# URANGA ENTITY INSTITUTE (UEI) URANGA E INSTITUTE

"Intellectual Property and Trade, Biotechnology, Environment, Economic and Social Affairs"

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Wetlands are of great importance to both humanity and the protection of biodiversity. There are many fish species which are fast disappearing while those already extinct have been confined to history books and the museums. Fish do not only provide the valuable nutrients but as an activity, they provide strong family bonds in the local communities and when fish stocks are under threat, so is the social ties which bring people together.

The theme of this year World Wetlands Day is Fish for Tomorrow? Very relevant if you

#### **EDITORIAL**

already know the problems which our fishermen go through as they struggle to get the fish and bring it to the market. There are two main reasons why the UEI is joining the rest of the world in today's celebrations. Firstly is to at raise public awareness of wetland values and benefits in general and the Ramsar Convention in particular. The focus is on wetlands and fisheries in recognition of:

- the needs of the one billion people who rely on fish as their primary source of animal protein;
- the state of the world's fisheries where 75% of commercially important marine and most inland water fish stocks are either currently overfished or being fished at their biological limit, and where the effects of unsustainable aquaculture practices on wetland ecosystems are of growing concern;

#### **World Wetlands Day Special**

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#### Foreign Trawlers threaten Fish Stocks in the Indian Ocean

Local fishermen are wary of foreign ships scouring the bottom of the Indian Ocean for fish, saving little is left for them at the end of the day. The number of fish caught in nets at the Kenyan coast has steadily been going down and an accusing finger is being pointed at foreign trawlers. Government official are scratching now their heads, trying to explore new ways of raising revenue from fishing and improving incomes of fishermen.

In July last year; top officials from Kenya were in Rome to sign an agreement with the Southern Indian Ocean Fishers' Deepwater Association reduce to trawling on coastlines of countries bordering the Indian Ocean. Australia. the Comoros, the Community, European France, Japan, Kenya, Madagascar, Mozambique, Namibia and the Seychelles were represented at the meeting.

The meeting also discussed the need to collect data on marine activities including tonnage of fish and the number of trawling vessels in the Indian Ocean. In the agreement, some international fishing companies announced voluntary closures to deep water trawling in seas, to protect and conserve the bottom of the sea, which is a breeding ground for fish.

Assistant minister for Livestock Development and Fisheries Abu Chiaba, who led the Kenvan team. the upbeat on was agreement. "Trawling is a global concern and when we talk of depletion of stocks, it is a concern that is being felt all over the world because some vessels tend to irreparable damage marine to ecosystem," said Chiaba. The agreement means that international agencies such as the European Union and the Food and Agricultural Organization would beef surveillance by building the capacities of local states to protect the ocean.

Mr. Chiaba also said returns that the Government gets from trawling were minimal compared to the wealth that the operators reap from Kenyan waters. "It is ridiculous that the Government earns as paltry sh 75 million of shillings from license fees charged on the foreign trawlers, while they rake

in billions of shillings in fish exports," he said.

But the pronouncement has many asking whether Government the is backtracking on its earlier promise that it would license more foreign fishing vessels because much of the marine resource was not being exploited bv Kenvan fishermen who lacked proper fishing gear. Earlier, Mr. Chiaba had said that the Government was licensing more foreign trawlers to help tap the vast resource that was under-exploited.

"We would not do that if our fishermen had the right equipment to exploit the within resource the exclusive economic zone." Said Mr. Chiaba. However, the trawlers are not the only ones being blamed for the drop in fish stocks. Local fishermen believe the reduced catch has something to do with the tsunami that touched the north coast. Statistics available from the fisheries show reduced 2004. catches after In 2004, the fishermen netted 8.638.636 kilograms of fish but the figure dropped in 2005.

A drop of more than a million kilogramme to 7,604,560 kilos meant



coastal fishermen in the six districts earned sh481, 266,189 – a loss of more that sh127 million. fisheries Although officials say there could be other causes for the decline in fish proceeds, they could not rule out the tsunami may have had a role to play the reduction.

Climate change and data that doe not reflect the true picture could be other reasons for the decline. said an assistant director of fisheries in charge of Coast Province, Mr. Okumu Makogolla. "But tsunami is certainly an issue that cannot be swept under the carpet because some fishing equipment was destroyed and some fishermen have not been able to replace them" said Mr. Makogolla.

The Kenyan Marine and Fisheries research Institute (KMFRI) confirms that not impacts assessment has been carried out to determine the effects of the tsunami on the local fishing industry even after complaints by fishermen that it could be responsible for a drop in the catch from the sea.

"This is a serious matter that needs to be given priority in order to get to the bottom of the problem that the local fishermen have been experiencing," said KMFRI board chairman, Prof Shaukat Abdulrazak.

He said thev had information that the quality variety. and quantity of fish had gone down and called for research on the issue. "We want our staff to take it up and do research to prove to us that the tsunami is to blame or there are other factors. This will also serve as а needs assessment, for the local fishermen to tell us what should be done to revive the industry." Said Prof Abdulrazal. Mr. Chiaba asked KMFRI to urgently undertake studies and give report on the matter for proper measures to be taken help to the fishermen. "It is important because the Government will act on the basis of a scientific report from the research institution/ which has been mandated to carry out such work. It it's true that fish stocks have reduced, it is important also to know whether it is still the impact if tsunami or there are other causes," said Mr. Chiaba.

But the fishermen also blame the Government, saying that no effort had been made to build their capacity to develop the industry. "It is very unfortunate that the Government knows too well the local fishermen's handicap vet nothing is being done to address it", said Mr. Ali Shaibu Shekue, the chairman of the Marine Conservation & Fisheries Development Centre (MCFDC).

The fishermen are recounting several pledges that the Government made to improve their well being but which have not vet been fulfilled. "Even the claims that by licensing more foreign trawlers, the Government will get more to develop the industry are insincere and misleading. the revenue because generated will only go meeting their towards administrative overheads and nothing will trickle down to the fishermen," said Mr. Shekue.

Unlike other sectors of the economy such as agriculture and tourism, which enjoyed massive from support the Government, very little was being felt by the fishermen in the way of government help despite the millions of shillings that fishing generated to the economy, he said. "Take the case of speed boats that the Government acquired at a cost of sh 100 million for fisheries officers to patrol the sea. Most of them cannot move funds because the allocated to the officers are not sufficient to operate the fuel-guzzling vessels," said the chairman of the lobby group.



# The Entebbe Declaration on the Status of the Fisheries Resources of Lake Victoria and their Management

We, the participants of Regional Stakeholders Conference on the Status of the Fisheries Resources of Lake Victoria and their Management: Concerns, Challenges and Opportunities; held at Entebbe Imperial Resort Beach Hotel, Uganda, 24th-25thFebruary, 2005:

1. Recognizing that the three Partner States of the East African Community have a shared heritage and a common interest in the health of Lake Victoria and their commitment to ensure proper management and sustainability of its living resources for the benefit of present and future generations;

2. Acknowledging that adverse actions in any part of the Lake within the territorial limits of one Partner State will have negative impacts on the other Partner States; 3. Aware that the World Summit on Sustainable Development (WSSD) Principles requires that the Lake Basin is developed in a manner that does not compromise the health of the ecosystem that supports living resources;

4. Aware that the Food and Agricultural Organization Code of Conduct for Responsible Fisheries and the associated technical guidelines places responsibility on governments, including industry, fishing communities and all stakeholders to ensure responsible and sustainable fisheries in respective areas of operations;

5. Cognizant that the Treaty for the establishment of the East African Community committed Partner States to establish common fisheries management and investment guidelines for inland and marine waters; and the Convention for the establishment of the Lake Victoria Fisheries Organization (LVFO) committed contracting parties to sustainably manage the fisheries resources of the Lake;

6. Noting that the Partners States have adopted and ratified the Protocol for Sustainable Development of the Lake Victoria Basin;

7. Aware of the decisions and management measures made and adopted by the Council of Ministers of the LVFO and thereafter, the implementation of the same by the Partner States to sustainably manage the exploitation of the fisheries resources;

8. Recognizing that the Council of Ministers of the LVFO has adopted a Regional Plan of Action (RPOA) to prevent, deter and eliminate Illegal, Unregulated and Unreported (IUU) fishing in Lake Victoria as an integral part of the international Code of Conduct for Responsible Fisheries;

9. Recognizing that the quantity, quality and value of fish from Lake Victoria has increased substantially and hence the need to ensure sustainability of the fish yields;

10. Informed that the Lake fish stocks are in danger of irreparable damage as a result of human activities leading to siltation, pollution loading, unsustainable fishing practices and rapid increase in fishing pressure;

11. Conscious of the dangers of over fishing, the use of illegal fishing methods and practices and of other environmental degradation;



12. Noting that the rapid growth of the human population in the Lake basin, the first growing regional and international fish markets have increased pressure on the wild stocks of the Lake;

13. Informed that aquaculture production could meet the deficit in fish supply for local and international demands and contribute reduction to fishing pressure on the Lake;

14. Cognizant of the fact that HIV/AIDS, Malaria, Tuberculosis and Bilharzia are prevalent in fishing communities and that the poverty reduction efforts and sustainable resources use are undermined through increased cost of providing health care, loss of skilled labour, loss of women's productive time and loss in productivity of the fisheries sector;

15. Aware of the necessity for harmonization of fisheries policies, fisheries legislation and management decisions around the Lake; 16. Committed to continued regional cooperation with respect to the sustainable utilization of Lake Victoria and its resources;

16. Committed to continued regional cooperation with respect to the sustainable utilization of Lake Victoria and its resources;

17. Recognizing the concerns raised by the sixth special session of the LVFO Council of Ministers held on 30<sup>th</sup> October 2003 that the key stakeholders especially those involved with policy formulation and implementation were not adequately informed about the state of the fisheries resources of the Lake to enable them make informed decisions and take appropriate actions and therefore their directive to hold a conference to provide necessary information;

NOW declare that the East African Community should take measures for:

a) Reduction of nutrient and pollutant loads into the Lake through treatment of municipal effluents, promotion of cleaner production practices, good land use in the catchment area, conservation of wetlands and control of aquatic weeds;

b) Management of factors that influence rainfall pattern such as maintenance of forest cover around the Lake to maintain historical high rainfall regimes around the Lake and the overall water level;

c) Measures for accelerating harmonization and implementation of environmental and fisheries policies, laws, regulations and management options to address concerns at local, national, regional and international level for sustainable management;

d) Ensuring the dissemination of research information to guide management of the Lake Victoria basin resources at local, national and regional level;

e) Promoting and strengthening co-management in the fisheries resources of Lake Victoria;

f) Strengthening the existing beach management units and facilitating the creation of new ones to support sustainable management of the fisheries resources;

g) Promoting the participation of civil societies, public and private sector institutions in the development and management of the fisheries of Lake Victoria;

h) Managing the Lake as a single eco-system with multiple but harmonized jurisdictions and, controlled access in order to avoid tragedy of the commons;



i) Determining, negotiating and agreeing on the fishing capacity allowable by Partner States to limit access and reduce pressure on Lake fisheries;

j) Strengthening national and regional institutions for fisheries research and management including infrastructure and human resources capacity;

k) Making deliberate efforts to develop aquaculture through promotion of semi-intensive commercial private sector ventures and providing State support for the improvement of quality and quantity of fish seeds and development of high value species;

 Promoting the culture of saving and investment amongst fishing communities by building their capacity in financial management and investment as well as providing facilities for credit through micro-finance service providers;

m) Mainstreaming environment and natural resources management, HIV/AIDS and other water related diseases such as bilharzia, malaria and cholera in the fisheries sector in synergy with health sector;

n) Implementing measures to reduce post harvest losses, improvement of fish handling infrastructure, production of value added products and up-grading of health conditions in the distribution and marketing of fish and fishery products;

o) Reducing transboundary conflicts by supporting ongoing initiatives and interactions to address the root causes of these conflicts where they occur;

p) Enforcement of laws to protect the fisheries resource from abusive harvest and destructive extraction;

q) Promoting inter-agency cooperation at national and regional levels to promote synergy in combating insecurity and enhancing safety on Lake Victoria;

r) Establishing and implementing sustainable funding mechanisms for fisheries research development and management of fisheries resources in the Lake Victoria Basin; and

s) Continuing with implementation of management measures already agreed on by the Council of Ministers of the LVFO including slot size and protection of breeding and nursery areas.

Imperial Resort Beach Hotel Entebbe 25<sup>th</sup> February 2005

*References, additional resources and further information can be found below* 

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#### Increased Investments in the Lake Victoria Basin Needed

In a report by Raphael Okeyo, he writes that the Lake Victoria fishery is under unbearable pressure as a result of the steady increase in fishing effort. The situation is generally attributed to the open access nature of the fishery and the rapid increase in population in the lake basin, which have resulted to steady increase in fishing effort over the years (the number of fishing boats, fishing gears and fishers).

The increase in fishing pressure is clearly demonstrated by the fact number that the of fishermen rose from 33,000 in the year 2000 to 54,163 during the survey, conducted in 2002. representing an increase of about 64%. This comes about as a result of the reversal of the rural-urban migration owing to lack of new job creation and of retrenchment civil servants. Subsequently, the fishing industry becomes the only option to absorb the jobless masses in the lake basin and to some extent from other parts of Kenya.

The steady increase in the fishing effort in the 1980s and 1990s initially translated into increase in fish production from Lake Victoria's Kenya waters reaching a peak of 200,159 metric tons in 1999 before declining steadily in the subsequent years. The analysis of fish production data between 1999 and 2002 indicated that there was an accumulative decline in fish production about 43%. The bv corresponding annual production declines were (2000).3.7% 21.2% (2001), 24.4% (2002) and 7.8% (2003).

The declining fish landings and reduced fish species biodiversity is a matter of great concern. It is in view of the concerns about the declining trend of fisheries resources that strict management measures have been put in place. The introduction of Monitoring, control and surveillance (MCS) has helped reducing the overexploitation of the fisheries resources.

The future of Lake Victoria Fisheries depends on a well-calculated move to reduce the fishing pressure and the practicing of responsible fisheries. It therefore, important is, that the current on-going MCS activities are sustained in order to significantly reduce the fishing effort in the lake through the removal of prohibited fishing gears and irresponsible fisher folk.

Meanwhile, the World Bank's promise of 12 billion kshs for the Lake Basin is a timely effort to improve the lives of the fishing communities. The multi-donor funding is earmarked for implementation of the second phase of the Lake Victoria Environmental Management Project (LVEMP) over a six-year period.

The Bank says the second phase of the project aims at facilitating environment-friendly investments in the lake basin, enhance governance and conserve specific fish species. Lake Victoria is part of the Nile River Basin system, which is shared by 10 countries including Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Eritrea, Kenya, Rwanda, Tanzania Sudan. and Uganda.

Apart from environmental values. such as biodiversity, Lake Victoria supports a large fishing industry that produces marine products for export and local consumption. The Lake is also the main source of water for production, hydropower drinking and irrigation apart from the key role it plays in regional transport and tourism. Experts warn that these benefits are in

danger of being wiped out by environmental degradation. Signs of such degradation are already being recorded in reduced fish stocks, decline in biodiversity, increased sedimentation and fluctuation of water levels.

In the project proposal that was earmarked for presentation to the board for approval this month, the bank describes Lake Victoria as a valuable asset that directly supports the livelihoods of more than three million people even in its current perilous state. "Without better management, the Lake is likely to suffer irreversible environmental damage,"

the bank says. "Should this occur, a valuable regional and Global asset will become a costly liability."

Project documents indicate that LVEMP 2 is expected to be financed by a US \$ 90 million International Development Agency (IDA) US\$30 credit. million from bilateral donors, US\$15 million in counterpart funds with the residual US\$30 million coming from other sources, including the Global Environment Facility (GEF).

Last year , Global Nature Fund (GNF), an international foundation for the protection of



environment and nature declared Lake Victoria the "threatened Lake for the 2005", drawing year attention to the drastic reduction of fish population, destruction of shoreline vegetation and wetlands as well as the increasing poverty of the people living around the Lake.

Despite its vast potential, investments in the Lake and its Basin by both local and international entrepreneurs remain low. The 30 million people living within the basin form a huge faction of the region's poor.





#### Fisheries should be Central to the Eradication of Poverty in the Lake Region

If there is an industry that has managed to wither the storm, then it is the fishing industry. From rumours of human body parts like fingers found in fish to arbitrary ban on exports by the European Union, the industry is still surviving.

The fisheries of Lake Victoria make a substantial contribution to poverty reduction and economic growth within the region. Over 2 million people are supported by the fisheries and the annual fish consumption needs of almost 22 million people in the region are met by the lake alone, making a significant contribution to regional food security.

Fisheries contribute to poverty reduction and economic growth at all levels: individual, household, community, local government and national, through employment, income, food security, revenue-raising and foreign exchange earnings from international exports.

Co-management is making further reductions in income and social poverty by building inclusive management structures and systems, and securing access rights to the fisheries resources.

The Lake Victoria Fisheries Organization (LVFO) is tackling poverty within the fisheries communities, and is increasing the contribution of fisheries to regional economic growth, through:

# Reducing social poverty and building skills and capacity

Establishing, and building the capacity of, a lake-wide network of Beach Management Units for fisheries co-management. Around 1000 BMUs are being formed, creating a substantial network of community-based organizations that provide an entry point for development assistance to fishing communities. 1. Empowering the poor and women to participate in fisheries management. The BMUs are mandated to promote membership and participation of boat crew, traditionally the poorer members of fishing communities, and women to make sure their views and priorities are included in planning and decision-making.

#### Reducing income poverty

- 1. Securing access to fisheries resources. Licensing procedures are being reviewed and will provide greater security of access and will promote poverty reduction and gender equity. This will improve employment and incomes.
- 2. *Improving fish handling and quality.* Infrastructure improvement and training in fish handling and processing will help to ensure that the quality of the fish is maintained along the marketing chain, leading to higher prices and more income for fishers and traders, many of whom are women.
- 3. *Training in entrepreneurship.* Numerous small-scale businesses exist within fisheries and the fishing communities will further build their businesses after training in business skills and entrepreneurship.
- 4. *Improving access to savings and credit.* LVFO is working with partners to improve the access that fishing communities have to savings and credit facilities, so that they can build their businesses and create safety nets for their families.
- 5. Assisting women to benefit more from fisheries resources. LVFO is targeting assistance to women to help them benefit more from fisheries resources, through participation in management,

training and access to boat licences. Targeting women is the best way of tackling intra-household poverty.

*Contributing to local and national economic growth and development* 

- 1. Increasing revenue for reinvestment in fisheries management and development at national and local levels. Revenue is raised for local and national government and by BMUs for fisheries management and beach development.
- 2. Foreign exchange earnings from exports. The export of Nile perch brings much-needed foreign exchange earnings into the region, enabling vital imports to be obtained and contributing to greater food security.
- 3. Improving infrastructure and access to services. Fishing

communities traditionally are poorly served by good infrastructure and services. By empowering communities, building the capacity of BMUs to participate in planning and mobilising resources, access to good infrastructure and many services will improve.

- 4. *Tackling HIV/AIDS.* HIV/AIDS presents a tremendous challenge to the fishing communities of East Africa and increases the vulnerability and poverty of many individuals and households. LVFO is developing a strategy to tackle HIV/AIDS in fishing communities, which will include working to improve livelihoods and build safety nets.
- 5. Contributing to regional food security. Fish from Lake Victoria feed around 22 million people in the region with their annual fish intake making a significant contribute to regional food security.

#### The Impacts of Fisheries Subsidies

Fisheries subsidies often have dual impacts on trade and the environment. On the trade side, exporters of fish from subsidized fleets gain trade advantages over exporters of fish from unsubsidized fleets' distant water fleets may obtain fishing rights in developing countries at the expense of indigenous fishing industries. On the environment side, it is well known that subsidies can create perverse incentives for increased exploitation of fisheries leading to a degradation of fisherv resources. Given these dual impacts, any new disciplines on fisheries subsidies should not only address trade distortions, but also the protection of fishery resources.

It is well established in fisheries economics literature that subsidies can lead to increased exploitation of fisheries. The application of economic theory to the fisheries sector demonstrates that in an open-access fishery, а revenue enhancing or costreducing subsidy increases marginal profits at each existing level of fishing effort and therefore leads to an increase in fishing.

Economic theory thus indicates that. in the of effective absence controls over catch. subsidies in fully а exploited or overexploited fishery will cause even greater depletion of fishery resources. In addition to the economics literature, a large body of case study literature documents the relationship between certain subsidy programs and the emergence of overcapacity and over





fishing in a number of countries. Most of the world's 200 major fish stocks are already fully exploited or overexploited.

No one has challenged the fact that certain subsidies may create incentives for over fishing under certain circumstances. Rather, the main debate on fisheries subsidies has been over how to structure a sound policy response to avert these negative effects on fish stocks. The UNEPcommissioned study on the impacts of subsidies on fishery resources found that those impacts vary significantly under various scenarios of fishery management and levels of fishery exploitation. In constructing an effective fisheries subsidies regime, therefore, it is important to take into account different combinations of management conditions bio-economic and conditions.

The study on the impact of subsidies on fisherv resources uses a matrix approach to ensure that all relevant distinctions in the conditions of the fishery are taken into account in analyzing impacts. The study builds on the matrix approach suggested by the OECD in the early 1990s and advocated in a paper commissioned by UNEP in 2002. It develops the approach further by using an analytical framework

that reflects both different combinations of management systems (including catch control and incentive systems) and different levels of exploitation in the fishery.

In order to be useful for international policy making, an analysis of different management should systems be grounded in the realities of these systems as they actually function, not as they would work in an idealized model. In an ideal fisheries management system, catch quotas set at biologically sustainable levels, effort controls through seasonal adequate closures. monitoring and surveillance and tough enforcement of regulations would be sufficient to prevent the incentive effects of subsidies from causing any higher level of fishing mortality. In the world. real however. fisheries management systems are very far from being effective in preventing overexploitation fishery of resources. Experiences in the management of fisheries in OECD countries have shown that overcapitalized fisheries tend to create powerful pressures on fisheries managers to set catch quotas too high and to impose effort limits that are not strict enough and that are too late to prevent serious resource depletion.

They also show that management controls in such overcapitalized fisheries without individual catch rights have not been able to prevent high levels of illegal landings in violation of catch limits and widespread underreporting of catch. A statement in 2002 by European Commissioner fisheries. Franz for Fischler, that a number of fish stocks had been persistently over fished because data on catches had been systematically misreported is a dramatic illustration of the failure of systems of catch control in wealthiest even the nation's fisheries.

In practice, therefore, management regimes in fisheries which have high levels of fleet capacity in relation to the resources and no incentive for sustainable harvesting will be unable to protect from resources some degree of additional overexploitation caused by certain fisheries subsidies. Subsidies to fishing fleets in fisheries that are already fullv exploited or overexploited are verv likely to exacerbate the problem of over fishing, in spite of the existence of catch quotas and monitoring and surveillance systems. This reality has been taken into account in the UNEP-

commissioned examination of impacts of fisheries subsidies under a variety of combination of management systems and degrees of exploitation of the fishery. The results of that analysis provide the basis for the options disciplining to related fisheries subsidies discussed in this paper.

# The Issue of SpecialConsiderationforDeveloping Countries

Developing countries face unique challenges with regard to fisheries that make fisheries policies a particular of matter in the concern development process. For most developing countries, fishing is a much larger contributor to both food supply and employment industrialized than in countries, and the vast majority of fishing is small-scale either or artisanal. For a number of least developed countries, moreover, income from fishing access agreements represents a significant contribution to national budgets.

One issue to be considered crafting improved in disciplines on fisheries subsidies is whether and how to extend special and differential treatment with regard to any new disciplines to developing countries. As previously noted. the Doha

commitments on fisheries include subsidies the clause "taking into account the importance of this developing sector to countries." This has been interpreted by some WTO Members as meaning that "special and differential treatment" should be extended to developing countries in any new disciplines on fisheries subsidies.

The SCM Agreement the 1994 itself, like Uruguav Round Agreement on Agriculture, already includes provisions for special and differential treatment to developing countries with regard to disciplines on subsidies. Article 27 provides an exemption from the prohibition on export subsidies for the least developed countries and an eight-year phaseout period for other developing countries. Moreover, Article 27 (8) also provides that there should be no presumption under Article 6(1) that a subsidy granted by a developing country results "serious prejudice." in Instead, such "serious prejudice" must be "demonstrated by positive evidence."

In determining whether to adopt a special and differential treatment provision related to fisheries subsidies, it is important to realize that



overfishing affects not industrialized only countries, but also the vast majority of developing countries. In fact, all seven of the developing countries that were among the fishing states with the largest fish catch, for which data was available in the late 1990s, had fisheries that were already seriously overexploited. In countries were fisheries are already overexploited, of capacitythe use enhancing subsidies would provide only temporary benefits to fishing industries at the expense of future fish supplies and food security. Restrictions on fisheries subsidies in these cases would therefore be in the longterm domestic socioeconomic and environmental interest of these countries. As has been noted, new disciplines on fisheries subsidies on environmental grounds could exempt fisheries that are not fully exploited. Although no official data exists on the status of exploitation for fisheries, it appears that the relatively underexploited few fisheries in exclusive economic zones that still exist belong overwhelmingly to developing countries, and

developing countries, and primarily to the least developed countries of the world. For example, Mauritius still has fisheries for deep water shrimps,



swordfish, small pelagics and tuna that are not fully exploited. Such an exception, therefore. would benefit developing countries in regard to trade interests and would also be with consistent their sustainable development interests. Regular stock assessments would need to be conducted to avoid leaps from less than to full exploitation of the fishery.

One additional consideration in whether to extend special and differential treatment to developing countries for any new disciplines on fisheries subsidies is that the use of some subsidies by developing countries, particularly subsidies to capital costs for distant water fleets, would likely negatively affect other developing countries. One proposal related to, but distinct from, the adoption of special а and differential treatment provision for developing countries, is the adoption of a provision that exempts artisanal fisheries from any new disciplines on fisheries subsidies. Although this may appear at first glance to favour developing countries in general. and least developed countries in particular, it could have the unintended consequence of encouraging unsustainable practices rather than supporting the

development needs of poor countries.

Most artisanal fisheries in the world are already heavily overexploited and need stronger management systems rather than subsidies to production or inputs to make them more profitable and sustainable. Motorization of these small-scale fleets, often with heavy government assistance, has contributed serious to resource depletion, as noted in UNEP's study of fisheries management in Senegal. India. where nonmechanized and small scale mechanized fisheries fleets (roughly equivalent to the artisanal sector) have experienced dwindling catch per unit of effort similar to that in the mechanized deep-sea sector, is another example of developing country artisanal fleets that are suffering from severe overcapacity.

Furthermore, there is no basis for assuming that artisanal fishing fleets are any less competitive than industrial fleets. Indeed, it has been observed that in some developing countries the artisanal fleet is more profitable than the industrial fleet because productivity labour is much higher in relation to capital costs, and that it represents a much larger proportion of the total marine catch.

A critical question in this regard is whether the fishery is managed by a community-based institution, which has an incentive to maintain levels sustainable of fishing effort. In contrast, subsidies provided to artisanal fleets in fisheries that are still subject to "race for fish" incentives will have the perverse effect of increasing effort while also reducing overall welfare. The character of the management regime, therefore. а is kev distinction to be considered in any special and differential treatment for artisanal fisheries. Any exemption from prohibited subsidies for the artisanal sector, therefore, should be limited to subsidies that are not harmful to fishery resources.

One type of special and differential treatment that in most cases would be consistent with improved disciplines for fisheries subsidies would be longer phase-out periods for any subsidies that are prohibited under the disciplines. А longer phase-out would allow developing countries to make adjustments to existing subsidies over time. However, care would need to be taken to ensure that the longer phase-out would not lead to irreversible damage to the fishery resources.



#### **Investing in Africa's Fisheries**

Fisheries contribute to the food security of 200 million Africans and provide income for over 10 million people. They support economic growth through exports and provide environmental services, for example increasing the value of water. However, the potential of the sector is not being fulfilled.

The New Partnership for Africa's Development (NEPAD) launched a Fisheries and Aquaculture Programme in August 2005. The aim is to guide investments and realise the potential of aquaculture, inland fisheries, and coastal and marine fisheries. The main objectives are to:

- Increase fishing communities' access to new technologies and services. This includes better fish farming methods and sources of fingerlings (young fish).
- Make successful technologies available across Africa. One approach is mutual learning under the NEPAD Continental Outreach, operated by the Regional Economic Communities and National Programmes.
- Develop policies that enable private companies, public organisations and civil society organisations to sustain and, where possible, expand fish production.
- Enable fishing communities to benefit from expanding markets and trade by improving their access to markets.
- Share benefits from fisheries (such as access to fishing grounds and income) more fairly.

African governments increasingly include fisheries in national planning and financing

processes. For example, the Sustainable Fisheries Livelihoods Programme supported the inclusion of fisheries into Poverty Reduction Strategy Papers. This should ensure more reliable funding from national governments for fisheries and improve accountability of how funds are spent.

Government support should encourage more private sector investments in the fisheries sector. The NEPAD Fisheries and Aquaculture Programme provides a framework for planning, implementing and monitoring these diverse investments, to ensure they have the maximum impact.

The Programme has renewed commitment to the fisheries sector amongst African governments and development partners. Several countries have declared Presidential Initiatives on Fisheries and Aquaculture Development, including Nigeria, Senegal and Malawi.

The WorldFish Center has launched two African regional programmes on aquaculture and small-scale fisheries. The World Bank and partners established the Program on Fisheries (PROFISH) partnership. This helps countries reach a consensus about fisheries strategies and introduce these into national economic planning. The World Bank also started the Strategic Partnership for a Sustainable Fisheries Investment Fund in the Large Marine Ecosystems of Sub-Saharan Africa, which provides grants to country-level fisheries projects.

It is hoped that all the projects under the Aquaculture NEPAD Fisheries and African programme will benefit governments. They allow fisheries and aquaculture to support national development objectives and emphasise the value of the sector. This will enable governments and cooperating partners to make strategic investments in the sector and realise its huge potential.



#### The UEI salutes Dr. Modadugu V. Gupta, Architect of the Blue Revolution

Dr. Gupta's achievements in freshwater aquaculture have helped millions of rural farmers overcome severe poverty and nutritional deficiencies. He developed lowcost technologies to increase fish yields and educated impoverished farmers, specifically women, in freshwater aquaculture practices. His efforts led to a significant rise in the consumption of fish – a vital source of protein and vitamins – in developing countries in Asia and Africa and more effective aquaculture research worldwide.

Dr. Modadugu V. Gupta was named the 2005 World Food Prize Laureate for his exceptional achievement of enriching the diets and lives of the world's most impoverished families. As a prime architect of a "blue revolution" in Asia and around the globe, Dr. Gupta has increased the protein and mineral content in the diets of over one million of the world's most impoverished families. His promotion of aquaculture has contributed to the economic and social empowerment of men and women in poor and rural areas where most lack the means to improve their own lives. Dedicated to improving the world's fish supply, Dr. Gupta has built a global network of likeminded scientists, managers, and leaders. The millions whom his work has impacted span several continents and range from international experts to landless farmers.

Born in India in 1939, Dr. Gupta began his career there in 1962 researching how to bring the benefits of fish production to poor farmers. After assessing the physical and social resources accessible in impoverished areas, Dr. Gupta developed two exceptional approaches for increasing fish harvests among the very poor. He taught poor and landless people to recycle farm wastes such as rice bran, weeds, and manure to support and grow larger fish stock, and he advocated the polyculture technique of raising multiple species of fish in one pond habitat to effectively feed and harvest more varieties of fish with higher nutritional value.

Using techniques based on the work of Dr. Gupta and his colleagues, poor farmers and rural families across a large swath of South and Southeast Asia (including areas of Bangladesh, India, Vietnam, Thailand, Cambodia, the Lao PDR, and Indonesia) have turned abandoned ponds, roadside ditches, seasonally flooded fields, and other bodies of water as small as 300-400 m2 into "mini-factories" churning out fish for food and income. To give an example, over 150,000 seasonal ponds in Bangladesh which were lying fallow before Dr. Gupta's intervention are now blooming with fish. More breakthroughs came in Bangladesh in the 1980s, where he identified over a million ponds, roadside canals and ditches, and seasonally flooded pools as potential water resources that were at the time untapped by producers. He also enlisted fish nongovernmental organizations in branching out to small farmers and specifically to women as means to ensure the sustainable practice of effective aquaculture.

Asia's poorest fish farmers can now provide nutrition for their families with enough fish left to bring in added income. His novel techniques increased average annual fish production in India from barely 0.5 tons per hectare in the early 1970s to between 2 to 10 tons per hectare. Dr. Gupta retired from The World Fish Center in 2004. Since that time, he has remained a senior research fellow at WorldFish and the chair of the organizing committee of the International Workshop on Environmentally Friendly Aquaculture. Dr. Gupta has also been active as an advisor on agricultural and aquacultural research and fisheries to the governments of Mozambique and India, and is a member of the Scientific Advisory Committee of the Rajiv Gandhi Center for Aquaculture.

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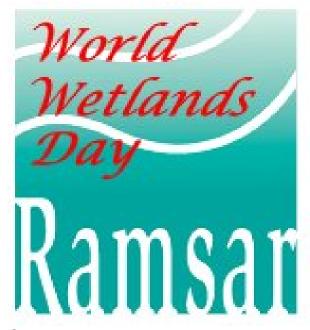
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The Uranga Entity Institute (UEI) is an independent broad based public policy research project operated by the Uranga Development Action Group (UDAG). The UEI carries out its activities through advocacy, training and information dissemination. UEI promotes the view that innovation and culture are an integral part of environment management as well as being Millennium crucial to meet the Development Goals (MDG).



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