

Globalization and the *Human Right to Feed Oneself*.
**The impact of the Blue Revolution on the Food Security of Small-Scale-
Fisherpeople in Tamil Nadu**

by

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Abstract

In Indian fisheries you find the situation the Indian Government and other Governments of developing countries aim to achieve also for their agricultural sector: to get high prices for their commodities in the international market and to have unlimited access to these markets. By exporting high value marine products India earns much precious foreign exchange as prawns realise very high prices in the international market and as there are no restrictions for the entry into the markets of the industrialised countries. The quantities of exportable marine products are thus just restricted by the quantities that can be caught and by the demand in the industrialised countries. This situation is almost unchanged during the last three decades. In that time both the value and quantity of marine products exported from India increased considerably. Despite this development the economic status of small-scale fisherpeople in India did not improve much. In most parts of the country the fishing communities belong to the poorest sections of society. They do not only get a neglectable share of the money earned by the export of marine products, very often they are deprived of their resource basis as outsiders tend to see fisheries as a sector they can make easy money in. Economic development for the one means marginalization and destruction of their livelihoods for the others. The way economic development was achieved the fisherpeople became more vulnerable to food insecurity. This structure of vulnerability is additionally overlaid by internal structures and processes as well as by temporal events which might lead to drastic consequences for members of the fishing community as they can not cope easily with such situations like sharp increases in food prices, restricted numbers of days for fishing due to climatic reasons, decrease of fish-catches due to seasonal variations of fish occurrence. Some of these temporal changes are closely connected with the nature of fishing and the fisherpeople created their strategies to cope with them. Changes within the fisheries sector and the inner structure of the fishing community are responsible that these coping strategies are becoming more and more insufficient to protect the members of the fishing community.

Introduction

Now, at the end of the 20th century the economic and social well-being and maybe even the survival of large parts of human-kind are threatened by

- the growing social marginalization and economic oppression of the poor,
- a high and unsustainable level of consumption of non-renewable natural resources in the industrialised as well to a growing extent also in the so-called developing countries,

It is not necessary to analyse these kind of problems again and again. They are widely recognised - and largely ignored. The governments in the industrialised as well as in the developing countries still preach the ideology of unlimited growth, maybe even stricter as they ever did before. They preach that by the means of globalization, by liberalising the national economies of the developing countries, by pushing the state out of the economic sphere the

countries of the South have the chance to eradicate poverty and ensure a life in dignity to all its citizens. They don't want to realise that economic growth also creates poverty and prevents people to live in dignity.

In November 1996 at the World Food Summit it was declared that all efforts should be made to reduce by half the number of hungry and malnourished people by 2015. The Cuban President, Mr. Fidel Castro, was right when he pointed out that this goal indeed is more than shameful:

“What kind of cosmetic solution we are going to provide so that 20 years from now there will be 400 million instead of 800 million starving people?”

If we look at the goal set this time and see what was declared in 1974 when the world community gathered for the first time to discuss how to abolish malnutrition and starvation it becomes clear that in Rome 1996 not much was achieved. More than twenty years back the World Food Conference had pledged to eradicate hunger within a decade: no child, no woman nor man should go to bed hungry after that.

The Right to Feed Oneself

The theme of this conference is how to bring justice into development. By this it refers to an ethical principle which legal aspects can be seen in the Human Rights. At the World Food Summit in Rome it was declared that every human being has a right to food. This declaration seems to be very progressive, but it is nothing new as in the International Covenant on Economic, Social and Cultural Rights (ICESCR), which was also signed by the Indian Government, the *Right To Feed Oneself* is one of the most important among the Economic Human Rights. Even the *Right to Feed Oneself* can be considered as a soft law whose enforcement capacities are limited it is more than a mere moral commitment and the Indian Government has certain obligations under this right.

The *Human Right To Feed Oneself* - as any other Human Right - endows every human being today and in the future with a legitimate claim against his/her State. Human rights are rights a citizen has towards the state and Human Rights violations therefore deal with oppression by the state and its authorities or by the fact that state authorities allow that Human rights are violated by others.

The *Human Right to Feed Oneself* can be safeguarded in various ways. First of all it is achieved when people have access to resources like land, water, forests etc. to grow enough food, catch enough fish or collect enough forest products so that they can meet their food requirements. The *Right To Feed Oneself* is also achieved when people receive for their work enough, both in kind or in cash that they don't have to go hungry. The *Right To Feed Oneself* also includes the Right To Social Security as Human beings have to be protected against old age, illness, unemployment as these insecurities are closely connected with malnutrition and hunger.

The *Right To Feed Oneself* refers generally to an adequate standard of living including food, housing, clothing, health. In its core content it refers to the right to be free from hunger and

malnutrition through one's income earning activities. The *Right To Feed Oneself* cannot only drawn from the International Covenants on Economic, Social and Cultural Rights but it is also among the Directive Principles of the Indian Constitution, in particular art. 39a (right to adequate means of livelihood), art. 41 (right to work and social security), art. 43 (right to living wage) and art. 47 (duty to raise the level of nutrition) (KÜNNEMANN 1996).

Concerning Human Rights the state has three types of obligations:

- the obligation to respect,
- the obligation to protect and
- the obligation to fulfil these rights.

The first obligation impose a duty on states not to destroy people's livelihood, people's personal security or health, people's cultural identity etc. These obligations exist unconditional in the sense that the state can always be expected to restrain its activities once they turn out to violate people's human rights.

The second obligation makes the state to protect the people against violation of human rights by a third party. In each society different groups are in conflict with each other. Quite often these conflicts are conflicts over the access to natural resources by different user groups. Frequently the state is part of such conflicts in one way or the other. By protecting economic human rights the state for example has to act in a way that it protects the livelihoods of vulnerable sections of society against business interests.

The third obligation imposes a duty on the state to fulfil human rights: this means to support deprived persons who are not in a position to realise their basic requirements by their own efforts. It must however be clear that the *Right To Feed Oneself* is much more than the Right To Food, because first of all it aims to retain the ability of the people to care for their livelihood and by this it is much more than charity.

In this paper I will have a closer look on processes in the fisheries sector of India during the last forty years. It will be shown how the lives of people are influenced by events and decisions which take place outside their spheres of influence. These processes are linked with the inner structure of the fishing community. I argue that marginalization and poverty is the consequence of the effects of external as well internal power structures. In the development process such groups are able to prevail which can influence the process itself according to their interests. Groups with insufficient power are threatened to become marginalized by the very same processes. In this conflict the state also takes its role. It backs the interests of outsiders entering the fisheries sector and by this helps to threaten the livelihood of the traditional fisherpeople. On the other side state authorities come forward with social welfare programmes which should soften the consequences of the modernisation.

The State's failure to respect the Fishermen's right to feed themselves - The modernisation of Fisheries.

In Indian fisheries you find the situation the Indian Government and other Governments of developing countries aim to achieve also for their agricultural sector: to get high prices for their commodities in the international market and to have unlimited access to these markets. By exporting high value marine products India earns much precious foreign exchange as prawns realise very high prices in the international market and as there are no restrictions for the entry into the markets of the industrialised countries. To respect the *fishermen's right to feed themselves* means to ensure that they can continue to follow their profession they are doing since generations and earn their living by that. One could think therefore that the aim of protecting the fishermen's livelihood ought to be achieved easily as most of the odd 450.000 active fishermen working on traditional vessels should be in the position to earn quite a good income as most of the economically important species are caught in the coastal waters and thus are easily within the reach of the small-scale-fishermen and their vessels. Changes within the Indian fisheries sector during the last five decades however were responsible that the small-scale-fishermen still belong to the poorest sections of Indian society and this despite the fisheries sector nowadays is a lucrative business.

During the last 50 years not only the catches increased five fold, quite a lot of these catches are realised on boats, which were unknown to Indian fishermen 50 years back. What we call the modernisation of fisheries however was more than just the introduction of a new kind of technology. It has its impact on the processing of fish as well as on the distribution. As a consequence poor regions as well as poor consumers are more and more excluded from this formerly cheapest source of protein. In 1956 an Indian consumed about 14,5 kg fish on an average. 1982 this had decreased to 9,4 kg. At the beginning of the 50s fish was one of the cheapest source of protein, in 1985 it was the most expensive (IBRAHIM 1992: 68; KURIEN 1988: 91). In 1956 about 47 per cent of oil sardines were marketed locally, whereas 20 years later less than 30 per cent of this cheap fish were for local consumers (GALTUNG 1984: 256). For the small-scale-fishermen the modernisation of fisheries had devastating consequences. According to the Seventh Five-Year Plan the number of mechanised boats should have been increased to 25.000 by 1990, most of them being trawlers and purse-seiners.

The trawlers and purse-seiners fish in a very unsustainable way and its tremendous increase caused overfishing to many areas of the Indian waters. Strangely enough many of these modern vessels depend for their survival on the subsidies given by the Government. For example in Kerala the net profit for capital invested, which was about 14 per cent per annum in 1969, become negative in the 80s (KURIEN 1987). According to a report by the *Kalavar-Committee in the middle of the 80s* about 56 per cent of the trawlers operated in Kerala were economically unnecessary. "This indicates that an investment of about 220 million Rupees has been a sheer economic waste" (CHOUDHURY 1986). Nevertheless the Indian Government as well as the State Governments still give subsidies for the modernisation of the Fisheries sector.

By this the Government try to convert Indian Rupees into foreign exchange on the disadvantage of small-scale-fishermen and for the benefit of business entering the fisheries sector. Earning foreign exchange however can hardly be the only reason for protecting the interests of an industry which could not survive without the backing of the State. Also the small-scale-fishermen can easily catch prawns and that even in a much more sustainable way than the trawlers do. By this the country's need for foreign exchange as well as the small-scale-fishermen's livelihood would be safeguarded.

The reason for the expansion of the mechanised fishing sector is deeply rooted in the political economy of the country. In contrast to the business interests entering the fishing sector, the small-scale-fishermen do not have much power. Because exporting marine products have become quite a good business companies became aware of this sector. For the companies investing money in fisheries is not different from investing money in any other trade. They try to get as much profit out of it and when the marine resource are ruined they easily can shift to another sector. That's the logic of capitalism. Small-scale-fishermen however have to follow a different kind of logic. They are not in a position to shift to another trade. They have to take care that the resource they depend on for their livelihood will not become devastated.

Johan Galtung, one of the most eminent social scientists combing ethics and development, summarises his long experience with the modernisation of the Indian fisheries sector in Kerala:

„My evaluation is that it is a scandal, and not a partial scandal but a total scandal. [...] the INP project failed in four ways: less protein became available to the population, the level of living of the fishermen decreased, partly violent conflict between the traditional and modern sectors emerged, and depletion of the raw material, particularly the shrimps, set in. Still, however, the project was a success in the sense of being a major source of foreign currency“ (GALTUNG 1984: 259, 263).

During the last fifty years the Indian Government as well as the Governments of the coastal states didn't respect the *fishermen's right to feed themselves* as they actively followed policies that threatened the livelihood of the fisherfolk. Even today such kind of policies prevail which can be seen in the National Deep Sea Policy as well in of intensive and semi-intensive forms of aquaculture which are promoted by many state governments and also the Central Government.

The State's failure to protect the Fishermen's right to feed themselves -

Trawlers and purse-seiners are fishing technologies which were introduced into Indian fisheries during the last 50 years. These technologies were invented in industrialised countries and in many they were banned long before the same nations started to promote its use in India.

Bottom trawling for example is a way of fishing which causes great damage to the marine environment as it destroys the habitat of fishes and their breeding grounds. As the mesh-size of the trawl-nets are very small also the young fishes are caught and by that the reproduction of fishes are effected in a negative way. In the long run excessive trawling leads to overfishing of the coastal waters. This was known to the authorities long before trawlers were introduced in India on a big scale. Already in 1908, F.A. Nicholson, director of the Department of Fisheries in Madras, warned

„[...] that Madras did not need steam trawlers and that to jump from the catamaran to the steamer was impossible and would be unwise even if it were possible, because revolutionary methods here as elsewhere were a mistake“ (ANUGRAHAM 1940: 208).

Also some years before independence ANUGRAHAM in his study on the social and economical conditions of Madras fishermen saw the threat of overfishing and the competition between small-scale fishermen and industrialised fisheries.

„If steam trawling is undertaken, it will certainly revolutionise fishing in India and give rise to an intense competition between the poor fishermen and the rich capitalists. [...] The fishermen are likely to complain of a depletion of stock in the fishing grounds because of the activities of a trawler anywhere near their fishing limits“ (ANUGRAHAM 1940: 210).

To prevent these conflicts ANUGRAHAM suggested to create fishing zones which only small-scale-fishermen are allowed to use and from where trawlers should be banned totally. However it took more than 40 years before the pressure put by small-scale-fishermen was big enough that State Governments started to restrict the operation of trawlers and purse-seiners in coastal waters. Only in the early 80s most of the coastal states came out with Marine Fisheries Regulation Acts by which the trawlers were banned from coastal waters. However still today the implementation of these and others acts that aim to protect the interests of small-scale-fishermen are very poor in most areas.

Actually such restrictions imposed on the movements of trawlers make not much sense as about 80 - 90 per cent of the high value marine products are caught in coastal waters. If the trawlers would really fish in the areas which are open to them most of them soon would be bankrupt. It seems that the States Governments enacted laws which they never wanted to be enforced as it makes no sense to promote modern fishing techniques like trawling by giving subsidies and restrict the operations of such boats to areas where they cannot be operated in an economically viable way.

By this it becomes obvious that the State is not only not able to protect the *fishermen's right to feed themselves*, but it is also not willing.

The State's failure to fulfil the *Fishermen's right to feed themselves* -

The third obligation of the State under the *Human Right to Feed Oneself* is to fulfil this right when people are not able to do so by their own efforts. By this the Right to Social Security plays a very important role. Upto now our findings were that the State did neither respect nor protect the *fishermen's right to feed themselves*.

Social Security refers to risks like illness, unemployment, old age, accidents, maternity, disability etc. which makes an individual unable to secure his/her livelihood. In this sense the *International Labour Office* defines social security as

„the security furnished by a society to its members through a set of organised measures, the purpose of which is, in so far as possible, to prevent the occurrence of certain contingencies involving a loss or substantial reduction of income or extra expenses for medical treatment, and to provide a financial guarantee against the economic consequence of these contingencies when they do occur, and also to provide benefits for the maintenance of the children“ (ILO 1968: 3).

To achieve social security the State can use (a) *promotional measures*, which aim at averting insecure conditions and contingencies such as low incomes/unemployment/sickness through special programmes or (b) *protective measures* which are to (re)establish social security whenever the *promotional measures* have failed or are not sufficient (BURGES/STERN 1991: 43; OSMANI 1991).

In the Indian Constitution important aspects of social security are laid down in the art. 36 - 51, particularly in art. 39 which says:

„The State shall, in particular, direct its policy towards securing

(a) that the citizen, men and women equally, have the right to an adequate means of livelihood;

(b) that the ownership and control of the material resources of the community are so distributed as best to subserve the common good;

(c) that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment;

(d) that there is equal pay for equal work for both men and women;

(e) that the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength;

(f) that children are given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against exploitation and against moral and material abandonment“ (COI 1992: 22)

To establish a system of social security falls both under the obligation of the State as well as the Central Governments. If we have a closer look on the system that is existing for the organised sector of the economy we see that it is quite modern. Since independence many laws have to be enacted which protects a small minority of Indian citizens against all sorts of risks (e.g. *Workmen's Compensation Act (1923)*, *Bombay Maternity Act (1929)*, *Maternity Benefit Act (1961)*, *Employees' State Insurance Act (1948)*, *Provident Fund Act (1925)*, *Employees' Provident Fund Act (1952)*, *Employees' Family Pension Scheme(1971)*).

This social security system is highly subsidised as the State gives contributions to most of the different schemes and also allows deductions from the income tax for private contributions to provident funds, life insurance policies, loans from housing societies, etc.

In the unorganised sector of the economy and by this for the vast majority of the people living in India there is no comprehensive system of social security. Strangely enough just those people who are most vulnerable against quite a number of uncertainties are those which are protected worst. They belong to the poorer sections of Indian society, they often have to live under unhygienic conditions and by this are more vulnerable to diseases. Many of them cannot afford a balanced diet and so the risk of becoming ill due to under- and/or malnutrition is quite high. Those who are unskilled labourers without fixed employment are much more vulnerable to economic exploitation than those working in the organised sector of the economy, where trade unions take care that labour laws are respected. For this huge section of the Indian society which represent at least 70 per cent of India's population there is no system of social security. You find however quite a lot of different schemes which aim to protect people in the unorganised sector of the economy against some contingencies. There is for example a

protection against employment related accidents in all Indian States and (theoretically) also a basic financial protection for the aged and destitute. In Tamil Nadu for example there is an old-age pension scheme which entitles different groups for a monthly pension of 75 Rs. At the beginning of the 90s about 515.000 persons were benefiting from such a pension which was about 12 per cent of the target group of the scheme. As the Tamil Nadu Government didn't sanction enough funds for this programme those who cannot get a pension straight away are put on a waiting-list. It becomes clear that by this the programme is hardly more than charity as nobody has a legal right to get such a pension. It also goes without saying that schemes like this are very much prone to corruption as it is more or less left to the authorities to whom they give such a pension. Other social security initiatives in Tamil Nadu are given in Tab. 1.

Tab. 1: Social Security Initiatives for the informal sector in Tamil Nadu

Programme	year of introduction	target group	benefit	1994 (Rs)
old age pensions				
(1) general	1962	for needy Persons above 65 years		75
(2) for destitute* agricult. labourers	1981	above 60 years		75
(3) for destitute widows	1975	above 40 years	monthly	75
(4) for destitute, deserted women	1984	above 30 years	pension	75
(5) for handicapped	1974	above 45 years		75
programme for surviving dependants	1989	death of the Head of Household agricult. labourer, marginal farmer, HH-income less than 6400 Rs p.a.	lump sum	5000
survivor's pension for handloom weavers	1991	deceased has to be member of the co-operative society.	monthly pension	250
maternity benefit	1989	HH-income less than 5000 Rs p.a.; given only for the first two children wife's age at marriage more than 18	2 months before/after delivery	4 x 75
marriage grants for females				
(a) general	1989	HH-income below 12000 Rs wife's marriage age above 18 years, passed eighth standard	lump sum	5000
(b) for female orphans	----	---	lump sum	2000
accident insurance				
(a) for certain professions	1977	fishermen, scavengers, pesticides-sprayers, agricult/construct. coolies Rickshaw-drivers, etc.	lump sum (in case of death)	21000**
(b) traffic accidents	1978	general public fishermen	lump sum yearly	100 - 3000 270
saving-scheme				
* without own income, without son/son-in-law elder than 20 years, without husband				
<i>sources: Guhan 1992; Tamil Arasu, var. editions</i>				

Especially for small-scale fishermen there are two schemes: a group insurance schemes as well as a saving scheme. The groups insurance scheme was introduced in 1984 by an initiative of the Central Government. At present the dependants of an fishermen who dies at sea get a compensation of 21.000 Rs. The premium of about 20 Rs p.a. is shared by the Tamil Nadu as well as the Central Government. Since 1982 there is also a saving scheme for fishermen. By this the seasonal fluctuations of incomes should be balanced. Initially the fishermen contributed for a period of 9 months a sum of 10 Rs/month. The Government of Tamil Nadu gave the

same amount (90 Rs) and in the months of October/November and December the fishermen received 60 Rs/month. In 1992 the programme was changed. Now the fishermen contribute a monthly instalment of 45 Rs, whereas the State as well as the Central Government each add the same amount. By this 1080 Rs are accumulated after 8 months. By this a fisherman gets 270 Rs each during 4 months.

Indeed there are some social security initiatives for the unorganised sector in Tamil Nadu. Most of them however are totally insufficient to protect the beneficiaries of such programmes. The monthly old-age pensions for example are not even high enough to enable the pensioners to cross the poverty line. The disparities to the organised sector are striking:

A yearly pension in the unorganised sector is much lower than the monthly pension of an employee of the Tamil Nadu Government, which was about 2100 Rs/month on an average in 1992. Only to protect the State pensioners against inflation their monthly pensions were increased by 270 Rs on an average between November 1991 and May 1993. In comparison to this a monthly pension of 75 Rs as it is given to some in the informal sector looks quite modest.

The biggest constraint of these kind of social security programmes however is the fact that people do not have any right to benefit from one scheme or the other. Among the population of a fishing-village in Madras not a single person could be found that received a pension and for getting money from the *fishermen's insurance scheme* about 5.000 Rs on an average had to be given to various officials to get the payment of 21.000 Rs.

To sum up it can be said that the State also failed to fulfil the *fishermen's right to feed themselves* by failing to establish a comprehensive social security system. Of course it is much more difficult to establish such a system for the unorganised sector as a big number of people employed in this sector are not in the position to make contributions to any security scheme as their income is too low. Another difficulty is that many in the unorganised sector are self-employed and by this also contributions made by an employer as it is the case in the organised sector are missing and by this financing such schemes are quite difficult. If we see on the other hand that the state is highly subsidising the social security system for the organised sector things become very different. Why not cutting/reducing these subsidies given for employees whose salaries allow them to take care for their social security needs by their own efforts and take this money to establish systems of social security which at least gives a minimum protection to members of the unorganised sector. Besides this there are other practical ways how to finance welfare funds for the unorganised sector, which also involves the (financial) participation of the beneficiaries

Let's take for example the insurance scheme for fishermen in Tamil Nadu. A premium of less than 20 Rs p.a. allows to give a protection to the fishermen and their dependants which is fairly good (a lumpsum of 21.000 Rs in case of death). It is of course much more difficult to finance schemes where benefits have to be paid on regular basis like old age pensions, but this should also be possible. It is for example very interesting to have a closer look on a scheme proposed by the National Fishworker's Forum. They suggest to establish a Fishermen's Welfare Fund,

which should be financed by the fishermen, the fish export companies, the fish traders and the State as well as the Central Government.

1. Small-scale fishermen and retail traders give a contribution which is not specified by the *National Fishworker's Forum*. In our calculation we took a monthly contribution of 30 Rs which is about the same amount most of the fishermen in Tamil Nadu are willing to contribute to the fishermen's saving scheme which was mentioned earlier.
2. The owners of mechanised boats give a contribution to the fund according to the size of their boat. In the calculation we took a monthly contribution of 150 Rs.
3. Export-companies should contribute one per cent of their turnover
4. The local/regional wholesale traders also contribute one per cent of their turnover.
5. The Central as well as the State Governments contribute an amount that is equal to what the fishermen give.

Tab. 2: Financing a Fish Workers Welfare Funds (Calculation)

Contribution by:	Quantity/value/number	Amount (Mill. Rs)
Small-Scale-Fishermen (number)	110.905 (1990)*	40.0
Export-companies (export-value)	2.02 bil.. Rs (1991)**	20.2
Wholesale-merchants (value of inland)	1.8 bil.. Rs (1990)*	18.0
Mechanised boat-owners (number of boats)	8107 (1990)*	14.6
+ Contribution GOTN		40.0
+ Contribution GOI		40.0
total		172.8
1% from export, 1% from inland-trade, small-scale-fishermen: 30 Rs/month; mech. boat: 150 Rs/month *Statistical Handbook of Tamil Nadu 1991:214f; **MPEDA, Statistics of Marine Products Export 1991:106		

According to our calculation such a welfare fund would have had at least 170 million Rs in 1990 as the number of retain fish-traders was unknown and there contribution could not included in the calculation. The money from this fund could be used for:

- Giving pensions to all fishermen elder than 60 years. For this about 37.500 old-age-pensions (250 Rs monthly) are required and about 112,5 million Rs are needed.
- An Accident-Security-scheme for all active fishermen. On the basis of the premium of the existing scheme (20 Rs p.a.), about 2,3 million Rs are necessary to cover all active fishermen in Tamil Nadu.
- After securing an minimum old-age security as well as a security against work-related accidents about 55 million Rs would be left yearly for further activities.

The example of a welfare fund for fishermen indicates that it is possible to establish at least minimum social security in the unorganised sector without asking the beneficiaries to contribute an amount they cannot. Even the fishermen are neither employed by the export-companies, nor by the wholesale-traders, nor by the state it is justified that these give contributions to the fund as they benefit from the work of the fishermen. It also has to be mentioned that in the given calculation the contribution of the small-scale-fishermen is higher than the contribution of the fish-industry. In the social security system of the organised sector however the contributions of the employer are always higher than those of the employee (PATIL 1978).

The impact of mechanisation on small-scale-fishermen: Some empirical evidence

There is no doubt about that the mechanisation of fisheries had a negative impact on the socio-economic conditions of small-scale-fishermen. It is however quite difficult to quantify this impact as the process of mechanisation did not only influence the income opportunities of the small-scale-fishermen. The findings of an empirical study done in a fishing settlement of Madras city between 1990 and 1992 indicate that by the concentration of prawn catches you find both in the modern as well as in the traditional sector the small-scale-fishermen's vulnerability increased drastically. Nowadays quite a substantial part of the income of the fishermen is earned in a very short period of the year. If we have a closer look on the daily incomes it becomes clear that during the prawn season even small-scale-fishermen can earn quite a lot and it needs not much imagination what will happen if a substantial part of the prawns during this period will be caught by trawlers.

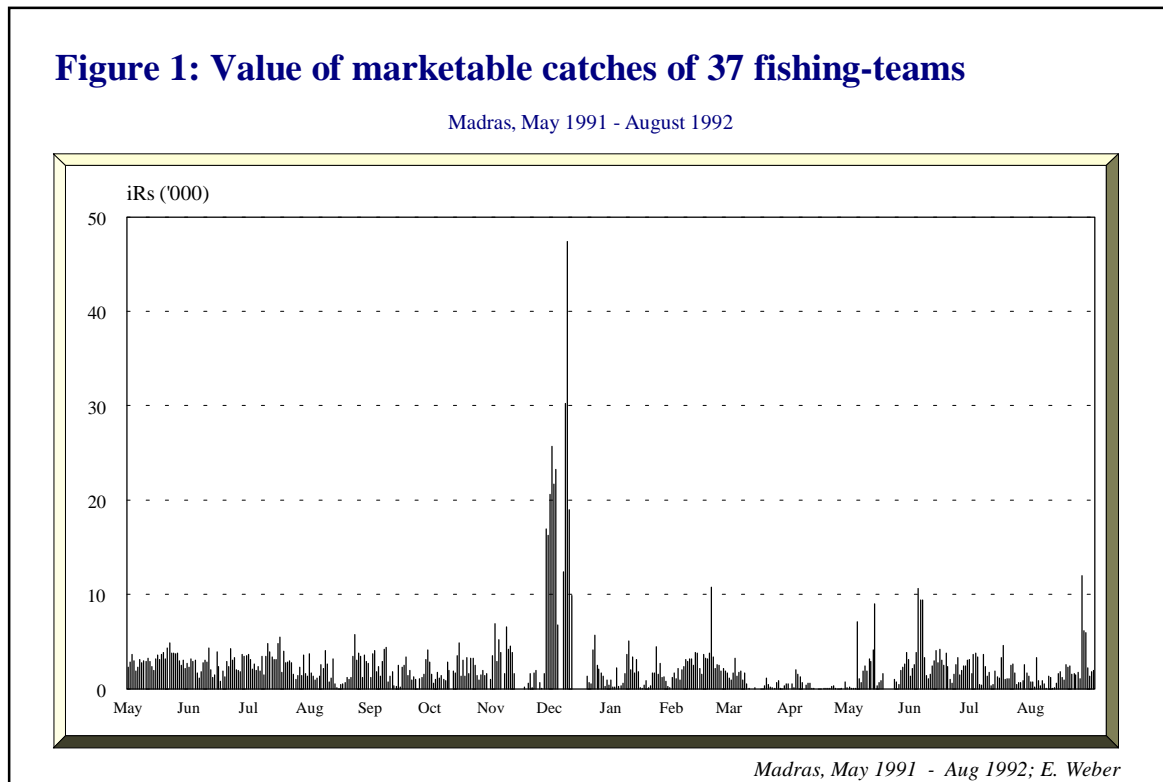
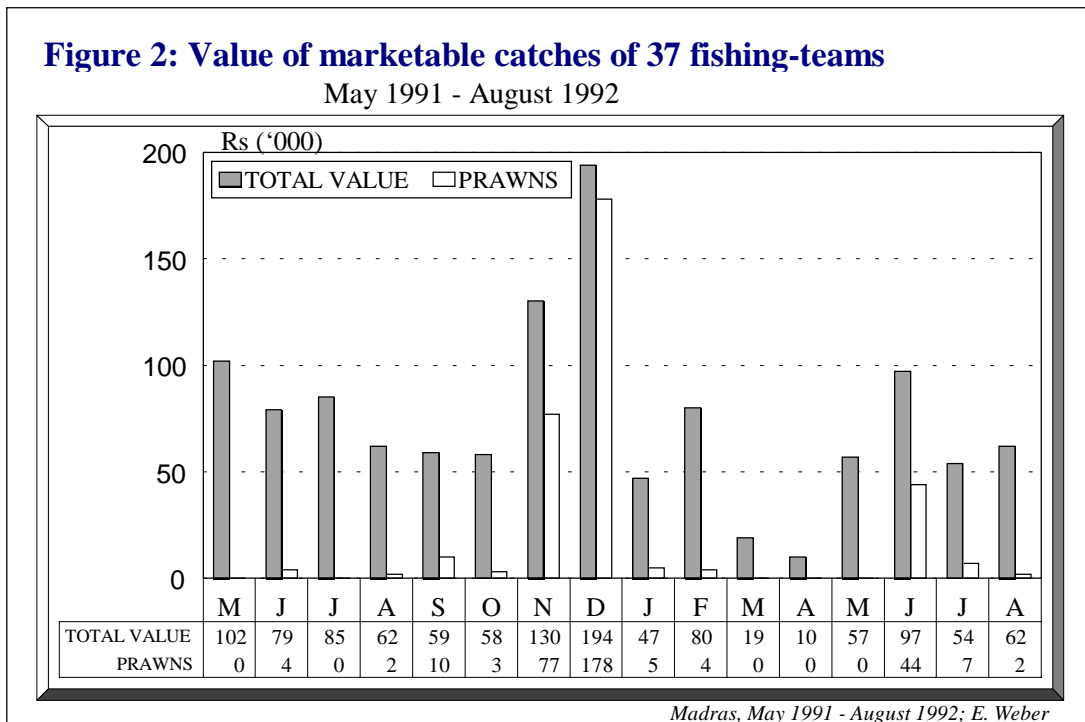


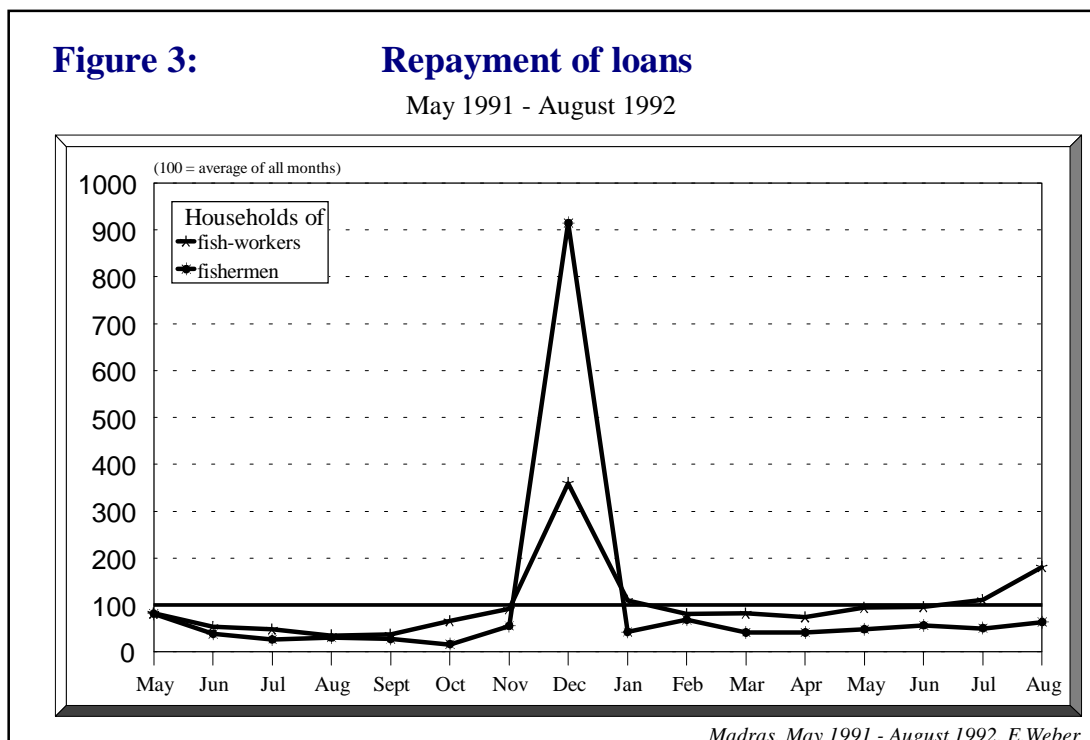
Figure 1 shows that there is a distinct seasonality in the incomes from fishing. A big share of the income was earned in only one month during December 1991. If we have a look on the composition of the catches (Figure 2) it becomes obvious that this seasonality of incomes is due to prawn catches. In Tamil Nadu the months of November and particularly December are by far the most important months catching prawns.

During the 16 months of investigation about 30 percent of the total income of 37 fishing-teams were from prawns. But what is more striking: there are actually only few days in which the fishermen were able to catch prawns. During these days the fishermen earned a substantial part of their recorded income. Within 12 fishing-days in December 1991 the 37 surveyed fishing boats earned about 6800 Rs on an average. Some boats even realised more than 10.000 Rs.

More than 20 percent of the income from 16 months were realised in this short period. Some of the boats earned even more than 30 per cent of their income out of 16 months.



One can easily imagine what will happen if this income can not be realised. There are two major threats why this could happen: **First:** during the period, when the fishermen can make their highest earnings the weather conditions are the worst.



Second: the mechanised boats do not depend this much on the weather conditions. They can go out fishing while the fishermen with their cattumarams have to stay on the shore. The risk

that the mechanised boats catch most of the prawns during those days in very high. If the income from prawns fisheries decreases the economic and social basis of the small-scale fishermen are at risk. Most of the fishermen and fishworkers are endangered to be caught in a debt-trap. As Figure 3 indicates the fishermen repay their loans during the prawn-season which have been accumulated throughout the year. If the income from prawn catches decreases the fishermen might also become unable to raise the necessary capital for investments. Thus, it is no exaggeration to say that their socio-economic status is at risk.

Conclusion

Despite high prices for prawns in the international market and no entry restrictions to the markets of the industrialised countries the vast majority of small-scale fishermen in India are still living in poverty. Because of the highly profitable business of prawns exports the big business entered the marine sector shrinking the income opportunities of the small-scale fishermen considerably. The state actively promoted the mechanisation of fisheries and by this it played a crucial role in the marginalization of small-scale-fishermen.

Protecting the small-scale-fishermen against the mechanised trawlers however is not enough to help to improve the socio-economic status of the fishermen. What is needed is a policy that creates employment outside fisheries, so that the fishermen can shift to attractive alternatives. In the present economic scenario this however seems to be impossible as much emphasis is given to capital intensive investment and only little emphasis to employment generation.

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