WORKING GROUP 2 – OVERVIEW

BLUE EQUITY. PRIVATE INVESTMENT FOR BLUE GROWTH, COMMUNITY WELL-BEING AND FOOD SECURITY[1]

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1. This overview paper was commissioned by FAO to serve as a background paper for Working Group 2 "Blue Equity. Private investments For Blue Growth, Community Well-being and Food Security". It identifies some key issues, actions needed, constraints to be removed, and to be considered by the High Level Segment of the Summit.

INTRODUCTION

2. The purpose of this document is to provide a basis for discussion of three issues by the conference participants in relation to blue growth focused on the fisheries sector. These are: (i) the role of the private sector, (ii) securing the integrity of coastal communities, in particular the small-scale fishers and fish farmers; and (iii) ensuring the contribution of fisheries to food security.

3. The blue growth sectors include inland, marine and coastal tourism, marine transport, offshore oil and gas, offshore energy, capture fisheries and aquaculture (the fisheries sector). For the purposes of this discussion at the Global Oceans Action summit for Food Security and Blue Growth, 'blue growth' described as "**marine-based, environmentally sustainable economic growth and social wellbeing**"[2]. Blue growth draws on the Rio+20 Green Economy[3] initiative: "improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" and the principles of low carbon, resource efficiency and social inclusion. For communities and countries dependent on the marine economy – the 'blue communities' – it also means optimising the sustainable benefits from the marine economy through inclusive growth and employment. This discussion paper focuses primarily on the fisheries sector (including aquaculture) with particular attention to small-scale fishing and fish farmer communities and the contribution of fisheries to food security.

4. Equity in blue growth is taken to mean that the benefits from blue growth are shared in accordance with certain principles. These principles include those enshrined in international

[1] The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO.

[2] The FAO definition of Blue Growth is: "the Sustainable Contribution and Conservation of Living Renewable Resources in the Marine and Freshwater Ecosystems as well as adjacent Coastal and Inland Ecosystems to Food and Nutrition Security and Poverty Alleviation"

[3] UNEP (2013). Green Economy Definition. http://www.unep.org/greeneconomy/AboutGEI/

norms such as human rights, as well as national policies that are likely to frame the allocation of benefits at local level. These policies could include preferences for traditional users, or for high-growth sectors, reward for investment and risk, or a preference for extraction of rents by the state. The benefits are not only economic but may also be social, cultural and spiritual. Valuing these benefits and their distribution in relation to the sustainable use of 'blue capital' and to private and public investment is a challenging governance task. The approaches to this task underpin much of the following discussion.

5. Food security in fisheries has at least three dimensions: (i) production of fish by capture fisheries and aquaculture (availability); (ii) distribution and trade (accessibility); (iii) consumption to meet dietary needs, including auto-consumption by small scale fishing communities (adequacy). In a blue growth scenario production will ideally be efficient, profitable and sustainable and producers will receive fair returns for their labour, the capital employed and the risks incurred. Distribution will ideally be responsive to market demand, efficient and incur minimal post-harvest waste. Ideally, consumers will have sufficient income (in cash or kind) to acquire sufficient food for their nutritional needs and preferences and the entire value chain will have a low carbon footprint.

6. In this context, the private sector can be seen as the primary engine of blue growth, the public sector as providing key elements of the enabling environment for growth and giving effect to many of the key governance instruments, while civil society provides a vital third pillar of the governance framework. The following sections examine the drivers of and the barriers to equitable blue growth, effective private investment and food security. As the Overview Document for Working Group 1 focuses on growth and conservation, this paper focuses largely on how private investment can contribute to sustainable use, equity and food security.

1. SETTING THE CONTEXT. BLUE GROWTH FOR SMALL-SCALE FISHERIES, AQUACULTURE AND FOOD SECURITY

1.1 SETTING THE CONTEXT

7. Sustained benefits from blue growth depend heavily on the health of the coasts and oceans. Despite a wide range of commitments at global, regional, national and local levels, the overall health of the coasts and ocean continues to decline and many of the threats continue to increase at a geometric rate while mitigation processes generally follow a linear trend[4]. The cumulative economic impact of poor ocean management practices is in the order of US$200 billion per year, and in the absence of pro-active mitigation measures, climate change may increase these losses by an additional US$322 billion per year by 2050[5]. Blue growth requires mitigation of the stresses involved, many of which are attributable to short-term profit-seeking and market and policy failures compounded by perverse subsidies and weak policy implementation with respect to fisheries, habitat loss and pollution.

8. To a large extent, trends in agricultural development are mirrored in fisheries and these trends are often supported by national fisheries development policies. They include modernisation and replacement of labour with capital, such as motorization of fleets, or more intensive aquaculture.

[4] UNDP, GEF, 2012. Catalyzing Ocean Finance. Volume I Transforming Markets to Restore and Protect the Global Ocean; Rau et al. 2012; Ford, M. 2009. The Lights in the Tunnel: Automation, Accelerating Technology and the Economy of the Future. Acculant Publishing, 2009.

[5] Noone, K., R. Sumaila, R. and R. J. Díaz (Eds), 2012. Valuing the Ocean. SEI.

Efforts to increase productivity and improved access to markets often means marginalization of small scale fisheries livelihoods. In order to remain competitive, fish farmers are forced to invest, for example, in fish seed with higher growth rates or disease resistance or, in the case of capture fishers, in technology like GPS to locate favoured fishing locations. These types of investments may be beyond the possibilities of small-scale producers in many developing countries. With half of the world's population living in urban areas, food (fish) supply chains are likely to become more concentrated in 'modern' rather than traditional food supply chains and increase urban supplies at the expense of the rural poor[6]. Seafood trade is likely to respond to growing disparities in purchasing power and increased demand through shifts in regional supply and consumption. 'Blue communities' tend to be in the front line of climate change, an added threat to their already vulnerable livelihoods.

1.2 PRINCIPLES AND INSTRUMENTS

9. **Sustainable use of natural resources**. The principles underpinning blue growth include the statements in the various 'Rio declarations' and conventions[7] on sustainable development and several regional and national policy statements[8]. These are backed by a range of instruments including, the Code of Conduct for Responsible Fisheries (CCRF)[9]; the Regional Seas Conventions[10]; frameworks such as the UNCLOS Convention[11]; the International Convention for the Prevention of Pollution from Ships (MARPOL)[12] and related conventions; the regional fisheries management conventions; and action programmes, such as the Global Programme of Action for the Protection of the Marine Environment from land-based pollution (GPA). In addition, the green growth agenda contributes natural capital accounting and ecosystem approaches to capture fisheries and aquaculture, including valuation of ecosystem services, payment for ecosystem service and creation of ecosystem related markets.

10. **Blue communities and equity**. Equity is an integral part of human development, a driver of growth and social evolution, and a unifying concept for reduction of social inequalities and instabilities. It finds expression in the foundational Rio declarations and the Declaration of Human Rights. It is further complemented[13] by specific fisheries instruments such as the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines-in preparation), the ILO convention on fishing[14], and national treaties and constitutions which grant precedence to traditional rights over parliamentary legislation[15]. Specific guidance on the topic of tenure[16] is provided by the FAO

[6] Minten, B, Reardon, T. and A. Vandeplas, 2009. Linking Urban Consumers and Rural Farmers in India. A Comparison of Traditional and Modern Food Supply Chains. IFPRI Discussion Paper 00883.

[7] UN, 2012. The Future We Want: Outcome document adopted at Rio+20; and the conventions on biodiversity, on climate change and on desertification.

[8] For example: APEC; European Commission, 2012. Blue Growth opportunities for marine and maritime sustainable growth. COM(2012) 494 final.

[9] http://www.fao.org/fishery/code/en

[10] http://www.unep.ch/regionalseas/legal/conlist.htm

[11] http://www.un.org/depts/los/convention_agreements/texts/unclos/closindx.htm

[12] http://www.imo.org/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx

[13] Also the UN Declaration on the Rights of Indigenous Peoples (2007).

[14] ILO, 2007. Convention concerning work in the fishing sector (No. 188). Adopted 14 Jun 2007

[15] Examples include Canada, New Zealand and PNG.

[16] FAO, 2012. Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. Rome, 2012.

Voluntary Guidelines on Voluntary Guidelines for the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security[17].

11. **Private investment**. At the global level, guidance is provided by the ten principles set out in the UN Global Compact[18] (covering human rights, labour standards, sustainable environment and anti-corruption). These principles are amplified by the guidance provided by the UN Principles for Responsible Investment[19] and the Responsible Agricultural Investment (CSF-RAI)[20] principles, currently being discussed in the UN Committee on World Food Security; by the WTO efforts to reduce or remove fisheries subsidies; and by a range of corporate social responsibility (CSR) platforms and initiatives. Financing of private investment is also guided by the Equator Principles[21] the IFC Sustainability Framework[22], the World Bank Safeguard Policies[23], and the Private Sector Development Policy of the African Development Bank, among others.

12. **Food security**. Food security is an aspect of the right to food, recognised in the Universal Declaration of Human Rights and a range of other covenants[24]and conventions, and is applied nationally through constitutional, legislative and international commitments. Specific foundational non-binding declarations include: Rome Declaration on World Food Security and associated Plan of Action[25], Kyoto Declaration and Plan of Action on the Sustainable Contribution of Fisheries to Food Security (1995) and the first Millennium Development Goal: 'to eradicate extreme poverty and hunger'. The FAO Voluntary Guidelines on the Right to Food[26] provide a practical implementation guide to implementing these national commitments. Concerns over food price volatility, continued poor nutrition, concerns over small-scale and subsistence food production, over land and water grabbing and distant water fishing, declining investment in food production, persistent food waste and the role of genetically modified organisms (GMOs) have fostered international dialogue to produce several international statements and guidelines relating to food security and nutrition. These include the draft CFS-RAI, the final report[27] of the Special Rapporteur on the Right to Food, and efforts by FAO to reach consensus on ecolabelling of fishery products. At the other end of the scale concerns over obesity have prompted efforts to change consumer habits, while the 'industrialization of food' has generated civil society movements to 'buy local'.

13. **Good governance**. Good governance is an overarching theme which must arbitrate the implementation of measures to ensure sustainable use, equity, investment and food security.

[17] FAO, 2012. Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. Rome, 2012.
[18] http://www.unglobalcompact.org/
[19] http://www.unpri.org/
[20] http://www.fao.org/cfs/cfs-home/resaginv/en/
[21] http://www.equator-principles.com/
[22] www.ifc.org/sustainabilityframework
[23] http://go.worldbank.org/WTA1ODE7T0
[24] In particular the International Covenant on Economic, Social and Cultural Rights.
[25] The Declaration described food security as follows: "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."
[26] FAO, 2004. Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security; see also: FIAN Int. and Welthungerhilfe, 2007.
[27] UNGA, 2014. Report of the Special Rapporteur on the right to food. Final report: The transformative potential of the right to food. A/HRC/25/57.

There are significant regional and international differences in the extent to which the sets of principles described above are implemented. As a working hypothesis it could be assumed that the governance score of a country[28] (which includes metrics on the rule of law, political stability, voice, accountability and corruption), reflects its application of these principles. In addition, the effective use of public funds is an important component of good governance and instrumental in applying the above principles, while civil society plays an essential role in moulding public opinion and generating the political will for their application and effectiveness.

2. DRIVERS OF AND BARRIERS TO BLUE GROWTH, SOCIAL EQUITY AND FOOD SECURITY

2.1 DRIVERS

14. **Productivity**. The primary driver of economic growth is productivity (the ratio of economic output to inputs). At the global aggregate level, capture fishery primary production shows declining productivity[29] despite technological advances. Continued profitability has drawn on capital depletion (of the fishery resources), on subsidies and on technology. This contrasts with aquaculture, which exhibits a classical Salter cycle, driven by technological advances. The technological advances in seeds, feeds and disease control and in aquaculture management have driven productivity, reduced costs and product prices. This has stimulated demand and increased investment. At times over-investment, compounded by governance failures and trade restrictions, has contributed to boom and bust growth cycles in aquaculture. The primary drivers also include increases in populations and their purchasing power (incomes)[30], access to markets (e.g., through trade) and access to capital within a favourable business climate and good governance. There is ample justification for raising the profile of fisheries blue growth: coastal fishing communities are in the front line of climate change; the oceans have picked up over a quarter of the global 'carbon debt'[31]; ocean acidification will irreversibly alter marine food webs[32]; and aquaculture offers new pathways for sustainable food production, for waste management, for adaptation to climate change and possibly for biofuels[33] in an increasingly hungry world. In many countries, increasing pressures on land and freshwater resources are also driving efforts to expand production into the marine environment through aquaculture, urban expansion in deltas, or landfill for new industrial zones and ports.

15. **Beyond GDP**. For blue growth, the classical measure of economic growth (GDP) needs to be supplemented by two other measures: (i) one reflecting the state of the natural, or blue, capital (such as the fish resources and marine ecosystem) and (ii) a second reflecting the distribution of benefits derived from blue growth and their impacts on people. Blue growth can be envisaged as advancing along three interconnected axes – environmental sustainability, economic growth and

[28] http://info.worldbank.org/governance/wgi/index.aspx#home
[29] Arnason, R., Kelleher, K., and Willmann, R. 2008. The Sunken Billions. World Bank and FAO.
[30] World Bank, FAO, IFPRI, 2013. Fish to 2030. Prospects for Fisheries and Aquaculture.
[31] Khatiwala, S., F. Primeau, and T. Hall, 2009: Reconstruction of the history of anthropogenic CO2 concentrations in the ocean. Nature, 462, 346-349.
[32] IPCC WGII AR5 Phase 1 Report (March 2014) *"Due to projected climate change by the mid 21st century and beyond, global marine-species redistribution and marine-biodiversity reduction in sensitive regions will challenge the sustained provision of fisheries productivity and other ecosystem services (high confidence)."*
[33] Trentacoste, E.M. et al. 2013. Metabolic engineering of lipid catabolism increases microalgal lipid accumulation without compromising growth. PNAS. 10/1073; and http://www.algaebiomass.org/member-companies/

social equity[34,35]. While technology is undoubtedly a key driver of the economic aspects of blue growth, the environmental and social dimensions require policy measures, structural reforms and a time horizon extending beyond election cycles. The following examples illustrate these points.

16. In technology, the EU has flagged marine biotechnology as a potential driver of blue growth. Some OECD countries have re-directed the perverse subsidies that underpin fishing fleet overcapacity to supporting improving fuel efficiency, reducing product carbon footprints, or reducing discarding and post-harvest waste. Many countries are promoting offshore renewable energy technologies, including wind, wave and tidal energy, and are facilitating the markets for renewables. Best practices on exploitation of offshore oil and gas, including use of the EITI principles[36], are opening opportunities for blue jobs in coastal communities and driving the application of environmental safeguards. Engagement of coastal communities in integrated coastal management and marine spatial planning is improving the framework for shared growth and equity in many countries. Nevertheless, effective environmental taxation is uncommon in the blue economy, for example fishing license revenues rarely cover the costs of fisheries administration.

17. **Political economy**. Political processes are key drivers, particularly for advancing the equity axis of blue growth. Many of the successes in strengthening marine tenure and rights have originated from community engagement (for example, through fishing associations and cooperatives, coastal community associations and indigenous peoples' organisations), which have influenced the political processes. Consequently, support for awareness-raising, for leadership training, and for development of the sustainable business and the socio-economic case for small-scale fisheries production and preservation of coastal community lifestyles, can drive progress along this axis. Ensuing that coastal communities share in new technologies and marine industries also requires community engagement and empowerment, so training and skills acquisition by the target communities can also drive the equity axis. Blue jobs are not only in the productive marine industries, but also in ensuring the continued integrity of the marine ecosystems through, for example, waste water management, compliance with environmental and fisheries regulations, disaster preparedness, or in managing the transition to blue growth. In this sense, targeted education at all levels can be an important driver along all three axes.

18. **Food security**. A complex set of drivers influences food security. On the demand side, demographics and economic growth, disposable income, consumer preferences (including exposure to food-related information and retailer promotion), buyer preferences and food certification all play a role. Technology for supply chain management, market information systems and food preservation influence distribution systems. Regulatory systems, including food standards and certification; market access, including trade tariffs, export taxes and non-tariff trade barriers (NTBs) affect supply and demand. On the supply side, factor costs, procurement practices, competition, value chain integration and efficiency, trade credit availability, and the price elasticity of fish products, all play a part. As climate change will alter distribution and

[34] FAO. 2003. Fisheries management. 2. The ecosystem approach to fisheries . FAO Technical Guidelines for Responsible Fisheries, 4 (suppl. 2): 112 p.

[35] FAO. 2010. *Aquaculture development. 4. Ecosystem approach to aquaculture*. FAO Technical Guidelines for Responsible Fisheries No. 5, Suppl. 4. Rome. 53 pp.

[36] http://eiti.org/eiti/principles

productivity of fisheries[37], it will also have a distributional impact on the contribution of fisheries to food security. The adoption of national food security policies and programmes[38] can also advance food security.

19. **Food security and fish trade**. Public policy, including fisheries policy, can have an important role in stabilizing supplies and prices, and can be particularly important where fish is a component of the Consumer Price Index (CPI). About 38% of global fish production is traded, while 67% of developing country fishery exports are to developed countries, indicating that there are major regional imbalances between national supply and demand, and that trade policy plays a significant role in fish food security. Intuitively, liberalized trade, regional cooperation and economic integration will drive food security through sustainable growth and poverty reduction, by managing food shocks and creating economies of scale in food markets. Contrarily, tariff protection is sometimes seen as fostering greater domestic food production through higher producer incomes and lower rural poverty. However, the beneficiaries of higher prices may not be the most food-insecure, and the negative impact of higher food prices on food-deficit households and the poor may be significant. Country and region-specific evaluations of the implications of trade measures on food security can guide policies on the food security dimension of blue growth.

20. **Modernisation and competition in fisheries**. Modernisation is a core feature of fisheries development in many countries, particularly in developing countries where the targets are the traditional fisheries and more intensive aquaculture. As the industry moves from the traditional to 'modern' small-scale and to a larger, or more industrial scale, competition develops between the sector's segments, often to the disadvantage of the small scale and traditional producers. On one hand, the modernisation process is an essential driver of blue growth; on the other hand, the accompanying social equity drivers (community engagement and awareness, tenure arrangements, compliance) that drive the other aspects of blue growth tend to lag behind, or are not a priority component of most modernisation programmes. In addition, there is growing competition between fisheries and other users of blue capital, whether in terms of direct competition for space with aquaculture, or with offshore oil and gas, or in terms of the environmental carrying capacity from land-based sources of pollution and habitat degradation.

21. **Tenure as a driver of blue growth**. Appropriate tenure arrangements[39] are a vital driver of blue growth. Potentially, they provide an incentive for sustainable use and a means of distributing the benefits. In the blue growth framework, the right to fish or use the marine resource can be considered as a corollary to the responsibility to use the resource responsibly. That is, the tenure is conditional or qualified by the stewardship obligation. However, the language of tenure has a historical bias towards the granting of rights, licenses, concessions or permits, rather than mandating concomitant stewardship, or establishment of social contracts that included equity and long-term stewardship dimensions. The tenure issues range from

[37] IPCC, 2013: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.

[38] For example, application of the FAO Panther Principles. http://www.fao.org/righttofood/about-right-to-food/human-right-principles-panther/en/

[39] For example, see the principles (boundaries, congruence, collective choice, graduated sanctions, conflict resolution and others) shown in some Gulf of California small-scale fisheries in: Basurto, X and E. Ostrom. 2008. Beyond the Tragedy of the Commons. Tragedy of the Commons Symposium, Adrian College, Adrian, Michigan, November 21, 2008.

capture fisheries and aquaculture, through access to and use of the foreshore, to effluent disposal 'permits' and oil, gas and cabling concessions.

22. **Economic rents**. The drive to increase economic rents from fisheries can be seen as favoring the economic axis of blue growth. In a simplified scenario, the most efficient production regime will generate the most rent. In a very general sense, the larger commercial fisheries will tend to be the most efficient, purely in terms of profitability, as profitability is a fundamental objective, while small-scale community fisheries have a broader social objective. Because of the challenges in managing small-scale fisheries, arguably, they may be more prone to increase effort and dissipate rents if management systems are unable to build upon and strengthen the tenure arrangements that are present in small-scale fisheries. However, while the dissipation may undermine the economic axis of blue growth, it may serve an important social function, by generating employment, incomes and local food security. The large-scale fisheries may also have a substantially larger carbon footprint, often employ fewer women, and in some cases, may have greater negative impacts on the marine environment, if the management regime does not regulate effectively, or fails to create incentives for sustainable use of resources.

2.2 BARRIERS

23. The barriers to blue growth differ by stakeholder: for producers, consumers, enterprises, or the public sector. The main barriers include institutional and policy deficiencies; regulatory, including trade and enforcement obstacles; financial; knowledge, technology and innovation; and community empowerment and leadership.

24. **Institutional barriers**. Many of the institutional barriers stem from market and policy failures. In many countries there is a failure to internalize the externalities of pollution, invasive species, habitat loss and overfishing. Climate change provides a striking example of this failure to internalise a global externality with major impacts on coastal communities from sea-level rise, extreme weather events and displacement of living marine resources. Ocean acidification (OA) provides another example, which is only gradually gaining attention in the climate change framework, yet has profound implications for blue growth. The market and policy failures exist across the blue economy: in fisheries, in coastal development, in granting of effluent discharge permits. At its more insidious, it takes the form of state capture, a form of political corruption, where the key policy instruments and framework of conditions for resource use and pricing for an industry systemically exclude the environmental and social costs, thereby enhancing private profitability at public cost. Weak local and national public sector capacity compounded by poor awareness at the level of political leaders are further institutional barriers. Paradoxically, decentralisation of fisheries may undermine community empowerment if decision-making and resources are captured by local elites. Because solutions to many blue growth challenges have a timescale extending beyond election cycles they may require sacrifices today to generate tomorrow's benefits. Consequently, the benefits from reforms may be difficult to align with political rewards, creating incentives to defer such reforms. Conflicts between resource users (such as between aquaculture and capture fisheries, or between marine tourism and extractive industries) may be a symptom of the institutional weaknesses.

25. **Regulatory Barriers**. In some countries the legislation may be deficient or outmoded, or there is poor enforcement of existing legislation and regulations, or coherence between different instruments is weak. This can occur, for example, with overlapping jurisdiction in the intertidal area, on tourism and recreational fisheries, or arrangements for decentralization of community fisheries co-management.

26. **Financial Barriers**. Financial barriers to blue growth exist in all countries[40]. Some are linked to the failure to include the cost of externalities in production regimes, for example, in relation to the environmental costs of fossil fuel energy in building markets for offshore renewable energy, or the difficulty in evaluating and including the environmental costs of trawling in areas with deep-water corals. This is particularly relevant in relation to fuel subsidies in fisheries which generally benefit the larger vessels, often at the expense of the small-scale sector. This failure may also impact on public revenues and undermine the ability of the fisheries authorities to enforce regulations, or assess the state of the sector. Fisheries investment finance is typically challenged by difficulties in assessing risk and the value of collateral (e.g., fishing vessel, the fish in the cages, fishing rights), by seasonality and market price variability, and by an inability to use fishing rights or aquaculture concessions as collateral. At the level of the small-scale fisheries, there are further challenges of lack of access to formal banking or microfinance, while dedicated fisheries finance instruments may have poor performance if not linked to the disciplines of regular credit systems.

27. **Knowledge, awareness and empowerment.** Poor awareness and knowledge of blue growth and the transition pathways involved constrain political buy-in, investment and community engagement. This contributes to a leadership deficit, a lack of political momentum and hesitation to engage in blue growth initiatives. Sector initiatives in fisheries, or marine conservation may also suffer from the lack of and integrated approach in design and implementation of the complex mix of policy and regulatory instruments, investments and political reforms required, many of which may lie outside the sector. Poor knowledge and awareness at community level may also constrain community empowerment, organisation of small-scale producers and assertion and codification of rights[41] and responsibilities with respect to marine resources and tenure. Despite their vulnerability, in general, small-scale fisheries communities have poor access to social protection. This is not only due to their dispersion, but also related to labour conditions, as crews are often 'share fishers' rather than employees of an enterprise paying social security.

28. **Technology barriers**. A wide range of technology barriers exist. In the fisheries sector these include reducing the carbon footprint of production, reducing waste[42], addressing loss of genetic diversity caused by aquaculture, confronting the challenge of ocean acidification, and calibrating a blue carbon financing mechanism. Productivity will need to increase using 'smarter' energy efficient and eco-friendly capture and culture fisheries technologies, underpinned by public and private investments in applied research and innovation. In particular, the transfer of new technologies to developing countries remains a challenge for investors and may be a function of enabling environment in the recipient developing countries.

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[40] EKO, 2014. Sustainable fisheries financing strategies. Save the oceans feed the world project. Oceana, Rare, Bloomberg Philanthropies and the Rockefeller Foundation.

[41] http://www.wri.org/resources/maps/rights-to-resources; also see: FAO. 2009. Fisheries management. The human dimensions of the ecosystem approach to fisheries. FAO Technical Guidelines for Responsible Fisheries. No. 4, Suppl. 2, Add. 2. Rome, FAO. 2009. 88p.

[42] Gustavsson, J. et al. 2011. Global Food Losses and Food Waste: Extent, Causes and Prevention. FAO 2011; Kelleher, K., 2013. Reducing waste in fisheries. Report prepared for the OECD Committee on Fisheries. March 2013.

2.3 REMOVING BARRIERS AND ENABLING DRIVERS OF BLUE GROWTH

29. **Awareness of blue growth**. The solutions begin with creating an awareness of blue growth among leaders and the public to generate the political will and commitment to the reforms and initiatives required, to foster increased public perception of the ocean's wealth and vulnerabilities, to improve the decision-making knowledge base of leaders, and the behaviour of enterprises and consumers of ocean goods and services. A clear vision of blue growth needs to be articulated by political, business and social leaders. The transition pathways, their costs, options and policy foundations need to be presented through informed stakeholder discussion with a view to reaching political consensus and a social contract on blue growth. Investment in raised awareness and knowledge can generate the political will required for the design and implementation of smart mixes of policy instruments agreed through multi-stakeholder strategic planning processes, including through integrated coastal management (ICM). The core policy changes that are required span both the green and blue economies. Changes in the environmental status quo and changes in benefit sharing imply winners and losers, requiring management of the political economy processes involved, with attention to social safeguards and food security.

30. **Instruments**. Some countries have introduced more robust environmental taxation and resource pricing, such as carbon and municipal waste taxes and increased levies on natural resource use. Others have initiated environmental accounting and valuation of climate change-related non-economic losses (loss of non-market goods and services, e.g. ecosystem services), payments for ecosystem services and improved compliance with environmental regulation. Many countries have improved political accountability, transparency and compliance on social and environmental issues. These approaches have been most successful in countries where good governance is the norm.

31. **Finance**. The 2014 World Oceans Summit called for "aligning financial capital with maintenance of natural capital", while the Global Compact calls for responsible private investment. Several private sector initiatives address these calls[43]. A number of investment funds subscribe to 'Sustainable and Responsible Investing' that, along with traditional financial analysis, integrates a company's social responsibility in pursuit of enhanced long-term returns. 'Impact investment' involves investments made into companies, organizations, and funds with the intention to generate a measurable, beneficial social and environmental impact alongside a financial return. The Global Impact Investing Network[44] is the largest global community of impact asset owners, asset managers and service providers and some members have invested in fisheries. 'Social venture capital' initiatives[45] seek to bridge the gap between the efficiency and scale of market-based approaches and the social impact of pure philanthropy. This involves deploying philanthropic support to investments in companies that can create or catalyse social change, while the financial returns can be deployed for new investments.

32. **Food security and equity**. Some countries are undertaking multi-faceted analyses of food security, weighing the poverty, social, nutritional, trade and economic dimensions of food security and food sovereignty, against a background of growing urbanisation, growing dependence on food imports and supply affected by climate variability. Other countries[46] are

[43] For example, CDP tracks corporate environmental performance (https://www.cdp.net); CERES mobilises investor actions for sustainability in public companies (http://www.ceres.org/).

[44] http://www.thegiin.org/

[45] For example: http://acumen.org/

[46] For example: Bangladesh, Mexico, Ethiopia, Malawi and Kenya.

developing pro-poor food and fisheries policies in recognition of the role of small-scale producers and the need to maintain a vibrant rural economy and are linking social protection and insurance schemes with food production. Producer organizations in several countries have addressed market and finance barriers. For example, simple weighing of fish by the community can avoid underpayment; ranking of fish buyers/middlemen in terms of their honesty can secure payment; SMS fish price information from distant markets can secure more favourable prices, while spreading mobile phone technology can simultaneously increase fisher incomes and reduce prices for consumers[47].

3. STAKE HOLDER CONCERNS AND ROLES

33. **Small-scale fisheries**. The small-scale fisheries stakeholders include, among others, the artisanal traditional or community fisher and fish farmer communities, family fishing businesses and those engaged in the associated processing and distribution and services, such as boatbuilding and repair. These stakeholders are in excess of 600 million people and represent more than 90% of the employment in fisheries. Almost half the small-scale fisheries workforce is female, most employed in the post-harvest economy. The draft Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) reflect the concerns of these stakeholders and provide a range of measures to address these concerns which can be grouped under two broad headings: (i) governance, including tenure in small-scale fisheries and resource management, social development, employment, value chains, gender and disaster risks and climate change; and (ii) ensuring an enabling environment, which includes policy coherence, institutional coordination and collaboration, information, research and communication, and capacity development. Most importantly, the principal stakeholder representatives[48] also support the SSF Guidelines and have committed to engaging in the implementation of the guidelines. A key activity is seen as the development of broad-based partnerships to empower these communities, assert their traditional marine rights, build their stewardship role and drive the implementation of the SSF Guidelines (when approved). Specific concerns of these communities include: overfishing; incursions by large-scale fishers into traditional coastal fishing grounds; distant water fishing activities which may impact but not benefit the communities; access to markets, finance and risk mitigation; appropriation of fishing grounds and assets through creation of Marine Protected Areas (MPAs), tourist investments, aquaculture concessions, and port and mining development. Concerns also include loss of fishing ports, landing sites and fish markets to other sectors competing for the same spaces, and weakness in disaster preparedness and access to finance for adaptation to climate change.

34. A range of strategic actions for increasing the contribution of small-scale capture fisheries and aquaculture to poverty reduction and food security have been proposed[49]. These range from policy, legislative, institutional measures to fisheries management, human capacity building and

[47] Jensen, R. 2007. The digital provide: Information (technology), market performance, and welfare in the South Indian fisheries sector. The Quarterly Journal of Economics 122(3): 879 – 924.

[48] The World Forum of Fish Harvesters and Fishworkers (WFF), the World Forum of Fisher People (WFFP), the International Collective in Support of Fishworkers (ICSF) and the International CSO Planning Committee on Food Sovereignty. See: Implementing the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication. Collection of contributions received. Discussion No. 94 from 11 November to 2 December 2013. www.fao.org/fsnforum/forum/discussions/SSF_Guidelines

[49] FAO. 2005. Increasing the contribution of small-scale fisheries to poverty alleviation and food security. FAO Technical Guidelines for Responsible Fisheries. No. 10. Rome, FAO. 79 pp.

access to finance and markets. Of particular note is the potential for a 'gender dividend', given that almost half the workforce is women, many of whom are poorly educated and poorly organized, but perform a vital role in nutrition, fish commerce and family finances. A second 'gender dividend' draws on the link between women's voice, education and health is closely linked to population growth[50] and achievement of sustainable development goals.

35. **Large-scale fisheries**. Large-scale fisheries and aquaculture operators includes the operators of large fishing vessels, fishing and aquaculture enterprises, the manufacturers of aquafeeds, fishing vessels and gear and the processors and distributors of 'seafood commodities'. While enterprises are driven mainly by the profit motive, many enterprises and several national fisheries industry associations have codes of corporate social responsibility, or best practices, which include environmental sustainability, human rights and fair-trade provisions. However, as yet the industry itself has not established a global code of responsible industry practice[51]. Some large fish producer companies have engaged in contract farming, a model which integrates small and large-scale aquaculture. Small-holder producers are grouped around a nucleus company which provides feeds, seeds and other services (such as water quality control, or disease monitoring) and purchases the production of the small-holders. Industry concerns include emergence of multiple, at times competing, ecolabelling schemes and product standards, tariffs and non-tariff barriers, losses attributable to illicit fisheries activities, corruption in granting of aquaculture concessions, or fishing licenses and a poor investment climate in some countries.

36. Diverse other stakeholders depend on marine resources for livelihoods, business, or wellbeing. These include the tourist industry, extractive industries, such as offshore oil and gas, renewable energy investors (wind, wave, tidal) and service providers, such as universities, conservation and civil society organisations. Many of these stakeholders are in competition with fisheries for use of the marine environment. Integrated coastal management and marine spatial planning are some of the tools used to balance these competing uses and manage marine resources and spaces. Financial institutions are important supporting stakeholders and a number of international financial institutions facilitate blue growth initiatives in fisheries through sovereign loans, grants, and assistance in establishing credit and micro-credit schemes. These include IFAD, the World Bank and regional development banks (like the Asian Development Bank (ADB), African Development Bank (AfDB), Inter-American Development Bank (IADB)), the GEF and IFC. Consumers are important stakeholders in the blue growth, as consumer preferences can drive markets for sustainable products, fair-trade and CSR. Consumer concerns include fish prices and fish quality assurance, clarity on ecolabels, fish food waste, sustainable sourcing and marine environmental conservation. In particular, consumers in Small Island Developing States (SIDS) are heavily dependent on fish as a basic component of the diet; and in a number of Asian and Sub-Saharan countries, the relatively low price and high nutritional value of fish makes it an essential part of the diet of the poor.

37. **Public sector**. Public sector stakeholders, including policy makers and administrators at national and local levels, are charged with developing and implementing the policies that frame the transition to blue growth. Concerns at the political level include the challenge of building a political consensus on blue growth, on the transition process, and on the trade-offs which may be required. At the technical level, coherence between sector policies and plans requires coordination between ministries, while at local levels, administrative and marine ecosystem

[50] UNFPA, 1995. Programme of Action of the International Conference on Population and Development (1994)
[51] This was an objective of the AllFish partnership (www.allfish.org)

boundaries create difficulties. Financing the transition and building human resources and knowledge required is a concern at all levels, while tracking progress in blue growth requires new sets of indicators on human wellbeing and natural capital. Countries have also expressed concern over access to blue technologies, claims of intellectual property over marine products, issues of loss of genetic diversity and resilience attributable to aquaculture and ocean acidification. Some regions[52] have initiated international cooperation to address many of these concerns.

3.1 CALIBRATING BLUE GROWTH

38. With regard to sustainable use of the marine and coastal resources, national or regional state of the coasts, state of fisheries, or state of the oceans reports would ideally be 'converted' into national blue capital accounts and fisheries sector satellite accounts can also be established[53] to provide an economic foundation for blue growth. A suite of specific indicators can also be selected, such as 'kg fish per kg CO_2', fish product footprints, economic rents, social wellbeing of coastal target communities, Gini ratios, or percentage of companies in the fisheries and marine sector applying CSR codes. Changes in the FAO Fish Price Index, or in the proportion of 'fodder fish' used for animal feeds might be used to project food security threats. The OECD How's Life/Better Life Index[54] is one of many approaches that try to measure human well-being. The CFS has suggested principles for monitoring food security, proposing that indicators be actionable and meaningful to policy makers[55].

39. Monitoring of the implementation of the SSF Guidelines through a biennial FAO COFI SSF report could provide an overview of progress on equity in SSF. Specific assessments, for example, whether countries have legislation giving preferential access to coastal waters for SSF can track implementation of selected issues addressed by the SSF Guidelines.

4. CONCLUSIONS AND QUESTIONS

40. The paper addresses a matrix of inter-related challenges: blue growth, equity for coastal communities, particularly small-scale fisheries and aquaculture, food security and the role of private investment. The emerging and governance paradigms take account of human well-being, resilience, sustainability and stewardship, requiring development and integration of new policy instruments and management of transitions to blue growth. The suite of measures will need to balance economic efficiency, environmental sustainability and social equity, seek the least cost solutions while meeting environmental requirements, and maintain productivity and employment while minimizing environmental impacts. Faced with the scale and range of these challenges, this paper attempts to categorise the principal activities proposed under the various principles and guidelines discussed above.

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[52] APEC Initiative on Mainstreaming Ocean-related Issues; EC blue economy.

[53] UN and FAO, 2004. Integrated Environmental and Economic Accounting for Fisheries. United Nations and Food and Agriculture Organization of the United Nations. Studies in Methods. Handbook of National Accounting.

[54] http://www.wikiprogress.org/index.php/Human_Well-Being_Statistics

[55] Global Strategic Framework for Food Security and Nutrition (CFS 2012/39/5 Add.1 paragraph 92-93). Indicators should be: a) human-rights based/ right to adequate food; b) make decision-makers accountable; c) participatory, including the most vulnerable; d) simple, comprehensive, accurate, timely and understandable to all and e) complement and not duplicate existing systems.

4.1 BUILDING POLITICAL CONSENSUS

41. Based on the view that political leadership is needed to move towards equitable blue growth, a first step is to articulate the vision of what this means for the different stakeholders, what behavioural changes may be required, and what role is expected of the private sector. Broad-based stakeholder engagement, including building consensus across the political spectrum on the principles, rationale, steps, costs and transitions, can underpin the continuity of blue initiatives in the event of a change in the balance of political power. This means investment in public awareness of the complex interplay between natural systems and human actions, to build voter and stakeholder buy-in and help manage incentives and expectations in a process that may take a generation. It means building on the common ground between public and private sectors through supporting CSR codes and best practices, partnerships with industry and forging common purpose with NGOs, consumer and producer groups, academia and the media.

4.2 SUSTAINABLE USE

42. Sustainable use is a core principle of blue growth. In many countries, natural capital (fish stocks, water quality, and ecosystem services) will need to be rebuilt by reinvesting surpluses, some generated by the sector. Fisheries production will need to adopt new smart technologies and reduce its current environmental footprint. Reducing or removing fishing fuel subsidies is an important and symbolic step. This can take several forms: budget allocations currently set aside for fuel subsidies and other perverse incentives that support intensive use of fossil fuels can be redirected to support the transition to less fuel intensive fishing and reducing, or managing overcapacity. Progressive reduction and removal of fuel subsidies helps reach national emissions targets, fosters reduction in overfishing and progress towards a more healthy fisheries economy and can reduce fiscal burdens. It may generate employment if labour substitutes previously subsidized capital. The implementation of the Code of Conduct for Responsible Fisheries and its related instruments provides a comprehensive basis for actions.

43. An important action area is to progressively constrain externalities. These include discards, ecosystem degradation and biodiversity loss (including loss of genetic diversity) both through capture fisheries and aquaculture. Many could be addressed through regulatory measures, charges for loss of natural capital, investment in mitigating technology and applied research, including on allocation, equity and efficient use of fishery resources[56]. Production systems with a high carbon footprint, or high environmental impact may progressively disappear, or may migrate to 'less green' economies. Many externalities that arise beyond the remit of fisheries administrations, such as from aquatic pollution, hydropower schemes, or extractive industries, reduce the wealth of fisheries and will need improved environmental compliance. Failure to recognize and internalize these environmental costs means higher future costs and more difficult transitions. The objective is not only to secure low-carbon, environmentally sustainable jobs, using smart technologies and adaptive policies, but to build the economic rationale for change. Improved knowledge, innovation and education can increase voter support and inform 'blue' consumer choice; create incentives for good private sector behaviour; and underpin a balance between incentives and compliance in governance to address these externalities.

[56] Coase, R.H. 1960. The Problem of Social Cost. Journal of Law and Economics, Vol. 3, 1960, pp. 1-44; Basurto and Ostrom, op. cit.

4.3 INVESTMENT

44. Responsible private investment and behaviour is a key driver of blue growth. Innovation and investment underpin productivity increases. However, technology and modernisation means substitution of labour with capital, generally to the disadvantage of the rural poor, including small-scale fishing communities. While the UN Global Compact serves as a model for corporate social responsibility, it may not necessarily improve employment opportunities and wellbeing in SSF communities without specific additional measures. These could include provisions in regional development plans, training opportunities for blue jobs, or improvement in the investment climate, for example, the establishment of aquaculture development zones and clusters and investment incentives for blue industries. The approval and implementation of the RAI will be an important step. Codes of corporate conduct range from bland statements of intent to independently monitored standards and require complementary government regulations to ensure compliance with environmental and social norms.

45. Private investment in blue growth needs an enabling business environment signalled through good governance, including through enforcement of environmental regulations, compliance with fisheries rules, and transparency and accountability in allocation of marine resource concessions and the revenues accruing. As the quality of human and institutional capital is likely to be a determining factor in the transition process, public investment in human resource development and leadership will be important. While private sector investment in innovation will be a key driver of blue growth, complementary public investment in knowledge and applied research to adapt technologies to local conditions will help build the foundations. With respect to the use of non-renewable capital, such as offshore oil and gas and other extractive industries, ideally a proportion of the returns will be captured in sovereign wealth funds and used to support the transition to blue growth.

4.4 EQUITY

46. Improved tenure systems are an important step towards equitable blue growth. More robust tenure supports a more adaptive fishery economy, places a market value on fish resources or aquaculture sites, and can create stewardship incentives and facilitate attribution of and charges for externalities. Improved tenure can underpin rebuilding of fish stocks, reduction of overcapacity and a range of conventional fisheries management measures as described in the CCRF. Design of the tenure regime is crucial as it must complement rights with responsibilities, efficient use with allocation of concessions, subsistence livelihoods and community wellbeing with modernisation and economic growth. Like agricultural land, marine tenure can be viewed not simply as a tradable factor of production, but as a unique social amenity, a form of holding wealth, a source of family food security and determinant of social status. Approval and implementation of the SSF Guidelines will be an important step in this regard and part of a broader human rights agenda for fisheries. Success in creation of blue jobs may shape the political agenda for blue growth. Blue jobs are likely to be in ecosystem services, or new technologies, or may arise through substitution of capital with labour. Where technology drives more efficient production, labour may exit from a traditional sector, such as small-scale capture fisheries, requiring public investment in a more adaptable labour force and alternative livelihoods to maintain the integrity of coastal communities. Improving gender equity in fisheries is seen as an opportunity to increase economic growth and wellbeing in SSF communities.

4.5 FOOD SECURITY

47. Food security at the level of SSF and coastal communities requires several complementary approaches. On one hand, it requires policies that support restructure-support around ecosystem-

based, labour-intensive, poverty-reducing fisheries and aquaculture. On the other hand, it requires policies that engage communities in the modernisation of fisheries and aquaculture to retain blue jobs in the community while also improving productivity and fish production. Increased fish production at lower trophic levels and efficient distribution chains are required to deliver increased supplies at affordable prices to growing urban populations. Substantial progress on production and distribution is achievable through aquaculture and smart technologies for marketing and distribution of sustainable products. While trade is essential to food security, expansion of trade does not necessarily lead to efficiency gains as, for example, evidenced by the amount of retail and consumer waste in rich countries. Reduced wastage, particularly at the retail and consumer levels will require changes in consumer habits, possibly through public-private campaigns.

4.6 SHORT-TERM ACTIONS

48. In the short-term the following actions can be considered:

- Finalise the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) and prepare a plan of action for their implementation.
- Provide for a regular review of best practices on tenure, co-management and related governance issues in SSF.
- Review the report of the Special Rapporteur on the Right to Food (2014) in relation to fisheries and aquaculture and the SSF Guidelines.
- Finalise the Principles for Responsible Agricultural Investment (RAI) in the context of food security and nutrition and review their implications for fisheries.
- Explore the development of a global code of responsible fisheries industry conduct compliant with the UN Global Compact.
- Explore the development of specific blue growth modules for responsible investment instruments, including through the IFC/WB Safeguards, the Equator Principles and EITI.
- Develop a roadmap of priority actions to advance blue growth, including modalities for assessment of the state of the blue growth.
- Develop robust methodologies for blue natural capital accounting.

4.7 SHAPING A MEDIUM/LONG-TERM PROGRAMME

49. In the area of sustainable use the following actions are among the priorities:

- Implementation of the CCRF and ecosystem approaches.
- Implementation of the Intergovernmental Oceanographic Commission's Global Programmes of Action for the Protection of the Marine Environment from Land-Based Activities (IOC GPA)to reduce pollution.
- Development and implementation of national ocean polices and strategies including accounting for blue capital and expansion of MPA networks through consensus.
- Resolution of the WTO impasse on reduction and removal of fisheries subsidies.
- Building national consensus on a blue growth programme to enable policy coherence, cross-sector synergies, and financing blue growth; and fostering regional blue growth programmes through regional economic commissions and other groups (SIDS, Regional Seas groups).
- Development and dissemination of approaches to adapting to ocean acidification and climate change.

- Assessing the loss of genetic diversity attributable to aquaculture and preparation of mitigating measures.

50. In the area of equity in small scale fisheries and aquaculture:

- Implementation of the SSF Guidelines and the Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forestry in the Context of National Food Security (in preparation).
- Defining the rights and stewardship responsibilities of coastal communities to their adjacent natural marine resources and codifying appropriate tenure arrangements, including arrangements for protection of subsistence fisheries.
- Implementation of empowerment programmes for SSF communities with particular attention to leadership, women and social innovation.
- Support for engagement of civil society movements to formulate joint/ consensus programmes and effectively manage the engagement with government and other stakeholders.

51. In private investment:

- Implementation of the principles in the UN Global Compact and development and application of specific CSR modalities for fisheries.
- Dissemination of aquaculture technology including smallholder access to new seeds, feeds and disease control technologies with particular emphasis on herbivores, species at low trophic levels and integrated aquaculture systems.
- Development of programmes to facilitate the organisation of small-scale producers through contract farming, fair-trade, ecolabelling, risk insurance, financing and other arrangements.

52. The above measures jointly contribute to fish food security through increased sustainable production, efficient distribution, improved incomes of coastal communities and affordable supplies to consumers. National and regional analysis can determine the requirements for social and nutritional safety nets, buffer supplies and responses to price shocks.

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Corporate Social Responsibility Resources

Business for Social Responsibility - www.bsr.org/

CSR Asia - www.csr-asia.com

CSR Wire - www.csrwire.com/

Nippon Keidanren Policy Proposal on CSR www.keidanren.or.jp/english/policy/csr.html

CSR China - www.csrchina.net

Business Civic Leadership Center - http://www.uschamber.com/bclc

Global Sullivan Principles - http://www.thesullivanfoundation.org/gsp

United Nations Global Compact - unglobalcompact.org

CSR Europe - www.csreurope.org

UN Principles for Responsible Investment - www.unpri.org

UN Global Compact Sustainable Agriculture Business Principles (SABPs)

OECD Practical Guidance for Responsible Business Conduct along Agricultural Supply Chains.

UN Global Compact and the OECD Guidelines for Multinational Enterprises

Sustainability Indicators of the Global Reporting Initiative (GRI) www.globalreporting.org

Equator Principles. www.equator-principles.com

IFC Sustainability Framework www.ifc.org/sustainabilityframework