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Harnessing Fishery Resources: Swimming the Tide to Africa's Development

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I. INTRODUCTION

1. Fisheries (both marine and inland) and aquaculture are important natural resources with great potential to contribute to sustainable broad-based development in Africa. Fisheries and aquaculture contribute to nutrition and food security, create employment and income opportunities, and generate export earnings. According to the Food and Agricultural Organization of the United Nations (FAO), about 4.5, 2.3 and 0.76 million tons of fish are caught in African marine ecosystems, inland waters and fish farms, respectively, delivering gross annual revenues (first sale) of close to \$5 billion and supporting the jobs and livelihoods of about 3.6 million people.

2. Capture fisheries and aquaculture supplied the world with about 142 million tons of fish in 2008, of which 115 million tons was used for human food. Global capture fisheries production in 2008 was about 90 million tons with an estimated first-sale value of \$93.9 billion, comprising about 80 million tons from marine waters and a record 10 million tons from inland waters. Capture fisheries production has been relatively stable in the first decade of the current millennium worldwide and in Africa as well – about 13 per cent of the world's total. Aquaculture accounted for 46 per cent of total food fish supply, representing a continuing increase since the mid-2000s.

3. Catches from inland waters, two-thirds of which were reported as being taken in Asia in 2008, have shown a slow but steadily rising trend since 1950, owing in part to stock enhancement practices and possibly also to some improvements in reporting, which still remains poor for inland water fisheries (with small-scale and subsistence fisheries substantially underrepresented in the statistics). In addition to under-reporting in Africa, the sector is still facing serious supply-side challenges in spite of its huge potential. As a result, the continent is estimated to contribute to the world capture production in inland waters at quite stable levels, at around 25 per cent during the first decade of this millennium.

4. Fish has excellent nutritional value, providing high quality protein and a wide variety of vitamins and minerals. FAO figures for 2007 show that fish provides 13 per cent of animal protein in industrialized countries, over 25 per cent in Asia (excluding China) and well over 21.5 per cent in low-income food-deficit countries. In 2007, the average annual per capita apparent fish supply in developing countries was 15.1 kilograms (kg). Despite its under-recording by official statistics for small-scale and subsistence fisheries, fish contribution to animal protein supply is quite high in many African countries, thus enhancing food security at the household level. It is as high as 36 per cent in Cameroon, ranges between 42 and 44.5 per cent in the Democratic Republic of the Congo, Egypt, Senegal and Uganda, and is well over 58 per cent in Ghana and 65 per cent in Sierra Leone.

5. Fish exports are a valuable source of foreign exchange for many African States. The fishing industry contributes up to 15 per cent to GDP in some coastal countries. For instance, fishery exports represent 86 per cent and 46.9 per cent of agricultural exports in Senegal and Mauritania, respectively. Africa's fish exports increased in the 1980s and 1990s and reached \$2.7 billion by 2001, which was about 5 per cent of the global fish trade. FAO estimates that in about 11 African countries, fish product export account for over 10 per cent of total export earnings. In 2009, twenty of the countries registered a surplus of more than \$3.2 billion. The surplus of North

African countries from the fish trade constantly increased until 2010 when it reached \$0.5 billion, i.e. more than the peak surplus of the whole of Africa in 2005-2009 (at \$0.404 billion), which was followed by an almost 60 per cent fall in 2010. The sector also supports livelihoods for millions of people and provides food security for nearly 30 per cent of Africa's population. Fishery resources are therefore closely linked with broad-based development.

6. All the above benefits notwithstanding, Africa is yet to tap the full potential of its huge endowment in these resources, leaving significant potential to enhance development through effective and sustainable resource management. This is partly because fishery resources in Africa face numerous challenges from local and global pressures. Widespread unsustainable fishing practices have left capture fisheries with a shrinking resource base, which translates into a diminishing contribution to food and economic security. FAO estimates that 11 of the world's 15 major fishing areas and 69 per cent of the world's major fish species are in decline and in need of urgent management. In Africa, 791 freshwater fish species are threatened. Between 1990 and 2002, per capita fish production in Africa declined by 14 per cent, down to 6.7 kg per year per person by 2006. Estimates show that per person production is expected to decline further to 6.5 kg per year by 2020.

The key question then is how can Africa harness its significant renewable fisheries and aquaculture resources for its development in a sustainable manner? Seeking answers to this question is one of the main objectives of the forthcoming African Development Forum (ADF-VIII) on 'Governing and Harnessing Natural Resources for Growth and Development'.

7. African countries have been working together since the New Partnership for Africa's Development (NEPAD) *Fish for All* Conference that took place in Abuja in 2005 to find ways to make fishery resources an engine for growth and development in the continent. This meeting produced the NEPAD Action Plan for the Development of African Fisheries and Aquaculture. Several continental and subregional level follow-up efforts were made and reported in a number of reports including the: (a) Report of the African Union InterAfrican Bureau for Animal Resources (AU-IBAR) Stakeholders' Workshop on Partnership for African Fisheries Reform; (b) proceedings of the Think Tank Meeting on the Formulation of a Pan-African Policy Framework and Comprehensive African Fisheries Reform Strategy; (c) the Conference of African Ministers of Fisheries and Aquaculture (CAMFA); and (d) Big Table 2007: Concept Note and Issues Paper on Managing Africa's Natural Resources for Growth and Poverty Reduction. This issues paper builds on these earlier efforts and publications.

II. OBJECTIVE

8. The overall objective of this contribution is to provide material and background input for the segment of ADF-VIII which will discuss sustainable fisheries and aquaculture development for economic growth, poverty reduction and the overall improvement of the living standards of Africans. The issues paper complements the ADF-VIII concept note and should be read in conjunction with it. It identifies a set of key issues that should inform the relevant ADF-VIII deliberations. It poses questions to frame the debate. Hence, the main goal of this contribution is to provide material for ADF-VIII discussion that would raise awareness and cultivate deeper understanding of how sustainable management of Africa's fisheries resources could contribute to

the continent's economic transformation. This report also provides, for discussion at the Forum, questions, frameworks and strategies to better integrate fisheries management into national resource management programmes, strategies and policies.

III. THE BROAD ISSUES

Does Africa have a new window of opportunity with fisheries and aquaculture?

9. Africa's fisheries and aquaculture endowments are renewable natural capital, which offers the continent an indefinite opportunity to continue to reap benefits from these resources through time. Arguably, this makes fisheries and aquaculture potentially more valuable than their more appreciated non-renewable counterparts such as oil and gas, diamond and gold. The key to ensuring that these resources continue to provide benefits for the continent's development is to ensure that they are used sustainably, in a manner that respects ecosystem limits.

How can the continent sustainably maximize the developmental value of the fisheries and aquaculture sector?

10. Africa's marine fisheries and oceans have contributed significantly to the livelihood of the continent's coastal communities for centuries. The shell middens found off the coast of Eritrea in the Red Sea are the oldest record of human consumption of seafood. The Fantis of Ghana have been fishing along the West African coast since the 18th century. Marine resources could continue to serve as a sustainable source of economic, social and cultural development for coastal African countries if they are managed and governed effectively with regards to the environment and the economy. Recent reviews and analyses by FAO/CECAF working groups (2003-2010) on demersal and pelagic resources show that commercially exploited fish species are either overexploited or fully exploited in African waters.

What are the opportunities and challenges facing African fisheries and aquaculture? What can the Forum provide for policymakers and the public to help them develop strategies and policies for the sustainable development of African fisheries, for the benefit of the continent's current and future generations?

11. Inland fisheries have historically played an important role in the economic architecture of pre-colonial African societies as they were central parts of integrated aquaculture-agricultural farming systems in floodplains, rangelands, double-cropping and fisheries ecosystems. These economic systems involved dried and oily fishery products – that were locally bartered and traded over very long distances such as from the Senegal and Gambia River Valleys or the Inner Niger Delta to the Sudanese Belt of West Africa. Currently, Africa is reported to land about 25 per cent (i.e., 2.3 million tons) of the annual global fish catch from inland waters. Seasonally, inland fishermen organized within mobile camps, would fish the West African coast down to the Gulf of Guinea. Major freshwater fishing takes place along the main rivers and lakes of Africa. Fish landings from the African great lakes (e.g., Victoria, Tanganyika, Lake Malawi) are declining. This is threatening the livelihoods of riparian communities, food security, incomes and export earnings potential. These lakes also face the risks of climate change.

How can we make sure that inland fisheries continue to play important roles in human nutrition and poverty alleviation?

12. According to FAO, aquaculture supplies around 50 per cent of the world's seafood. Unfortunately, Africa currently accounts for less than 1 per cent of world aquaculture fish production. However, from 2000 to 2006 the sector grew by an estimated 22 per cent. Aquaculture, thus, has the potential to contribute to meeting the needs for animal protein of a growing world and African population, if carried out to ensuring that the sector actually: adds to the physical quantity of fish available for human consumption: adds economic value: supports community and social development and operates within the limits set by nature.

13. Currently, many farms still rely on wild caught fish as feed meal and oil. The potential for disease from fish farms impacting wild populations is also an issue. There is the potential that fish farms can pollute the environment because of the waste they produce. Given these challenges, it is clear that current aquaculture practices need to be modified to make them sustainable environmentally, socially and economically.

What strategies and policies should the continent put in place to ensure that the aquaculture sector meets these and other requirements for success?

14. The NEPAD Action Plan for the Development of African Fisheries and Aquaculture offer the continent a solid starting point for the promotion of 'transparent, equitable and sustainable approaches to harnessing Africa's fisheries and aquaculture for broad-based sustainable growth and socio-economic development'.

What gaps exist in current frameworks to advance governance in the fisheries sector in Africa?

IV. THE SPECIFIC ISSUES

A. Policy, legal and regulatory issues

1. The Africa fisheries and aquaculture action plan and vision

15. Fishery resources, if managed sustainably, offer great opportunities for addressing food security challenges, creating economic opportunities in fishing communities (including the most vulnerable and marginalized) and enabling diversification of exports. Adequate policy can be a game-changer to enhance the role of fishery resources in the economic transformation of the African continent. The review of the State of Fishery and Aquaculture (2010) published by FAO emphasizes "*the growing need to focus on the many facets of policy and governance, especially in relation to employment and poverty alleviation*", and *environmental sustainability*. This, in turn, requires tackling specific challenges in policy areas such as the environment, technology, economy, social life and governance, at the national and subregional levels.

16. The New Partnership for Africa's Development (NEPAD) recognizes the growing opportunities, challenges and emerging successes of fisheries and aquaculture development in

Africa. Also, a series of regional technical consultations were held as part of the framework of the Comprehensive Africa Agriculture Development Programme (CAADP) that identified the primary areas for investment to safeguard and further increase the benefits from this sector, and describes a first set of priority actions in each. The NEPAD Action Plan for the Development of African Fisheries and Aquaculture also describes these investment areas for inland fisheries, coastal and marine fisheries and aquaculture.

To what extent do existing policy, legal and regulatory frameworks adequately support the realization of the NEPAD, CAMFA and other continental-level plans of action for Africa's fisheries and aquaculture sectors?

2. Promoting regional cooperation for improved governance of fishery and aquaculture resources and maritime areas

17. Oceans, rivers, lakes and the fish they contain do not respect national borders. Hence, many fish stocks are shared by many African countries. For example, 16 countries share the fish stocks in the Gulf of Guinea Large Marine Ecosystem. Angola, Namibia and South Africa fish in the Benguela Current ecosystem while many more countries, some non-African, fish in the Western Indian Ocean. The sharing of fishery resources by two or more entities (countries, fishing gear, etc.) aggravates the "tragedy of the commons" problem and hence calls for high levels of cooperation among these entities in order to bring about effective governance. Fortunately, Africa already has a number of regional economic communities (RECs) that are working to improve regional cooperation in various subregions of the continent. A key thematic issue that would be integral to the African Union Policy framework development would be strengthening collaboration between Regional Fisheries Boards (RFBs) and RECs in regional fisheries governance.

How can existing RECs and RFBs be strengthened to serve as a basis for enduring, effective and improved governance of the continent's fisheries and aquaculture resources through regional cooperation?

B. Economic issues

18. The inability of many African countries to harness their natural resource wealth, in general, and fisheries resources, in particular, for poverty reduction and sustainable economic growth is due, in part, to failure of economic strategy. Many countries do not have economic policies that promote and encourage judicious and sustainable exploitation and management of natural resources. A key strategy would be for countries to use their tax and expenditure policies to encourage better management of the continent's fisheries resources. A good example here is Namibia, where quota fees are charged to the industry as a way to extract the resource rent for the benefit of the whole country. Another strategy is to improve public sector financial management through more transparent and open accounting systems. African countries also need to enhance the fishery value chain through an improved integration with other productive sectors of the economy via multi-sectoral backward, forward and lateral linkages, and accelerate the transition from subsistence to integrated and inclusive aquaculture-agriculture farming systems and commercial fishing.

How can countries in Africa learn from other countries both in and outside of the continent that have been successful in governing their fisheries in an efficient and economically sustainable manner? What policies and strategies would enhance backward and forward linkages between fisheries and aquaculture and other sectors of the economy?

1. Expanding production and improving productivity: Linking fisheries and aquaculture to other sectors and diversifying throughout the value chain

19. Africa is losing about 1 million tons of fish because of overfishing, which undermines the productivity of Africa's marine ecosystems. This is a huge loss both in terms of potential incomes and implications for food security. In fact, a loss of 1 million tons is equivalent in weight to a loss of 1 million mature bulls annually. This clearly has significant food security implications for the continent. Even though similar estimates for inland fisheries may not be available, the story is very likely similar. FAO studies and the NEPAD Action Plan (2005) argue that Africa is yet to tap the huge potential that aquaculture holds for the continent. The fact that African fisheries and aquaculture are not living up to their economic potential is a big issue that needs to be addressed urgently.

What policies need to be put in place to motivate and incentivize fisheries in Africa so as to reduce the current by catch levels to more benign levels?

20. Regarding value addition, there is evidence that economic diversification is a crucial means by which African countries can increase the benefits that they get from their natural resources. Small- and medium-scale enterprises can play an important role in fishing as well as in the entire fish value chain (processing, retail, etc.). This is important for poverty reduction and for incubating entrepreneurship. Economic value addition activities like processing, and export-oriented fishing industries could help unlock the potential of the sector. This is the approach adopted by the World Bank projects in Africa (e.g., WARFP). This is particularly true for the case of artisanal and small-scale fishing, which if properly supported, can be a catalyst for 'fish cluster' development.

What set of policies should African countries adopt to promote the participation of small-and medium-sized enterprises in the fisheries and aquaculture sectors?

21. At the 2008 Assembly of the African Union Tenth Ordinary Session devoted to Industrialization, the African Union Heads of State signed the African Union Plan of Action for the Accelerated Industrial Development of Africa (AIDA). The following commitments were made at this Session: (a) accelerate the pace of Africa's industrial development, especially the conversion of natural resources into higher value-added products; and (b) adopt policies and

programmes for natural resource processing and greater value addition in Africa.¹ Clearly, the aim of the plan was to accelerate value addition by the natural resource sector in Africa with a view to promoting the continent's industrial development. Unfortunately, the implementation of this laudable initiative is yet to take root.

How can fisheries and aquaculture sector policies be aligned with the continent's industrial policies? How can the nexus between fisheries and aquaculture resource-based industrialization and AIDA be strengthened?

2. Market development and trade

22. The demand for seafood products is rising worldwide, with global trade in fish products surpassing trade in many agricultural commodities (e.g., rice at 5 per cent, while fish trade is over 30 per cent of global production). Since 1985, Africa is reported to export \$4.4 billion worth of seafood yearly while its yearly fish imports are worth only \$680 million. What is striking is that Africa's fish product exports are close to 20 per cent of the continent's total agricultural exports.

How can Africa optimize the benefits from its fisheries and aquaculture resources in the face of rising demand and international trade, without depleting this valuable renewable natural capital?

3. Enhancing food security and nutrition

23. Fisheries and aquaculture play a very important role in providing food and nutritional security, supplying nearly 150 million tons of fish protein to the world's population annually. Also, the sector provides tens of millions of workers throughout the fish chain. The incomes of these workers are used to ensure their food and nutritional security. Even though fish consumption per capita in Africa is only about half the global average of over 16kg per person, the level of consumption is very high in countries such as Ghana, the Gambia, Sierra Leone, Nigeria and parts of South Africa.

How can Africa ensure that its fisheries and aquaculture sectors continue to contribute to the food security and nutrition of its residents, at an even higher level, through time?

4. Improving the management of fisheries and aquaculture revenues

24. It is always a challenge for society to ensure that the benefits from natural resources are equitably distributed among its members. The situation is probably more difficult with the fisheries and aquaculture sector where several studies have shown that, instead of collecting

¹Assembly of the African Union. *Decisions and Declarations*. Thirteenth Ordinary Session 1–3 July 2009. Sirte, Great Socialist People's Libyan Arab Jamahiriya. Available at www.african-union.org/au/decisions/

revenues from their fisheries sector, countries provide subsidies to them, leading to serious consequences on the sustainability of fish stocks. Joint ventures, which can be mutually beneficial if done properly, are also common in Africa's fisheries and aquaculture sector. Similarly, fishing access agreements need to be designed, implemented and managed to ensure that African fishers are not left with an empty bag - with 'no fish and no cash'. The loss of potential wealth by African countries from poorly negotiated fisheries access agreements with Distant Water Fishing Nations has become a cause of concern on the continent. There is a need to strengthen capacity for negotiating fair and sustainable fisheries agreements. AU-IBAR organized an interactive training workshop for directors of fisheries on negotiation skills for equitable and sustainable fisheries access agreements. It also has an ongoing continuous training programme for African Union Member States.

How does Africa ensure that the fisheries and aquaculture sector generates wealth without the need to receive subsidies that result in overfishing?

C. Governance, equity, human rights, and social considerations

25. Governing fishery resource development in ways that pay close attention to the sustainability of the renewable resource is key to ensuring African ownership of the sector resources, promoting the well-being of the participants (especially, small-scale and artisanal fishers) and the economic rights of households and communities that depend on fisheries and aquaculture resources. Also, the institutional arrangements within which the resources are developed are relevant considerations for ensuring that Africans benefit from this sector of the economy.

1. Strengthening governance instruments

26. Fisheries-specific instruments have been developed to promote governance in the sector. They include the FAO Code of Conduct for Responsible Fisheries, the FAO-AU Plan of Action on Illegal, Unreported and Unregulated (IUU) fishing, the Marine Stewardship Council and Seafood Choices Certification Programmes. Several studies have shown that in many countries, these instruments are not yet sufficiently integrated into national policy and decision-making processes. Moving forward, therefore, it is important for Africa to develop, adapt and apply these instruments into national processes.

How can Africa best use the existing package of governance instruments for the fisheries and aquaculture sectors? What capacities are required for Africa to effectively internalize these mechanisms?

2. Preventing and managing fishery and aquaculture resource-related conflicts

27. The marginalization of local communities and the lack of clarity on ownership of fishing and aquaculture access rights have already led to some conflicts in the sector, which, if not addressed, would increase over time. Improving community participation and ownership in fishery resource development, with particular focus on the most vulnerable and marginalized,

would help reduce conflicts. This would also promote broad-based responsibility for judicious exploitation of fisheries and aquaculture operations in the continent. In addition, new legislation would be needed, as will the opening of market opportunities for small-scale fishing operations.

28. The politicization and poor opaque management of the rents that natural resources, in general, and fisheries and aquaculture, in particular, yield have often been linked to conflicts in Africa, leading some commentators to characterize natural resources as Africa's "precious bane". Conflicts have reduced the contribution of natural resources to the continent's economic and social development. These conflicts are associated with poor governance – political, economic and corporate.

How can more robust legal, legislative and institutional frameworks be developed to protect the interests of all stakeholders, especially, the most vulnerable groups, in order to reduce fisheries-related conflicts?

3. Curbing illegal, unreported and unregulated fishing and the misappropriation of fisheries and aquaculture resources

29. IUU fishing occurs in many places - not only on the high seas, but also within exclusive economic zones that are not properly regulated. IUU fishing leads to a failure to achieve both the management and sustainability goals of fisheries. When stock assessments are performed on fish stocks, reported catch and effort data is used. The under-reporting of illegal catches, however, results in the absence of a significant part of the annual catch and therefore makes the stock assessments inaccurate. In addition, IUU fishing distorts the market to the detriment of legal fishers. These reasons make it important to eliminate IUU fishing, which is known to be a widespread activity worldwide, especially in the waters of developing countries.

What policies and mechanisms can Africa put in place to reduce IUU fishing?

D. Environmental, social and material stewardship

Ensuring increased compliance with environmental norms and standards

30. As renewable resources, fish stocks are susceptible to their biological and ecological environment, which are directly impacted by the level of catch and environmental changes. Similarly, ecological changes caused by climate change also pose serious environmental and fish stock management challenges. To reduce the environmental impacts of aquaculture development as well as avoid impacts on aquaculture caused by non-aquaculture activities, further efforts are needed to improve resource use and appropriate environmental management. The skilful management of renewable fishery resources in the presence of climate change risks requires the development of new knowledge bases and environmental and resource management skills.

31. Since the exploitation of fisheries and aquaculture resources leave adverse marks on the environment, damaging fish stocks, land and water, and reducing the capacity to fish stock to produce their maximum thereby undermining local livelihoods, companies that want to

participate in the sector should commit to social and environmental stewardship by following environmental and social norms.

What incentives, both positive and negative, can African countries put in place to ensure that corporations commit to environmental stewardship? How can Corporate Social Responsibility in the fisheries and aquaculture sector be mainstreamed into national development plans?

E. Knowledge base, human and institutional capabilities

Strengthening transformative capacity and bargaining power

32. Governing and harnessing fishery and aquaculture resources in sustainable and equitable ways in Africa is still being hampered by interrelated challenges at the institutional level, including the limited knowledge of the resource base within the institutions in charge of policymaking, and a lack of coherence in the main policy domains – economic, social, environmental, technology; an almost total absence of a long-term vision of the potential and use of the resource sector in the context of declining stocks, of rapid changes in the global food economy and of emerging threats such as climate change; weak coordination and the need for collective action within the main large ecosystems across the different subregions in Africa. Institutional, human capital and knowledge constraints require significant improvements at country and subregional levels; institutional support, policy coordination, information availability and access.

How can African countries lift these constraints on the development of areas such as strategic economic management, research and development and financial, institutional and technical capacities?

V. A CROSS-CUTTING ISSUE: REGIONAL INTEGRATION

33. Regional integration is a necessity for the sustainable management of Africa's usually shared, fisheries and aquaculture resources. Collective and concerted action at the regional level that allows African countries to work together strategically with a common voice and purpose is needed. Indeed, regional integration can be used to ensure peace and security, strengthen regional economic integration and enhance development and economic growth. As amply supported by economic analysis, collaboration of supranational institutions can substantially increase the economic gains from the continent's fisheries and aquaculture resources.

34. The African Union, through AU-IBAR and NEPAD, together with its partners, the World Wide Fund and FAO, has embarked on the formulation of an African fisheries reform mechanism, under whose auspices the AU is developing guiding principles for fisheries policy coherence (Pan-African Fisheries Policy Framework) and the Comprehensive African Fisheries Reform Strategy. This responds directly to a call from CAMFA 2010 for strategic partnerships and the dissemination of best practice in fisheries at the regional level, as a means of raising awareness about the need for wide-ranging African fisheries policy and governance reforms.

How can African member States overcome their facile certitudes about sovereignty and rally together to strengthen their common voice and position?

VI. CONCLUSION

35. The importance of fisheries and aquaculture resources for Africa were highlighted. The fact that every economy needs the natural environment and the goods and services it provides was clearly stated, emphasizing the need for Africa to ensure that its renewable natural resources, such as fish stocks, are sustainably managed for posterity. With these as background, a number of crucial questions were identified for discussion at the forthcoming African Development Forum. By finding answers to these questions, the Forum would extend earlier work done in this area, and provide the intellectual framework for Africa to begin to harness its immense fisheries and aquaculture resources for economic growth, development and poverty alleviation.

36. In closing, it is important to state that there are some hard choices to be made in terms of achieving Africa's fisheries development objectives. For example, difficult choices would have to be made between increasing exports, increasing domestic fish supply, raising producer' incomes and expanding employment opportunities in African fisheries while, maintaining healthy fish stocks because all these cannot be achieved at the same time.