

# PEOPLE AND THE SEA

## A 'TROPICAL-MAJORITY' WORLD PERSPECTIVE

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### INTRODUCTION

When the organisers of this conference contacted me, they asked if I could talk about the lessons that the North can learn from the South with respect to the issues about people and the sea, and, if possible, distil from this some items for a social science research agenda. I readily agreed because this would be an occasion to reflect on my experience both in the field and as a researcher. In preparation I reminisced about my years as a development activist, began rereading my diary notes, flipped through some of my research articles and e-mailed some Northern friends.

Putting my mind into reverse gear, my thoughts drifted back to that hot sweaty day in May of 1973 that changed my life. This was the day when I – person with a non-coastal, urban, middle-class upbringing – first set foot in an isolated, rural, sordid little fishing village in Kerala State, India. From that point in time, I then moved forward in first gear through my four years of unlearning and relearning in that fishing village and the neighbouring coastal tract. These four years resulted in a quantum leap in my understanding and appreciation of both people and the sea.

I read through the random diary notes I had maintained during this period when I was using my business management skills to help the artisanal fishermen to set up fishery cooperatives for more effective marketing of the fish they caught. These were the years when I perceived the enormous wealth that could be had from the living resources of the sea. I also experienced at first hand the paradox of poverty of the people that laboured to harvest and sell it.

I flipped through my own later research writings to see if there was something different about the way that I had analysed the issues pertaining to these matters. I discovered to my delight an article of mine titled 'People and the Sea' where I had pondered over the concept of a 'marine biomass community' and the 'seacosystem' (Kurien 1996).

I also shot off e-mails to close friends – all Northerners – who, in the course of the last three decades, have associated with me closely on matters relating to the sea, fisheries, and fisher people in the South. I urged them to reflect on whether they had picked up any special lessons that they thought worth mentioning. I received many precious thoughts, some of which I will share with you shortly. What I present before you today, in this largely non-academic manner, is primarily the result of weaving together material from these several sources. I don't think they are lessons. But hopefully, they may add up to a different perspective for looking at people and the sea

## THOUGHTS BEHIND THE TITLE

I have titled my talk ‘People and the Sea: A “Tropical-Majority” World Perspective.’ Why have I chosen to use ‘tropical-majority’ world perspective rather than the more familiar ‘South’ perspective or ‘Third World’ perspective? It is because I wish to dispense with the familiar North-South, Rich-Poor, and First-Third notion of viewing the issue of people and the sea. While I may still use these terms in the course of my talk – for the simple reason that all of us have a somewhat similar understanding of what we mean by them – to me the more relevant dichotomies are of a different order. The first, rich, northern countries are located predominantly in temperate ecosystems and account for the minority of the people on this planet. The third, poor, southern countries are located predominantly in tropical ecosystems and account for the majority of the people on this planet. To my mind, the principle differences between the people-sea interrelations in these two regions of the world hinge on these two dichotomies and the way they are perceived.

I do not subscribe to any ecological or demographic determinism. Yet I think that when we reflect about people and the sea across cultures and space, we do not pay adequate attention to the crucial questions regarding *how we should perceive the specific role of nature or the issue of human numbers and their organisation.*

To begin with, let me state that many of the manifestations distinguishing the *initial differences* that existed between North and South – whether in relation to technology or economic status – can be attributed to these dichotomies. I will go a step further and suggest that the current problems associated with the *evolving similarities* between the North and the South can also be attributed to them. To me, this is one of the most valuable lessons that I have absorbed in my years as a development activist, and one which has served me well throughout my career.

### *SPECIFIC ROLE OF NATURE*

Let me first illustrate the issue of the specific role of nature – the tropical-temperate dichotomy – with a puzzle from my activist days. I used to wonder why the design of the traditional fishing crafts was different along practically every 50 or 100 kilometer stretch of India’s coastline. Why, despite centuries of fishing, has India not evolved a more uniform maritime technological tradition? Was it due to the insular nature of the coastal communities? Could it be some sort of ‘resistance to change’ conditioned by socio-cultural factors? Since I had observed that the Christians used rafts, the Muslims, dugouts, and the Hindus, plank-built canoes, I wondered if there was any religious significance that could account for the differences? My queries with the fishermen only yielded answers asserting that their respective craft design was the best for their job, or that the particular design in question was what they had been skillfully using for generations.

When I began my researcher days, I realised that I was not alone in having these thoughts. Though separated by half a century, I was in the illustrious company of people such as James Hornell, who had raised this issue at the beginning of the 20<sup>th</sup> century in his now forgotten treatise, *The Origins and Ethnological Significance of Indian Boat Design* (Hornell 1920). Hornell set out to examine the racial and cultural concomitants to explain the diversity of designs. Ultimately he correlated boat

design specificity more closely with factors such as coastal formations, seabeds, wave patterns, and tidal amplitudes. He also discovered that the prevalent designs of fishing craft in each region had remained virtually unchanged for hundreds of years.

Much the same can be said about fishing gear too. The tropical seas contain thousands of species, each available in small quantities amid a great degree of mutual interaction, competition, and dependence among and between them. To be productive over the whole year, a 'tropical-majority' world fisherman would need an immense variety of nets, traps, and hooks. Small in size, selective in harvesting, passive in use, seasonal in operation – these were the distinguishing features of these fishing gears. Basically, this was a case of creating harvest implements to suit the complexity and rhythm of the tropical seas.

Modern fisheries development experts from the 'temperate-minority' world considered these methods 'inefficient'. Why use such a plethora of specialised nets and boats when a trawler with a trawl net and a purse-seiner with a purse seine can haul in the whole lot of species throughout the year?

It is well known that numerous boat and gear designers from the 'temperate-minority' world have provided advice to many of the 'tropical-majority' world governments on upgrading fishing technology. However, unlike Hornell, most of these experts have either been almost totally ignorant of the practical realities on the ground, or have chosen to ignore the sobering ramifications which such technology transfers often create .

In a long e-mail message, Rolf Willmann, a fishery economist from the 'temperate-minority' world, says:

Northern technology expert colleagues had some preconception of how to bring advanced Northern technology to benefit southern fishers. But they often failed and learnt the hard way that what already existed in terms of technology and practices was hard to beat given the various specificities such as climate, currents, seashore configuration and wave action, seasonal abundance and distribution of the multitude of fishery resources.... To develop an alternate appropriate technology was only possible, if at all, through close, continuous and prolonged interaction with the fishers.

Weren't the numerous failures around the world regarding the introduction of 'standardised' designs of craft and gear technology by international organisations and high profile consultants due mostly to their misreading of the role played by nature and the realities of the sea? And in cases which initially appeared successful, weren't the subsequent problems caused by these technologies also due largely to a lack of this understanding?

Understanding and working in concert with nature always has positive long-term dividends. This is a maxim that the labouring people of the tropical world took for granted and something that the first wave of modern development strategies chose to ignore.

#### *HUMAN NUMBERS AND THEIR ORGANISATION*

Now let me take up the 'majority-minority' perspective – the question of how human numbers and their organisation is perceived. Coming from the 'majority'

world, large human populations as such do not worry me. In the ‘tropical’ world, milling humanity is an integral part of any ecosystem there. What gives me the shivers and results in goose pimples is the ‘emptiness’ of the ‘temperate’ world along with the sense of loneliness felt even when people are around. This is why I consider the majority-minority dichotomy realistic. However, my concern here is not with the lack of explicit recognition of this fact. Rather, it is with the *excessive and irrational* emphasis on the arithmetic *per se* once that fact is acknowledged.

Let me illustrate this with examples culled from influential ‘minority’ world writers such as the neo-Malthusian Paul Ehrlich. After a visit to India in the 1960s, he wrote the alarmist book entitled *The Population Bomb*. It is worth reading a long and interesting passage taken from his explosive treatise to make my point:

I have understood the population explosion intellectually for a long time. I came to understand it emotionally one stinking hot night in Delhi a couple of years ago.... The temperature was well over 100 degrees, and the air was a haze of dust and smoke. The streets seemed alive with people. People eating, people washing, people sleeping. People visiting, arguing, and screaming. People thrusting their hands through the taxi window, begging. People defecating and urinating. People clinging to buses. People herding animals. People, people, people, people.... (Ehrlich 1968).

For academics and policy advisors like Ehrlich, Garrett Hardin, and others of their ilk from the ‘temperate-minority’ world, our planet is inhabited by far too many people, each one going about his/her own activity in isolation. In their analysis, the basic problem behind the lack of development and the crisis of environment in the ‘tropical-majority’ world, is that there are too many individuals doing too many things. In short, there are too many hands to fish and farm, too many mouths to feed.

What I wish to focus on is not about this fallacy of the ‘tyranny of numbers’. Today the views of Ehrlich and others – that human numbers *per se* are the main problem – has been challenged. It has also been disproved in specific country contexts. My interest is to focus on another dimension, one which I would like to call the ‘units’ problem. It pertains to the question of how we perceive the organisation of human numbers. Do we see these people as individuals *per se* or as individuals in the context of larger ‘real-life’ societal units or groups?

In the ‘temperate-minority’ world – though the family and the community may still be a unit of societal reference – the primacy of the individual within these units is supreme. In the ‘tropical-majority’ world, while the role of individuals is not denied, the unit of reckoning when examining ‘people’ issues is usually much larger. It is the family, the household, the clan, the caste, the tribe, and the community. Individuals are situated in these groups, but unlike ‘coconuts in a sack’ that do not interact with one another, in this case, they exist together in a ‘relational context’ where rights, duties, expectations, and outcomes are defined in relation to the ‘other’. Individuals are socially embedded in a larger unit of reference. They attain their identities in relation to these groups.

This is particularly true when one examines the rural population that is involved in primary economic activities like farming and fishing. Economic interdependence is strong, but social and cultural interaction is firmer and more long-lived.

Self-interest exists, but it is not the overpowering motivation at work. The group or community of individuals, by their constant and intense interactions, evolves through channels of reciprocity and trust, mechanisms for communication and information-sharing on both the wealth and welfare of its members. It is this *interaction* that gives the group or community the distinguishing characteristics, which cannot easily be identified with any *one or all* of its members.

Consequently, any development activity – whether in relation to the social, economic, technological, or cultural realm – which ignores the reality of the larger group context and focuses on the individual *per se*, may start out well, but is unlikely to be sustainable.

How many well meaning fishery consultants from the ‘temperate-minority’ world who have offered advice to governments and fishery sector stakeholders in the ‘tropical-majority’ world were totally ignorant of this real-life context of the ‘units’ issue of the organisation of human numbers? Take, for example, the growing awareness about the need to institute a system of property rights in fisheries. The popular prescription is to move towards individual transferable quotas (ITQs). Both from the sheer numbers perspective and particularly from the units perspective, such a solution to resolve access rights will be unworkable.

Rognvaldur Hannesson, the well-known ‘temperate-minority’ world fishery economist – an otherwise ardent proponent of ITQs worldwide – had this to say after he saw the ‘tropical-majority’ world reality in Kerala State:

Fisheries in so-called northern developed countries, are large-scale (though not exclusively) and export oriented and single species or mainly fishing for just one species. These are the conditions most appropriate for ITQs. This is very different from the scenes I’ve seen in Kerala where large numbers of fishermen in small groups land fish from small craft, sometimes on the beach, and the catch consists of a multitude of species. I have serious doubt as to whether ITQs could be implemented in any meaningful and effective way under such circumstances... (Hannesson, e-mail personal communication).

Despite such sound advice, however, the official policy of many international development agencies still opts for such individualised systems of access rights. If implemented, it will have the same effect on the social system of the fish economies of the ‘tropical-majority’ world that the earlier introduction of trawlers and purse-seiners had on their ecosystem.

Whenever advice from the ‘temperate-minority’ world has been given to the ‘tropical-majority’ world on fisheries, it has often been based on a poor understanding not only of the role of nature, but also the manner in which society functions and resulted in major failures. Isn’t this a reasonable conclusion? Francis Christy Jr., a renowned fishery economist and development adviser, is less charitable on this issue. He feels that:

To a considerable extent in the past, the problems of fisheries in the South were exacerbated by misguided and damaging development projects from the North. This was due to two deficiencies in development aid: (a) an almost total lack of understanding

of the special characteristics of the nature of fisheries and (b) an insensitivity to the organisation of social customs and cultural mores of local fishing communities. The North has subsequently learned something more about the former factor but has responded generally by throwing up its hands and doing nothing, because it has not figured out how to provide the continuity of attention that is necessary. There are also some improvements with regard to the latter factor. In both cases, the North has much to learn from the South if it is to provide useful aid to the South on fishery (Christy, e-mail personal communication).

I have spent a considerable amount of time explaining my subtitle. Before you grow restless wondering when I will get on with the subject, let me proceed to sketch out the contours of a few themes that I would like to place before this august body for consideration. They arise out of the rationale of my subtitle and form elements of a larger social science research agenda for the 21<sup>st</sup> century on the broad issue of people and the sea.

### THEMES FOR CONSIDERATION

Viewed from the point of the planet's resources, the 21<sup>st</sup> century will be the century of the seas. It will be the aquarian century. We will get from the sea everything that we got so far from the earth and more. Our grandchildren may consider renaming the planet as 'sea' or 'ocean' and the name 'earth' will probably fall into disuse.

In the Rig Veda (1500 - 1000 BC), the seas and oceans were considered sacred. Varuna, the Ocean god, was the one who upheld order. To the Rig Vedic people, oceans were vast and expansive: they were the providers of wealth; they bound the earth; everything flowed into them; they were full of energy, and; they were an important part of the climatic cycle. Writing nearly three millennia later in the 17<sup>th</sup> century, a famous Dutchman, Hugo Grotius, poetically portrayed similar concerns:

The ocean, that expanse of water which antiquity describes as the immense, the infinite, bounded only by the heavens, parent of all things; the ocean which the ancients believed was perpetually supplied with water not only by fountains, rivers and sea but by the clouds, and by the very stars of heaven themselves; the ocean which, although surrounding this earth, the home of the human race, with the ebb and flows of its tides, can be neither seized nor enclosed; nay, which rather possesses the earth than is by it possessed (Grotius 1916:37).

Just as we have begun to realise the importance of the tropical forests, we will begin to become aware of the ecological sanctity of the 'seacosystem' for the survival of the human species.<sup>1</sup> The similarities and dissimilarities of the seas and oceans which wash the coasts of our countries, and the variety of ways that people relate to them for livelihood and leisure, will become major negotiating themes in future. The recently published report of the Independent World Commission on the Oceans (Iwco) entitled 'The Ocean Our Future' conveys to the world some of these sentiments today.

What I present here, as themes for consideration, are by no means all-inclusive. They are restricted to the ‘tropical-majority’ world perspective and naturally to some of my own concerns with coastal communities.

#### STUDYING TRANSITIONS

Some wise sage has said that the only constant thing in this world is change. The notion of static social structures needs to be replaced with one where we envision dynamic patterns of change. The Chinese are a people that have had a thoroughly dynamic worldview and believe that change and transitions always bring with them both danger and opportunity.

The study of socio-cultural and techno-economic transitions is an area to which we must pay considerable attention in the coming decades. The dynamics of the multifaceted transformation that is taking place in the communities depending on the sea warrant careful documentation and analysis.

Let me illustrate this with the inter-generational transition that I have observed first-hand in the village in Kerala where I started my activist career. In the early 1970s, nearly all the working fishermen were illiterate. As Roman Catholics, they used the sign of the cross for their signatures. By all standards of reckoning, they represented the poorest communities in Kerala – a situation which remained even into the mid-1980s. I refer to them in a research paper as ‘outliers’ in a state known the world over for its high human development index.<sup>2</sup> Their technology was unsophisticated but required initiation from childhood for its use. They operated rafts called kattamarams with cloth sails and split bamboos as oars. The gear had many small and delicately designed cotton nets and an array of hook and line sets, used seasonally for specific species of fish. They fished very near shore and ventured out only as far as triangulation of their fishing position with appropriate landmarks was possible. What used to amaze me was the speed in which changes in gear designs, materials used, and fishing practices spread in the community. The classic example was the way Norwegian hooks replaced the Japanese and locally made ones, countering the ‘resistance to change’ theories propounded by so many technology diffusion experts.

A recent visit to the village to attend the funeral of a fisherman with whom I had been close provided the social occasion to meet together many of my old friends and their now grown children. Regarding the technological transition, one of them remarked:

*Chetan* (elder brother), when you were here we fished with the *maram* (the raft) and *kambi* (hook-lines), now our children fish with enthrum (outboard motor), *vallam* (plywood boat) and *kambuter* (computer – the older generation’s way of referring to the use of hand-held GPS instruments (V. Augustine, personal communication).<sup>3</sup>

This amazing technological transition was the result of the educational and social transition in the families. My friends had managed to educate some of their children, using state incentives won by their collective socio-ecological political action.<sup>4</sup> These changes were coterminous with the opening up of the Indian economy to the process that we call globalisation. Many of the curbs on capital good imports were removed,

which led to the introduction of new, improved beach-landing boats, small propulsion devices such as outboard motors, and miniaturized communication and tracking devices like cell-phones and hand-held GPS instruments. These new devices helped remove the exclusive dependence on 'learning-by-doing skills' that, for educated youth, were once barriers to entry. They also helped remove the 'stigma' associated with artisanal fishing. In fact, the introduction of these new devices has given a new respectability to small-scale, beach-based fishing, which is proving to be socially and culturally convivial and technologically appropriate to the 'tropical-majority' characteristics that we have described.

However, this rather rapid transition was not without some adverse 'side effects'. This makes the need for researching its ramifications all the more important. First, the older generation worked within a rubric of community rights in respect to resources, with a keen awareness of the rights and responsibilities of individuals. In the advent of the earlier state-sponsored fisheries development, this notion of rights was not legally recognised and the coastal waters were made an open access terrain. This resulted in a huge inflow of lumpy capital assets into the harvesting sector using technology that was copied from the 'temperate-minority' world. The present investments in the small-scale sector enter into an ecosystem already damaged by inappropriate technology use. Without a clear delineation of access rights, a context of excessive investment, over-capacity and higher costs prevail. The income distribution implications of this are worrisome. Second, there is a noticeable move away from the use of small, diverse, passive, seasonal gear (for specific species of fish), towards larger, standardised, active, perennially used non-discriminating types of nets.

What we see here are some of the problems associated with the *evolving similarities* between the fisheries of our two worlds that I mentioned at the outset of my talk. These factors, acting in tandem, can create a major crisis in fisheries; indeed, in some countries this has already happened. Here again I will quote Rolf Willmann:

Currently, there appears to be a strong convergence about the lessons one can learn from the fisheries and fishing communities in both the North and the South: fishing is getting harder: there is less fish, there are many more who also claim some part of the coastal resources and marine ecosystem, there is water pollution and habitat destruction, and the costs of fishing skyrocket. The only solace of fishers is that fish prices, by and large, also go up.... (Willmann, e-mail personal communication).

The picture I have painted of what happened in Kerala is certainly applicable to a vast number of small-scale fisheries in the 'tropical-majority' world today. In a context of higher population pressures and shrinking opportunities for people outside the fishery, the choices of livelihood are increasingly limited. Consequently, measures that will promote small-scale, skill-intensive and science-intensive technologies that are appropriate to the nature of the 'tropical' seasystem warrant emphasis. Equally important is the need to move from an open access regime and redefine rights of access for a 'new unit' of people – a group that can be defined as having a 'connectedness' to the sea because of their willingness to labour there.

Transitions are rarely smooth. Resistance and friction are inherent dimen-

sions of change. So too is the element of surprise. Transition studies are, by definition, dynamic and call for a far greater trans-disciplinary approach. Transitions take place at different scales and levels not necessarily moving in the same direction. Analysing the changes over time and space also warrant different research methods. There is a challenge here to equip social scientists to approach these complex, evolving realities differently. Transition studies also have very significant policy implications.

#### *MULTIPLE-USE CONFLICTS AND PROPERTY RIGHTS*

The aquarian century ahead will bring with it new challenges for the people and the sea. The burgeoning population pressure present in the coastal areas and the rapid urbanisation and industrialisation of the landward part of the coastal tract, point to new opportunities, conflicts, and threats. It is far beyond my competence, however, to cover these issues in any significant manner.

To my mind, the aspect which will warrant careful investigation and research in the coming decades relates to the globalisation-spurred claims on the coastal zone and the consequent conflicts between users with historical (*de facto*) rights and those adopting new strategies to make *de jure* claims.

The new urban and industrial developments along India's coastline are illustrative of the new strategies being adopted in the 'tropical-majority' world for utilising the coast and the sea. They are the result of the liberalisation of the economy in response to the ethos of globalisation. A list of these new uses include: huge cargo ports; oil and gas refineries; amusement parks; desalination plants; ship breaking yards; military and defense complexes; nuclear power plants; sewage treatment plants; luxury seafront housing complexes; exclusive tourist resorts linked to marine sanctuaries and reserves; freetrade export processing zones, and; marine aquaculture enterprises.

Most of these new activities are in response to numerous factors. They include, *inter alia*: (1) global capital seeking natural resources situated in a context of less stringent coastal environmental regulations and an unclear regime regarding land and sea rights; (2) rich 'minority' world tourists seeking the visceral pleasures of nature in the 'tropical' world; (3) opening up markets in the 'minority' world for commodities and food produced by cheaper 'majority' world labour; (4) the changed security perceptions of governments about other countries in the region, and; (5) the altered, leisure-seeking patterns of the richer, urban consumers in the 'majority' world.

There are bound to be conflicts between the various competing interests involved in these new activities. However, our concern here is that these activities also conflict with the time-honoured use of the coast and the sea by coastal people long settled there. My focus is on people for whom access to the coastal lands and the sea are matters of livelihood, with very few other viable alternatives. Those advocating more intensive use of the coastal ecosystem have often argued that this is the surest way to absorb coastal communities into the 'mainstream' of the economy. The best empirical evidence in India suggests otherwise, however. In reality, these new investments actually have rather low labour absorption capacities.

There is even a more pressing issue. The new investors stake their claims for *de jure* property rights and get it, while traditional coastal communities are unable

to establish their unwritten ‘traditional community rights’ to the land they have inhabited and the sea on which they have laboured for centuries. The result is that coastal communities tend to become ‘refugees’ in their own homes. Re-establishing their rights must top the agendas of ‘tropical-majority’ countries.<sup>5</sup>

This opens a whole new realm of debate about legal pluralism and the manner in which these different claims to resource access and use can be resolved. How can new forms of community-based property rights be articulated, codified, and implemented? How can access to coastal (land-based) and littoral (sea-based) resources be combined to provide for a structure of overlapping diachronic, spatial, and resource appropriation rights to a set of multiple users with minimal negative reciprocal externalities among them? Some initiatives in the Philippines that examine the socio-cultural, techno-economic, and legal dimensions hold great promise.<sup>6</sup> This is an area where a lot more sharing of international experience across the ‘temperate-minority’ and ‘tropical-majority’ worlds, will augur well, keeping in mind the specific conditions of each.

#### *CONTOURS OF THE COMMUNITY-MARKET-STATE TRIAD*

The community, market, and state, have each – by themselves – played a major role in the interactions between the people and the sea. The writings and maritime expeditions of Thor Heyerdahl indicate that coastal communities in ancient times crossed the sea and made contacts across continents. The archeological evidence of seacraft of this bygone age also bears testimony to the highly developed craft construction technologies, knowledge of the features of the oceans, and the sailing and navigational skills of the seafaring communities of both the temperate and tropical worlds. All this was pre-market. Vibrant trade and the consequent development of markets closely followed these cross-continental cultural contacts. More recently, with the coming of the nation state in the ‘temperate-minority’ world, this inter-continental sea trade was accompanied by state-sponsored colonial conquests.

In the 20<sup>th</sup> century we have witnessed how ideologies that have stressed the primacy of state over market and community have risen and fallen. These dramatic events have brought discredit to the role of the state and neglected the centrality of the community in the economic and social well-being of society. At the dawn of the 21<sup>st</sup> century, we are now swarmed by acclamations of another kind - the overwhelming praise of the new magic of the market juxtaposed against the feeble voices that continue to stress the role and relevance of both state and community. Attempting to create yet another niche, we also observe today a movement that romanticises the centrality of community to the neglect of all else.

I wish to signal here the need for a community-market-state triad, the relevance of which, at least in the ‘tropical-majority’ world, merits highlighting. The autonomy of the individual, the household, or family, is circumscribed by the welter of both tradition (history) and aspirations (future) provided by the community. Using a maritime metaphor, the community serves as an anchor by giving people roots and stability that prevents aimless drift, and renders solace in times of distress. The market is like an oar or engine, providing momentum that can be modulated to respond according to the need for speed. The state functions as the rudder, giving vital direction as, and when, desirable and necessary. My contention is that we need

to situate the socio-cultural and the techno-economic components of the economy inside this triad if we want to create a convivial and sustainable relationship between people and the sea

What I would like to emphasize is that community, market, and state are complex social institutions with realms of influence of their own. However, they evolve both separately and also as a consequence of interactions between them. This means that none of these institutions can be described in static terms. They are dynamic and need to be constantly redefined. This process of redefinition and linkage is, by itself, a major function of social science research on issues concerned with people and the sea. Having spent time at some of the coastal communities in Europe and Scandinavia, I can clearly see that this proposition has relevance in the 'temperate-minority' world too. This is particularly true in the light of the increased globalisation and liberalisation of markets, and the withdrawal of the state from several of its earlier functions, much to the chagrin of coastal communities. It is also rather clear that in these countries there is a need to strike a balance between community, market, and state to design structures for fisheries management. In the words of Gunnar Album, of the Norwegian Society for Conservation of Nature:

We are writing quite a lot on the need for the state (the resource managing authority) to use the community as a management tool and as an indicator for the success (or lack of such) of management. Our state is managing fish, money and boats. But the decision on how to fish, where to fish, where to sell, how to invest etc. is done by people in the social context of the community and family... it is the community (in a wide definition) that needs to be more active to take control over market mechanisms and initiative to legislation so that market and state can become trustworthy and predictable for the people who take the everyday decisions that influence the well being of the sea and its inhabitants - human as well as fish (Album, e-mail personal communication).

In the 'tropical-majority' world, we need to examine the issue of redefining 'community'. Until rather recently, the community was largely coterminous with a caste, tribe, clan, or physical village setting. The socio-political changes of the recent decades have made such associations less pronounced. The interaction with the market and the state in this process has also changed the contours of the constituents of community. In the 'tropical-majority' world, there are many people who often may not have adequate purchasing power to 'present themselves in the market'. The role of the state in modulating markets therefore attains added significance and signals the fact that 'the market' is both a political and an economic construct. As for the state, it is certainly not neutral or unbiased; it represents the interests of some elements of the community more than others. Yet at the same time, it is the only institution that has the 'autonomy' to claim to represent the interests of society as a whole.

I think the subject of community-market-state interactions is a very fertile area for further research, both within and between the 'temperate-minority' and 'tropical-majority' worlds. As a topic, it cuts across disciplinary boundaries and narrow analytical frameworks. I would flag this as a very important priority:

Trade in its larger sense, as indicated earlier, has been an important reason that people relate to the sea, both in prehistory and today. Here we wish to narrow our concerns to the issue of trade in the living resources from the sea and the bearing that this has on basic food security of people. The ‘tropical-majority’ world now accounts for the larger share in this trade and at the same time is home to the people in greatest need of basic food security. Does this pose a contradiction and conflict of interests per se?<sup>7</sup>

Since international trade is undertaken in response to market demand, unbridled trade can lead to a context where food security is compromised. However, *sustainable* international trade does not jeopardise basic food security. Let me explain. Sustainable trade will materialise only if it is juxtaposed between sustainable harvesting and production in the ‘tropical-majority’ world on the one hand, and sustainable consumption in the ‘temperate-minority’ world on the other. Achieving this requires committed people’s participation at both ends.

In the tropical world, the specifics of nature have an important determining role in the dynamics of sustainable harvesting and production. As mentioned earlier, it presupposes certain kinds of technology and institutional arrangements. Small, passive seasonally-operated fishing gear and access arrangements can be devised with the participation of those who labour at sea. Sustainable consumption of the living resources of the sea in the ‘temperate-minority’ world will materialise only when there is a modification of the structure of markets and market demand. The challenge in this regard, is to move from a context of being market-friendly mass consumers towards the creation of people-friendly markets – markets which are concerned about how and by whom things are produced – and markets that place a premium on consumption which respects the rights of discerning consumers. Only strong and committed consumers’ movements can achieve this.

There have recently been some much-publicized attempts to achieve this linkage between sustainable harvesting and market-driven consumption that we need to be cautious about. Initiatives like the Marine Stewardship Council (MSC) where two multinationals act in unison – one which dominates the international fish trade and the other which moulds the ‘temperate-minority’ world’s environmental consciousness – need to be viewed circumspectly.<sup>8</sup> Linking ‘tropical-majority’ world fishworkers’ organisations and movements to ‘temperate-minority’ world consumer movements is the most appropriate approach to achieve this linkage.<sup>9</sup> Evaluating strategies for such linkages should form the basis for a major policy research agenda in the coming decades.

However, this is no substitute for careful, quantitative, diachronic analysis of process-specific and commodity-specific flows between the ‘tropical-majority’ world and the ‘temperate-minority’ world. Understanding the changing structure of trade at both ends is also a matter of priority. Viewed from the perspective of the ‘tropical-majority’ world as a whole, the pressing question arises concerning whose food security should be given priority – the poor fishing communities who stand to gain income from international trade or the poor consumers who stand to lose protein? How can we strike the right balance in this regard?

Governance has been defined ‘as the systematic framework of social, economic, legal and political structures within which humanity chooses, and/or accepts, to manage its affairs.’<sup>10</sup> The way humanity has chosen to manage the seas and oceans has been an issue that goes back to early history and need not be enumerated here.<sup>11</sup>

In 1930, at the League of Nations Conference on the Codification of International Law, the ‘bio-geographical solidarity’ of the oceans was recognised as the basis for a new jurisprudence for the governance of the seas. With regard to the living resources of the sea, this was considered particularly relevant given that ‘fish are internationalists’ largely ignorant of jurisdictional frontiers. In response to this recognition, the remaining decades of the 20<sup>th</sup> century witnessed numerous failed and successful attempts to define various kinds of rights and responsibilities over different spatial jurisdictions of the sea. Some of these also resulted in defining and implementing appropriate governance structures.

Governance of the vast and diverse seas and oceans must necessarily be nested – multi-tiered and overlapping. The *res nullius* status of the seas is a concept of the past. The global, regional, national, and local levels attain their own special significance depending on the nature of the resource or the ecosystem service which people intend to use from the aquatic terrain. The seas and oceans viewed as carbon sinks warrant a global perspective. The use of waves for generating electricity calls for local specificity. Harvesting fish needs a multi-layered approach from the local to the global.

The macro trend of globalisation and the counteracting micro trend of localisation (for example in the form of decentralisation of governance) in many ‘tropical-majority’ world countries give rise to the need for new approaches to governance at both levels. It also implies that there is a need for appropriate contemporaneous action at both levels – what the business world today calls ‘glocalisation’ (global and local). However, what is important to note is that these are also the two levels where the apparatus for governance – whether by state or civil society – is at its weakest. It is at the mezzo level – at the realm of nation state – that the governance structures and the relevant institutional arrangements are well laid out. I am alluding here to the UNCLOS Treaty and the concomitant national laws pertaining to the governance of the Exclusive Economic Zones and realms within it.

At the macro-global (and regional) levels there are numerous conventions and treaties that have a bearing on different aspects of the use of the sea as a ‘tap’ for resources or as a ‘sink’ for wastes. Their effective implementation is the major bone of contention. At the micro-local levels the trend towards village-level governance – the *panchayat*, *barangay*, or *desa*, as it is called in some ‘tropical-majority’ world countries – generally stop at the beach and do not normally consider the possibility for moving seaward.

What we have mentioned above is the nation state (and multi-nation) driven governing apparatus which has fairly rigid legislative instruments and command-and-control mechanisms at their core. Whether all the future governance choices before humanity at different levels can be expressed through these structures alone is questionable.

We are witness today to collective public action by civil society at all the

levels. At the global level, it takes the form of transnational, multi-national segments of civil society who share a certain degree of 'moral similarity' which defines their collective identity. Moreover, there is no need for these groups to have unanimous agreement, cultural homogeneity, or coercive unity, as the growing 'protest movements' against the World Trade Organisation (wto), the International Monetary Fund (IMF) and the World Bank (WB) aptly demonstrate. Other examples include the various international networks of associations and organisations relating to issues of mangrove protection, shrimp aquaculture, fishworkers' and fisherpeople's rights. At the mezzo level of the nation state, there are increasing pressures on governmental structures by both adversarial and collaborative stakeholder groups and non-governmental organisations. On matters relating to the utilisation of coastal resources in 'tropical-majority' countries, such pressures are on the increase. The micro-local level is also replete with the upward evolution of diverse expressions of participatory public action by 'face-to-face communities'.

Can these civil society actions coalesce into intra-level and cross-scale interactive structures of governance? What is the nature of the linkages that these civil society actions can and should establish with the nation state and multi-national structures of governance? Will such cross-scale interaction help to widen the definition of problems and opportunities, enhance the relevance and reliability of intra-level assessments, change the analysis of causal factors and response options, and alter the nature of 'plausible futures' that are envisioned for people's relationships to the sea?

The dilemmas as well as the opportunities before humanity on issues relating to the sea – a few of which we have enumerated above – call for greater participatory responsibilities where the various stakeholders jointly create institutional arrangements (rules and norms) for effective governance. This is a complex and evolving engagement that is at once socio-cultural, economic, and political. Envisioning research strategies for understanding this is a major research challenge.

## INTERNATIONAL RESEARCH COOPERATION AND SOCIAL SCIENCES

Finally, I would like to say a few words about international research cooperation that is bound to increase in the years ahead. I will end my talk with a brief reflection on the social sciences.

The organisers of this conference talk about 'an agenda' for the 21<sup>st</sup> century in maritime research in the social sciences. I will be charitable enough to grant that they wish to chart a 'new agenda' and not add items to the old one. However, there are some current realities that we must recognise before we can successfully forge ahead. It may be appropriate to enumerate what these realities are so that we can come to terms with them. First, the most important is undoubtedly the question of funds. The 'temperate-minority' world is the main source of international research funding. Second, the research agendas are dominated by the paradigms of the funders. Third, most of this international funding is for research to be undertaken by researchers from the 'temperate-minority' world in the 'tropical-majority' world.

Can a *new* agenda for maritime research in the social sciences into the 21<sup>st</sup>

century be undertaken if these current realities continue unabated? My own answer is an emphatic 'NO', and I believe that we should use this important conference as a springboard for renewing our commitment to thinking afresh about the ways that we can move slowly, but steadily towards a more multi-dimensional and truly participatory approach on all counts.

The issue of funding will be a difficult one to tackle. The fact of the matter is that the economies of the 'temperate-minority' world have historically accumulated a surplus of funds, which will always work to their advantage. In short, we start from an 'uneven playing field'. I also recognise that many institutions and researchers in the 'tropical-majority' world are not able to tap financial resources from their own countries particularly for social science research. Yet I am personally unwilling to accept the proposition that those who accompany the hard cash must also automatically 'call the tune'. Research funds must function as the lever to unearth the vast storehouse of knowledge. They must not become the vehicles to appropriate it.

We must be in a position to think of a Research Contribution Parity (RCP) index whereby the time and services of all persons in an international research project can be factored on the same basis for commensurate services and expertise. This will provide a more balanced picture of the real contribution of researchers from the 'tropical-majority' world in international research projects. This is an area that has not been adequately addressed so far.

In the 'majority' world, there is a considerable amount of first-rate social science work on issues relating to people and the sea. Institutions and researchers there undertake the funding, set the agenda, and provide the physical realm of research. 'Majority' world publishers and journals then disseminate the results. Unfortunately, very little of this work is recognised or cited in the maritime research circles in the 'minority' world. An honest attempt to set a new research agenda must take stock of this unrecognised research. This may also call for selective capability building to provide research results with the language flair and other trappings needed for recognition in the 'minority' world.

Every researcher, particularly from the 'temperate-minority' world, should be encouraged to understand issues relating to people and the sea in their own backyards before they become experts about what happens elsewhere. I also support the creation of contexts where more social science research is undertaken in the 'temperate-minority' world by researchers from the 'tropical-majority' world. This sort of 'reverse collaboration' is an important way of imbibing new perspectives, particularly about the role of nature and the issue of understanding how people function in different socio-cultural environments.<sup>12</sup>

I realise that what I have said may sound like wishful thinking. This is, indeed, the case as today we move increasingly towards a model of competitive market bidding for social science research funds. This strongly reinforces the existing disparities between our two worlds in this domain. The discussion of research partnerships between institutions in the 'tropical-majority' world and the 'temperate-minority' world all too often is merely gloss, because 'bidding conditionalities' warrant the token presence of a few blacks and browns.

But all is not lost. I can mention a very noteworthy example that takes a fresh approach to all the aforementioned issues. It is an initiative from this country: the

Multi-Annual and Multi-Disciplinary Research Programme (MMRP) of the Netherlands Directorate General for International Cooperation (DGIS).<sup>13</sup> It forms part of an international research programme directed towards building research capacity in the ‘tropical-majority’ world and differs significantly from other donor-supported research programmes in the following aspects:

- There is a long-term commitment to support research in the ‘majority’ world countries;
- Each such country programme places emphasis on the process itself, rather than on projects per se;
- Responsibility for agenda setting and implementation is left to autonomous bodies in the ‘tropical-majority’ world, placing considerable confidence in local leadership;
- The DGIS restricts its role to one of facilitator.

Such examples, though they can now be counted on your fingers, provide hope that all the fanfare about new agendas and new approaches are not just old red wine in new green bottles!

This conference is intended to celebrate the establishment of the Centre for Maritime Research or MARE. The aim of MARE is to collect, advance, and apply scholarly knowledge on the relationship between humankind and the marine and coastal environments. MARE hopes to take a worldwide perspective and promote comparative regional analysis. It is probably in order then, that I conclude with a reflection on social sciences.

Social science in its broadest sense is an ordered enquiry about some aspects of social reality. It has a language of communication which its practitioners create in their efforts to understand and explain some aspects of a complex and evolving reality. This therefore calls for setting aside the postulational method and its emphasis on *a priori* reasoning as the basis of social knowledge. Alternatively, it calls for understanding and appreciation – empirical and intuitive – of the actual social reality before moving to levels of abstraction, which are required for a more systematic study of this reality. The nature of abstraction required to understand a relationship between people and the sea, which is primarily at the level of subsistence and survival (as in the ‘tropical-majority’ world), will differ from what is required where the relationship is more for leisure and enjoyment. Sensitivity to these differences and a grasp of their rationale are necessary prerequisites for assuring the relevance of social scientific enquiry in future.

People and the sea the world over are similar in many respects; this is what makes social science *possible*. People and the sea are also different in many respects: this is what makes social science *necessary*. There are still many areas of ignorance both with regard to the similarities and the dissimilarities. Therefore, we should not be too self-satisfied about our current stocks of knowledge. I believe that fashioning more nuanced maps to identify and address these areas of ignorance is the best approach to begin this new phase of research. This is the main challenge before all of us here and the one that I hope MARE will take up and lead in the 21<sup>st</sup> century.

## NOTES

<sup>1</sup>The role of the sea, particularly the continental shelves, for sustaining life on earth has been highlighted by James Lovelock (1987).

<sup>2</sup> See Kurien (2000a).

<sup>3</sup> It is interesting to note that in India today, even among the so-called deep sea fishing vessels only few use GPS instruments.

<sup>4</sup> I analysed the political ecology of fisheries in Kerala, highlighting how the fishworkers were able to change the investment and social welfare priorities of the state through collective action (see Kurien 1992)

<sup>5</sup> The efforts undertaken in Kerala State, India, can be found in Kurien (2000b).

<sup>6</sup> A recent workshop held in the Philippines on 'Marine and Coastal Resources and Community-based Property Rights' addressed these issues from a theoretical and practical policy oriented perspective.

<sup>7</sup> I have attempted to examine some of the relevant issues in Kurien (1998a).

<sup>8</sup> A debate on this initiative is contained in a collection of articles in a publication of the International Collective in Support of Fishworkers (ICSF) (see ICSF 1998).

<sup>9</sup> See for an example of this fishworker- fish consumer linkage at an international level Kurien (2000c).

<sup>10</sup> This is the definition used by the World Humanity Action Trust (WHAT), that recently constituted a Commission on Fisheries Resource which, in turn, produced the report 'Fishing for the Future' (WHAT 2000).

<sup>11</sup> A very brief treatment of this can be found in Kurien (1998b).

<sup>12</sup> I have personally benefited from such 'reverse collaboration' with a recent visit to Iceland accompanied by the economist Rogvaldur Hannesson with financial support from the World Humanity Action Trust in the UK (see Kurien 2000d).

<sup>13</sup> One of these programmes is situated at the Centre for Development Studies, Kerala, India. Others operate in Vietnam, Bangladesh, Bolivia, Nicaragua, Tanzania, Mal, Uganda and Egypt.

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