

BEYOND TED

A Fresh Look at the TED Controversy from a Fishermen's Perspective (With Special Reference to Orissa Coast)

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THE PROBLEM

Though a sizeable section of the Trawl owners (540 nos. out of nearly 1100 based in Orissa coast, as reported by Sri A.C.Nayak, Deputy Director Fisheries-Marine, Govt of Orissa, Cuttack in June 2002) have formally accepted TED from the State Fisheries Department of Orissa for installation in their trawl nets in last April and May 2002, the controversy around TED (Turtle Excluder Device) from the standpoint of the trawling industry, which we shall examine a little later in course of this article, is far from over. Rather the situation has been rendered more complicated by this Government orchestrated act of distributing TEDs in a perfunctory manner among the trawl owners, who are neither convinced on its efficacy nor willing to use it at the ground level. The moot questions therefore still remains live i.e. how far TED shall be practically installed and used by the trawl owners in the coming seasons of turtle breeding, and how far the long persisting, ugly phenomenon of mass death of turtles can thereby be checkmated? Or reversely, taking the dilly-dallying attitude of the trawling industry towards TED for granted, is there any way out ?

INDIA'S COMPULSIONS FOR TED

As a matter of fact, India was one of the first generation countries to have responded to the initial talks on TED at international level started by the Government of USA as a sequel to Public Law 101-162 Section 609 signed November 21, 1989, which inter alia mandated ban on shrimp imports from foreign countries, that don't have in place a regulatory program for incidental catch in commercial shrimp trawl fisheries. As far back as the late eighties the Government of India in the Ministry of Agriculture had started their move for coordinating various government departments and agencies of Centre and maritime States for implementation of TED. Despite such early efforts at bureaucratic level, no headway was made in taking the message of TED down to its chief stake-holder i.e. trawlers until 1996, when the Government of USA declared a fresh deadline for imposing a trade embargo on shrimp-exporting countries including India for latter's failure to comply with American TED regulations, as a sequel to the verdict of US Court of International Trade effective from 1st May 1996.

Only Orissa alone was then exporting nearly 7,000 metric tons of marine fish products worth approximately a foreign exchange of Rs.175 crores in the year 1995-96 (which has been increased to 10,650 tons of products worth Rs.380 crores in 2000-2001). Were not

TED to be enforced as soon as possible in Indian waters, the shrimp exports of India to USA and other countries stood threatened with dire consequences, a hard truth which awakened the Government of India to the unavoidable option for taking the TED to its coastal waters.

TOWARDS SENSITISING OF THE TRAWLING INDUSTRY FOR TED

In 1995 while the Government of India, faced with an imminent trade embargo was seriously toying with the idea of introducing TED for the trawlers operating in its turtle-sensitive coastal waters, the NMFS (National Marine Fisheries Service) USA, the agency responsible for implementation and monitoring of the world-wide TED Technology Transfer Programme, came forward to offer the necessary training on manufacture, installation, operation and management of TED along with an on-sea demonstration of its performance to the selected group of managers and crews of India's trawling industry, provided the Government of India so desired. On receiving a green signal from Government of India, an American expert team led by Charles Oravetz of NMFS, USA paid a visit to Dharma mouth in February 1996 to explore the possibility of a TED Technology Transfer Programme to be held for the trawlers of Orissa coast.

1st Workshop-cum-Demonstration on TED, November 1996

As a part of the USA aided TED Technology Transfer Programme, the 1st National level Workshop-cum-Demonstration on TED was held at Paradeep, Orissa from 11 to 14 November 1996 under the joint aegis of Dept of Fisheries, Orissa and Project Swarajya, an NGO in technical collaboration with a 4-member expert team from NMFS, USA, where representatives of various trawler associations were present too along with the heads of concerned scientific and technical bodies at national level. Though the trawler leaders welcomed the very initiative of the Government for organising an interface with them on the new technology, they however expressed their deep apprehensions about its feasibility at local level from the point of view of fish catch, that mattered decisively in respect of their livelihood. Moreover, they promised to put in their experience and skill in cooperating with the Government for developing an appropriate fishermen-friendly TED-like technology for Orissa coast.

Keeping in view the apprehensions of the trawling community so expressed, the Workshop recommended inter alia:

“ Para 8: The Workshop recommends that appropriate technologies interfacing with the existing Turtle Excluder Device be identified, developed and popularized for protecting and conserving the sea turtles, and that the concerned GOI Ministries be requested to take necessary steps in this regard.”

Further Mr. Wilber R. Seidel, Fishery Administrator of NMFS, Government of USA, who headed the 4 member US team to that very Workshop had made it abundantly clear in course of his talk that the corresponding local device for Indian coasts or for that matter

for any specific coast need not be an imitation of the US model of TED, but a comparable device that served the purpose of TED.

Concern over Mass Death of Sea Turtles

The first ever video survey showing mass death of sea turtles on an unprecedented scale in Garirmatha and other coasts of Orissa, conducted by Project Swarajya in March 1997 and widely publicized in the media even across the world brought forth the issue of turtle versus trawler into the center-stage again. Plethora of stories made by various quarters came out in both print and electronic media depicting the trawlers as the killer number one of the endangered sea turtles. Interestingly enough, a number of Resolutions expressing concern over trawling related mass death of Olive ridleys in Orissa coast were unanimously adopted in the International Symposium on Sea Turtle Biology and Conservation held successively in 1999 and 2000.

India's Interim Victory at WTO

Since then quite many legislative and administrative measures were undertaken in various aspects of turtle conservation, but only a few in regard to further studies, development or popularisation of TED. The reason for such lackadaisical attitude of the Government towards TED was perhaps the complacency arising out of their provisional victory of 4 South Asian countries (India, Pakistan, Thailand and Malaysia) at the interim arbitration over Sea Turtle-Shrimp Trade dispute at WTO, Geneva held in November 1997.

PIL in Orissa High Court

Having heard a PIL, the High Court of Orissa delivered their Judgement on 14 May 1998, which had observed in conclusion:

“ Para 21: All trawlers operating in the area should be required to use devices like Turtle Extrusion Device (TED) to avoid entanglement to sea turtles. Poaching or netting of sea turtles should be seriously dealt with. The coast guard operating system should be strengthened to prevent poaching and netting the sea turtles.”

Para 28: Let the State and Central Government take necessary steps to see that the aforesaid directions are implemented forthwith. With the hope that the Olive Ridley and the young fisher boy eking out his living by catching fish smile at and not run away from each other, we part with the case. “

The spirit of the High Court judgement that called for a holistic approach to the interests of both turtles and fisher folk was least understood by the concerned executive agencies and practically no substantial step taken by them to resolve the persisting tangle around TED.

When the initial euphoria over India's interim victory at WTO subsided and the Damocles' sword i.e. threat of an imminent US ban on shrimp imports reappeared, the Government of India again got reactivated to do something about redesigning TED so that the trawl owners accept and implement it.

But except a few small efforts for field-trial of the slightly modified Georgia Jumper model of TED here and there in Paradip and Gahirimatha areas of Orissa Coast in the year 1998, there was no serious follow-up programme for indigenising the TED technology for Orissa coast involving the trawl owners themselves, the prime stake holder group in a sea-based turtle conservation programme.

Role of Coast Guard and Forest Department

Following the notification of offshore waters off Gahirmatha as the Gahirmatha Marine (Wildlife) Sactuary on 27th September 1997, the Coast Guard along with their patrolling fleet came on the scene in a big way and started seizing the vessels indiscriminately with their net, catch and crews on the ground of 'illegal fishing' allegedly done in Sanctuary waters. The seized men and material along with the vessels were handed over in due course to the Rajanagar Forest Division, where the cases so booked against the vessel owners lingered on for months, even years and an unbridled game of extortion of penalties and bribes by the Forest Dept employees ensued thereon openly, adding thereby salt to the injuries already suffered by the fishermen in terms of money and reputation. As a result, the fishermen community in general and trawl owners in particular got almost completely alienated from the entire range of turtle conservation measures implemented by the Government, Coast Guard or NGOs. A queer situation emerged, in which increasing drastic action against the trawlers went on along side of continuing mass mortality of turtles in Orissa coast.

Amended OMFRA Rules declare TED use compulsory

To complicate a complex situation further, the State Government of Orissa in the Department of Fisheries, brought out a Notification dated 17.4.2001 for amendment of the Orissa Marine Fishing Regulation Rules 1983, which disallowed operation of any mechanized fishing vessel without the attachment of a Turtle Excluder Device. While this notification was made, there was no minimal preparation made at the ground level by the concerned Government agencies for facilitating the compliance by the trawl owners with the conditions of the notification. Most of the trawl owners didn't know what was a TED, and how to install or operate it. Moreover, ironically enough, not a single TED was available either in the open market or in Government store for the purpose of use by a trawl owner. Under the circumstances, the notification remained virtually a defunct order of the Government at ground level.

2ND WORKSHOP-CUM-DEMONSTRATION ON TED: An eye opener

At this critical juncture came up the GOI-UNDP Sea Turtle Project in 2000, administered by Wildlife Institute of India, Dehradun with its thrust on participation of the stake-

holders in various activities of the project. As a part of this Project, a Workshop-cum-Demonstration on Turtle Excluder Device was held from 9 to 12 February 2002 at Paradip, under the joint aegis of Dept of Fisheries, Orissa and Project Swarajya, where the scientists of national level technical agencies concerned with marine environment and fisheries, such as CMFRI (Central Marine Fisheries Research Institute) , CIFT (Central Institute of Fisheries Technology), FSI (Fishery Survey of India) and WII (Wildlife Institute of India) and the Fishery and Wildlife Officials of the Centre and State were participants along with a large number of delegates from various trawler associations working in Orissa coast. In course of the various sessions of the Workshop the leaders of the trawling Community, taking the cue from TED, which symbolized to them 'the inauspicious return of an alien regime to usurp their native territory' voiced in unison their long pent-up discontentment openly, loudly and even at times aggressively against the entire range of Government policies that affected the fisherman's life. Again, peculiarly enough the leaders of both traditional fishermen and mechanized boat owners, forgetting their old cleavages posed a united front of solidarity in launching their virulent protest against any manner of imposing restrictions on sea fishing from the top without consulting them. The reason for the traditional fishermen (gill netters) allying with the trawl owners was their alleged harassment caused by the Coast Guard and the Forest Dept on the grounds of illegal fishing in the turtle zones of the estuary. Their protest was manifested in the form of slogan shouting and demonstration both inside and outside the meeting hall.

Woes of the trawling community

Further in that Workshop it was recognized by all that the TED programme couldn't be treated in isolation from the overall policies and programmes in fisheries sector adopted by the Government. Every participant of the Workshop heard the harrowing stories one after another told from the horse's mouth, such as how in absence of a boundary demarcation in the sea between the fishing and non-fishing zones, the trawl owners have been inhumanly treated by the personnel of Coast Guard and Forest Dept., how increasing, multiple tax burdens in the form of Central and State Sales Tax, Income Tax, Excise Tax and Octroi Tax etc. coupled with sky-rocketing price of raw materials, declining catch, and lack of proper international or local market etc. have destroyed their economic backbone, how the necessary diesel subsidy was denied to them by the State Government on the shrewd plea of financial crunch despite the recommendation by Murari Commission and so on and so forth.

Perspective of the trawling industry

The perspective of the trawling community was succinctly articulately by Sri Kameswar Narayan Praharaj, President, Balasore Trawl Owners Association and Convenor All Orissa Trawl Owners Coordination Committee in course of his long and eloquent speech on the inaugural day of the Workshop itself. Sri Praharaj observed inter alia,

“Everybody expects the trawl owners to sacrifice some of their interests for the sake of the turtle. But we are no longer prepared to get ourselves sacrificed just as the hordes of sheep do. We have been branded as thieves and killers, and we silently bore with it, but no longer.

“As regards the turtle conservation, we are never opposed to it. Only a wrong notion has been created in the minds of the people about the trawling being solely responsible for turtle killing.

“We are ready to cooperate with the Government in the matter of turtle conservation, and that too in an authentic and unfailing manner i.e. by closing our trawling industry in the turtle breeding season, provided we are paid compensation for the said period of closure. Otherwise there would always remain an apprehension about the trawlers killing the turtles. Moreover, during this period of ‘no fishing’ we might help the conservation of sea turtles. Let the Government provide us with the necessary training and equipment for hatching of the turtle eggs. And we shall do the job just in lieu of some allowance. But no body heeds our plea.

“On the question of TED, our plea before the Government is that, if we use TEDs, there should not again be 'no fishing zones' in our coast. When no turtle would die because of TED, why should there be 20 km areas of the coastal waters reserved as 'no fishing zones'.

“As you know, a man condemned to death is invariably asked, "What is your last will?" But we the trawl owners without being asked about our last will are simply hung to death. Can any body tolerate such a state of affairs?

“I would have refused to use TED”- Secretary Fisheries

Even the Commissioner-cum-Secretary Fisheries, Orissa Sri A.K.Tripathy, who presided over the sessions on the Inaugural day shared his skepticism about TED with the trawl owners in the following words:

“..... if catch loss would be 20% to 25% due to use of TED, why should a trawl owner use it? Again there is always the apprehension of large fishes escaping through the TED hole. Were I a trawl owner myself, I would have refused to use it.

“Let me now tell you that our Department has no pre-conceived notion on TED or any other measure to be imposed on the fisher folk.

“We therefore want the trawl owners to examine and re-examine the present design of TED and experiment it in the sea by themselves.”

Various Factors of Turtle Mortality other than trawling:

In the said Workshop the trawler owners were found to be unanimous in their opinion that there were several factors responsible for turtle mortality in Orissa Coast such as change in the natural configuration of nesting beach, lighting from the Wheelers Island , mass-scale destruction of eggs by soil erosion and inundation, predation by the carnivorous land animals, environmental pollution etc. Without addressing to these factors, the Government only concentrates their target on the trawl owners, as if the latter are solely responsible for the turtle killing. Such a biased approach, they think, has not only failed to check the growing turtle mortality but also hurt the sentiments of trawl owners and alienated the trawler owners completely from the Government proclaimed turtle conservation programmes..

Memorandum by the Trawl Owners

To further reinforce their definite positions on various issues, the All Orissa Trawl Owners Coordination Committee circulated a 9 Point Memorandum on the last day of the Workshop, which in gist articulated their grievances on the poor state of the trawling industry and also their positions on TED and turtle related issues. They argued that while the sea turtles congregate within the shallow waters only 3 to 4 km off the coastline, and that too in a particular period of the year (2 to 3 months only) for mating and nesting, an extensive area covering upto 20 km off the coastline should not be reserved as 'no fishing zone'. There being a multiplicity of factors biotic and a-biotic responsible for mass scale turtle mortality, the trawler industry and the fishermen communities shouldn't be blindly and one-sidedly blamed for it. Taking the cue from the fishing results of just held on-sea TED demonstration, they felt that if TED be used, it would result in the escape of fish catch of a trawler as much as by 50%. The Memorandum called upon the CIFT to work out an alternative device in place of TED, which would cause no loss at all to the fish catch while safeguarding the turtle , and the alternative device should be field tested at least for a year and its viability established before the trawling industry is asked to use it. They further assured that they were willing to the extent of completely closing down the trawl industry for the entire period of the turtle season to dispel the doubt from every body's mind as regards their role in turtle killing, provided they shall be compensated for the loss to be so incurred following the proposed closure. The Memorandum concluded, "In recognition of the spirit of self sacrifice so shown by the trawling industry and also in the interest of furthering the economic development of the fishing communities, necessary financial assistance should be provided to them on one hand, and their involvement in the turtle conservation measures elicited on the other."

Recommendations of the TED Workshop

After a heated debate throughout the Workshop, the 10 Point Recommendation that was adopted at the end did reflect to a significant extent the dominant concerns of the fishing communities too. The Recommendation mentioned inter alia

- “1. Measures taken by Departments of Fisheries, Forest & Environment for protection and conservation of sea turtle needs further assessment to bring more transparency.

2. Trial of the indigenous CIFT/ any other models of TED or their modification in Orissa Coastal waters for their economic viability in participation with users and observers to continue at least for one year.
3. CIFT-TED not only shows exit of turtles successfully, but also the fish escape which seems to be higher, envisages further improvement in the fabrication of TED and it's installation.
4. Use of TED does not arise unless fishing activities are allowed in the no- fishing zone (OMFRA/WLA), hence amendment is warranted in the Wild Life (Protection) Act / OMFRA.

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9. Formulation of fishermen welfare oriented schemes to suitably compensate the loss of fish catch, if any, which users sustain due to construction/use of TED.”

TRAWL INDUSTRY'S CRITIQUE OF CIFT TED

As noticed from the 4 day deliberations of the February Workshop, the trawl owners of Orissa Coast were found to be sentimentally averse to the very idea of cutting a hole at the throat of their net for attaching a grid-like metal structure of TED. The TED is still looked upon by the trawling community of Orissa Coast as an alien device being superimposed on them by the Government of India under the threat of trade embargo by the Government of USA. This device might work well for the exclusive shrimp trawling which is in vogue in USA and other developed countries. But in India where mixed catch is the overwhelming trend, they think, the TED is of no use.

When in 1996 the trawl owners of Orissa coast were first exposed to the TED in course of the Workshop-cum-Demonstration held at Paradip, it was the Georgia Jumper model (considered to be a standard model internationally) of TED having 7 bars, which was demonstrated for experimental fishing on sea in the presence of American experts. Since the general opinion of the trawlers was that the space between the bars being narrow, even middle size fishes, let alone big fishes would escape through the exit hole. Then for a brief period in 1998 some experiments were made by the personnel of State Forest Department, Orissa on a slightly modified model of Gergia Jumper TED under the name TSD (Turtle Saver Device), which had 6 bars in place of 7. The intention behind reducing 7 to 6 bars was to allow more space between the bars for the middle size and big fishes to pass through it into the cod end of the trawl net. But the trawl owners were not satisfied with the working of the TSD as it didn't help them in respect of catching large fishes, which was exactly their craze in the changed environment of declining shrimp catch.

Taking the cue from the failure of TSD having 6 bars, the latest model of TED was designed by the Scientists of CIFT (Central Institute of Fisheries Technology, Cochin), which further reduced the number of bars to 5 only, to cater to the craze of the trawl owners for medium and big size fishes.

But following the on-sea demonstration of CIFT TED on 11th Feb 2002 off Paradip coast, the trawl owners did also unanimously reject TED as a device, not at all worthy of installation in their net. As the Secretary, Orissa Marine Fish Producers Association, Paradeep, Sri Kishore Rath spoke on the valedictory day of the Workshop inter alia:

“As a CIFT scientist told, their present TED was designed only for shrimp fishing..... as you know, trawlers of Orissa coast go for a mixed catch which consists of not only shrimps but also all other fishes including big fishes ... the shrimp catch is low, and no trawler of Orissa can survive only on the basis of shrimp catch. Other exportable fishes like Pompret, Seer fish, Catfish and the like are very much sought after along with shrimp to keep the trawling trade viable.”

“Yesterday we observed that big fishes were not at all caught with the use of TED..... we found that in one haul, there were only two Pomprets, one within the main cod end and other in the extra cod end. It shows 50% of loss in respect of prize catch like that of Pompret. Pompret is a prize catch, since as you know it fetches a good price. If 50% of such fishes get lost through TED hole, we shall be pushed to a precarious situation.”

Use of extra cod end questioned

During the on-sea demonstration of TED on the third day of the Workshop, an extra cod end was attached to the exit hole of the trawl-net so as to ascertain the nature and amount of exited catch including the turtles and fishes, if any. As reported by the concerned Assistant Directors of Fisheries, Orissa who were present throughout in the demonstration, the two vessels which had extra cod end showed the escape of fish to the tune of 3.85% and 14.83% respectively. But a leader of the trawl owners Sri Dillip Kumar Sahoo who spoke among others in the Valedictory Day on 12 February, 2002 questioned the very mechanism of attaching an extra cod end. It is worth quoting his words:

“ I must tell you that the extra cod end attached was meant to deceive us (trawl owners) only. I want to ask, how was the extra cod end positioned during trawling? Two scientists were there. I have photographed it too..... An extra cod end is 7ft. in length and placed on top of the net. A float was attached to the extra cod end, so as to keep it steady. But in my view, the float would keep the mouth of the extra cod end in a perfectly open position always. Moreover, the extra cod end was kept hanging in an upturned position. If you keep a bag with it's open mouth downward, can it retain any material? There shall always be strong pressure from above for the materials to fall and flow downwards. Thus the fishes which escaped through the TED hole into the extra cod end, got back into the net, and ultimately to the main cod end again..... the dead fishes naturally got down into the net and only living fishes stayed back in the extra cod end.”

Thus, the loss owing to TED, which you consider to be 5%, 10% or 15% would be actually 50 to 60%.

Thus the very method of proving the efficacy or otherwise of TED in exiting turtle and retaining fish catch, by way of attachment of an extra cod end was unanimously and vigorously questioned by the trawl owners in the above Workshop.

It is now, therefore evident that whatever be the number of bars or placement angle of TED, the trawl owners are mentally resistant to use it for fishing purposes, no matter they continue to show a formal compliance on pen and paper with the amended OMFRA rules or have officially accepted the TEDs from the Government Dept under an unavoidable pressure. They say, let the Government first of all conduct a field trial of TED of any new design they may have, for one complete year, and come up with a balance sheet of profit and loss Then only they would consider using it.

As a matter of fact, the number two recommendation of the Workshop-cum-Demonstration at Paradip on 9-12 Feb 2002 was trial of the indigenous CIFT/any other models of TED or their modifications in Orissa costal waters for their economic viability in participation with users and observers to continue at least for one year.

So, the need of the hour is to think out an alternative outside the prototypes of TED designed in USA or their redesigning for Indian costal waters by this or that technical agency.

TED DISTRIBUTION, A GRAND FIASCO?

Strangely enough, despite the assurance of the Fisheries Secretary and Recommendation of the Workshop not to impose TED on the trawl owners against their will, the Department of Fisheries, Orissa went on pressurizing the trawl owners to accept the TED. And they have been successful in formally distributing a total of 540 nos. of CIFT TEDs among the trawl owners of Orissa coast during April and May 2002. As reported by the Deputy Director of Fisheries (Marine), the beach-wise break-up of the TEDs distributed is as follows:

Kujang (Paradip)-	310
Puri (Astarang)-	70
<u>Balasore (Dhamra)-</u>	<u>160</u>
Total :	540 nos. of TEDs

However, there is no evidence of installation or use of such TEDs in any trawl net. Its acceptance by the trawl owners is more a formal and official one than genuine. The trawl owners of Orissa being typical businessmen themselves don't want to enter into any confrontation or litigation with the Government, lest their other interests such as issue and renewal of fishing license, accident relief, diesel subsidy, disposal of pending cases etc. would be jeopardized, a fact which explains their acquiescence in the well orchestrated drama of TED distribution by the Fisheries Department.

TRAWL GUARD- A RAY OF HOPE ?

In this gloomy scenario, a ray of hope has shone forth with the emergence of Trawl Guard, a completely indigenous device invented by some local fishermen who claim that it has the merits of TED minus its controversial features. It is called Trawl Guard, because it is fitted to the mouth of trawl net, to guard it against all possible hazards arising out of accidental entry of unwarranted objects living or non-living into the net during the sea fishing. Unlike the TED which is a metal grid, installed at a particular angle at the throat of the net along with an exit hole, the Trawl Guard is simply a completely collapsible cover made of only 4 kgs of nylon ropes and placed externally at the mouth of the net. It is a maze of big, big square holes, through which all conventionally found big fishes can enter into the net, while all huge-size objects living or non-living including the turtles would be obstructed at the very entry point. The size of the holes can be increased or decreased depending upon what size and species of fishes a trawler seeks to catch with the help of his trawl-net and what kind of species are sought to be excluded.

Though yet to be recognised by the scientific circles, the device has been operating since the aftermath of the super cyclone of Oct 1999. Some local fisherman used this device to cover the mouth of their trawl nets so as to avert damage caused by the big, big logs of wood, which were then deposited in the sea bottom during the cyclone. The fishermen who used it, out of their pragmatic common sense, further found that this device not only safeguarded the trawl from the logs of wood, but also from the accidental entry of any unwarranted by-catches like turtles and sharks.

On the 3rd day of the latest TED Workshop at Paradip, when experimental trawling was conducted on TED in 4 vessels commissioned by the Fisheries Department, a separate experiment on operation of Trawl Guard was conducted off Paradip coast in the presence of the trawling crews and some delegates of the Workshop. The author had the privilege of witnessing on board this demonstration of Trawl Guard.

Speaking on the origin and novelties of the new device, Sri Rakhal Shyam Mishra, ex-Deputy Director of Fisheries who was closely involved with all the TED experiments held along Orissa coast from inception, observed inter alia,

“You should be glad to know that an easy, simple and low-cost method which does not allow escape of fish at all has come to my notice meanwhile. One Sri Jogendra Dalai, a trawl worker of Maa Janani oneday informed me that they were covering the entire mouth of the net by criss-crossed nylon ropes, keeping large square-like holes all over, through which the fishes would enter inside the net, but not the turtles. As I came to know about the background of this device from them, they had started using it just after the cyclone to prevent the logs of wood that had accumulated in the sea bottom, from entering into and damaging the net. In course of time they found that the device did also work for turtle exclusion. I suggested to them to attach a float to the upper end and a sinker to the bottom end of the cover, so as to keep the device tight and straight. With this

reform, there would be little possibility of the turtles getting entrapped into the holes of the cover.

“As I learnt, within half an hour of hauling, they could get 3 to 4 kg of shrimp in addition to other B class and C class fishes. Though I won't clam the new device to be a great discovery, out to solve all the problems arising out of TED use, you might however try it as an alternative to TED. If it is found effective in retaining the desired fish catch while exiting the turtles, you would be free from a lot of hassles by using it- such as cutting your net before the cod end, putting a metal grid there and that too with a proper angle and flap system, and adding extra load and enhanced fuel cost of the engine.”

Thus the trawl guard can be called a truly indigenous device. There is an imperative need for extensive field study of the application of trawl guard in a variety of coastal conditions and efforts for its further refinement, based on the feedback from the field from time to time.

BY WAY OF SUMMING UP

As evident from the foregoing analysis, the discourse on TED controversy in a single maritime State (Orissa) of India led us to question the manner in which not only TED programme but also the entire range of allied legislations and policies of the Government in the marine fisheries sector have been designed and implemented in a top-down style over the years, in complete disregard of the very users of the marine resources i.e. fishermen and their interests and aspirations, the result being a severe jolt to the said legislations and policies of the nation accompanied by an ever growing disenchantment of the fishing communities towards fisheries administration as a whole.

While the cardinal principle ‘Users should be the managers of a common property resource’ has already gained currency in application in different parts of the world including some developing countries like India, it is sadly enough, yet to receive a take-off signal from the orthodox think-tank of India's officialdom, especially in fisheries sector. Under the circumstances, a progressive minded and informed civil society have to do the job of ‘belling the cat’ .

Keeping the above perspective in view, the Government need to first decide on the imperative of evolving an appropriate holistic strategy for the marine fisheries sector, wherein the participatory and sustainable management of the marine resources would be the business of the user communities themselves with the Government agencies and NGOs playing a facilitator's role.

In the specific context of the turtle versus trawler tangle in Orissa coast, the immediate objectives of an appropriate strategy of the above order shall be, how the trawling community, who have so far been unfairly blamed for the mass mortality of turtles can be made the kingpin of the turtle conservation programmes of all kinds.

The following are a few salient, broad components of the envisaged strategy :

- a. New fisherman friendly schemes to be introduced and existing ones implemented properly with their involvement in the administration of the schemes
- b. The existing laws, rules and regulations concerning marine fisheries need be reviewed and corresponding streamlining of fisheries administration undertaken so as to remove the incongruities and bottlenecks from the fishermen's angle.
- c. One single Department of the Government need to deal with the all categories of fishermen and all fishery related issues, and concomitantly a single window disposal of fishery related matters need to evolve and take shape across the country in place of the existing scenario of multiple authorities controlling the fate of fishermen in a parallel and uncoordinated manner.
- d. The fishermen organizations need be entrusted with the job of formulating appropriate turtle conservation measures and devices with the concerned government agencies serving as their collaborators, just in the manner in which the countries like Australia, Malaysia and Thailand have done.
- e. An indigenous device like Trawl Guard need be subject to extensive experimentation and research so as to develop it as a foolproof device for exclusion of turtles and other endangered species and for retention of cent percent fish catch.
- f. The top-down approach that characterizes the present structure of the fisheries administration in which the fisherman is a virtual non-entity need be radically recast to make the fisherman the kingpin around whom the policies and programmes of fisheries would revolve.

REFERENCE:

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- **A REPORT WORKSHOP-CUM-DEMONSTRATION ON TED at Paradip during 11-14 Nov. 1996 jointly organized by Dept of Fisheries, Orissa and Project Swarajya, Cuttack**
- **A Quarter Century of Sea Turtle Conservation in Orissa, published by Wildlife Wing of Forest Department of Government of Orissa in 2001**
- **Proceedings of the National Workshop held in April 2001, Bhubaneswar under GOI-UNDP Sea Turtle Project, published by Wildlife nstiyute of India, Dehradun**