyclones and the rare tsunami events become important. The hi-tech systems for tsunami warning will require international co-operation, good and credible science and adequate funds to keep the system functioning. However, such macro efforts at the national and inter-national levels should be effectively complemented by sustained local-level measures. The need for greater community-based disaster management arrangements and preparedness should be accorded high priority. Local community level governance structures must have an important role in this. There is also need to encourage the use of nature's protection against nature's fury. The prospects of creating bio-shields on the coast with mangroves, beach grass and fast growing trees with the participation of the local coastal communities must be encouraged before the very costly engineering options such as sea walls are considered.

In the case of the most affected fishing communities the overwhelming priority is to 'get them back to the sea.' However, this also requires careful consideration keeping the local context of the community and the state of fishery resources in mind. There has been considerable pressure from well-meaning funding agencies to make quick provisions of new designs of fishing crafts or importation of fishing crafts from the North. Such steps should be carefully monitored because it can result in foisting fishing communities with inappropriate technologies and excessive fishing capacity that can be harmful to the tropical ecosystem in the long run.

The dislocation experienced by many fishing communities also provides a window of opportunity to raise the human capability of the able-bodied individuals in the communities by offering training in fields other than fisheries. The need to totally re-built fishing villages also gives scope for provision of better physical amenities and social infrastructure, which can have an important bearing on the quality of life in future. To make this a reality calls for greater participation of the communities in the rehabilitation process. The most important requirement for this is deliberate and careful planning – identification of the real needs and collective efforts for implementa-tion.

There is need for good quality, decentralized, public-private partnership arrangements – local government bodies need to link up with community organisations and NGOs – to ensure that rehab-ilitation measures are appropriate, of good quality, timely and fair.

New Structure of Rights

In the long run, sustainable development of the coastal tract and greater entitlements and capabilities for the poor in the Asian countries can be ensured only with a new structure of rights to the natural assets in the whole CAE.

On the landward side of the CAE there is need for a setback area which is at a safe distance from the high-tide line and in keeping with geo-physical realities of the coast line. This should be deemed a 'no development green zone'. This should be envisaged as playground for the sea. The sea gives and takes in the natural course of her being. It is in human interest that we learn to respect her vicissitudinous nature. The rationale for a coastal regulation zone (CRZ) should be seen in this light and not as a restriction placed on development activity.

It is this no-development green zone that can be suitably transformed into a bio-shield using vegetation or tree cover that is appropriate to the specific site. It should be a realm where every citizen in a country, and international tourists as well, have unhindered ***access rights*** to see and enjoy, with enduring respect and awe, the might and frolic of the sea. It is a place to enjoy the breeze, laze around on the shore, play in the sand, pick shells and marvel at the wonders of nature. Where coastal fishing communities exist, this can also be a zone where they have ***use rights*** to place their fishing assets and dry their nets.

The land contiguous to this no development zone should be earmarked on a priority basis for ***private property rights*** to hous-ing of communities who earn a livelihood from the sea – fisherfolk in partic-ular. All other claimants should only have the second priority. Such a move will be an important solution to taking these communities out of the current vicious cycle of poor habitat, ill-health and low educational capa-bilities.

The interface-zone where land and sea meet is the planets most productive ecosystem. Primary pro-ductivity is highest here and this zone forms the nursery for much of life in the sea. The ecological sanctity of this realm must be preserved. The role of strong ***state property rights*** or ***community property rights***, guarded by a vibrant coastal community and an alert civil society that is educated about the special features of this interface-zone, is a pre-requisite to this.

On the seaward side of the CAE an area of the sea at an appropriate distance from the shore-line should be designated as the littoral regulation zone (LRZ). This LRZ should be designated for ***exclusive access rights*** of fisherfolk who use traditional fishing boats and within this a sub-zone should be reserved exclusively for those using non-mechanised fishing crafts. The sedentary marine resources in this LRZ such as seagrass, seaweeds, corals and marine fauna should be nurtured preferably with community participation. Arrangements should be worked out to compensate communities which take the responsibility for protecting and rejuvenating such natural assets which should be deemed a ***common heritage right*** of society as a whole. The possibility of setting up marine protected areas (MPAs) or marine extractive reserves (MERs), where controlled harvesting of the resources is undertaken under community supervision may be examined.

Crafting such a spectrum of rights across the coastal space is a *sine qua non* for ensuring that the integrity of the natural assets of this realm is maintained across generations. This will lay the foundation for greater distributive justice in the CAE. This structure of rights over land and sea – particularly for poor marine fishing communities – is essential for them to achieve higher individual entitlements, develop their human capabilities and also experience a true sense of community.

This is the springboard from which coastal communities, that have been hitherto marginalised in the CAE, can reassert their new, collective economic and cultural identity. Care needs to be taken that this broad structure of rights is always contextualised in the specific bio-physical and socio-cultural context of the region or country concerned. This will contribute significantly to ensure a safe and sustainable livelihood for the coastal communities that currently inhabit the CAE. In the context of the tsunami, this will be a fitting tribute to those who lost their lives. It will also amply ratify the deeply spiritual Asian coastal proverb[iii] that the resources are 'for the dead, the living and those yet to be born.'

John Kurien

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1 - Kurien J, 2001, "People and the Sea: A 'tropical-majority' world perspective", The Tropical Maritimes Lecture Series, MARE, Amsterdam.

2 - For an elaboration of these ideas see Boyce JK, 2000, "Let them eat risk? Wealth, rights and disaster vulnerability", Working Paper 4, PERI, University of Massachusetts, Amherst.

3 - Kurien J, 1998, "Traditional ecological knowledge and ecosystem sustainability: new meanings to Asian coastal proverbs" *Ecological Applications* Vol 8 No 1 (Supplement).

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