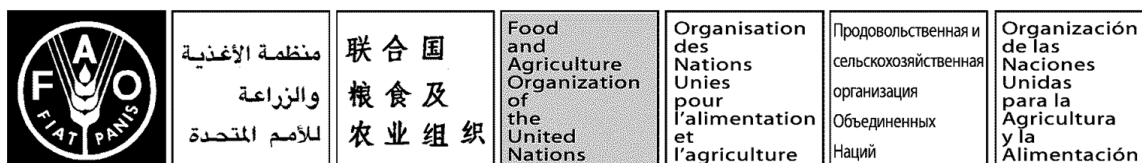


July 2022

E**WESTERN CENTRAL ATLANTIC FISHERY COMMISSION (WECAFC)****EIGHTEENTH (VIRTUAL) SESSION****Managua, Nicaragua, 26-29 July 2022****“Effects of the COVID-19 pandemic on the Fisheries and Aquaculture sector in the region and responses for recovery”¹**

This document presents a review of the impacts of the COVID-19 pandemic on the fisheries and aquaculture sector and provides recommendations for the sector’s recovery. Sustainable recovery measures must include the well-being of the fishing communities concerned.

Suggested Action by the Commission:

The Commission is invited to:

- (i) Consider the findings regarding the impacts of the COVID-19 global pandemic and application of the emergency and recovery measures; and,
- (ii) Consider also and endorse the recommendations for sustainable recovery of the fisheries and aquaculture sector and the well-being of the fishing communities.

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LIST OF ACRONYMS

CAC - Central American Agricultural Council
CARICOM - Caribbean Community
CCRIF - Caribbean Catastrophe Risk Insurance Facility
CELAC - Community of Latin American and Caribbean States
COAST - Caribbean Oceans and Aquaculture Sustainability Facility
COVID - Coronavirus disease
COVID -19 Observatory-LAC - COVID-19 Observatory in Latin America and the Caribbean: Economic and Social Impact
CPG - Guanacaste Chamber of Fishers
CRFM - Caribbean Regional Fisheries Mechanism
EAF - Ecosystem Approach to Fisheries
EBO - Essential Business Operations
ECLAC - Economic Commission for Latin America and the Caribbean
EU - European Union
FAD - Fish Aggregating Device
FAO - Food and Agriculture Organisation of the United Nations
FOMUJERES - Fund for the Promotion of Productive Activities and Organization of Women
GDP - Gross Domestic Product
GPS - Global Positioning System
ICCAT - International Commission for the Conservation of Atlantic Tunas
INCOPECA - Costa Rican Institute of Fisheries and Aquaculture
ICT - Information and Communications Technology
ILO - International Labour Organisation
INAMU - National Institute for Women
IUU - Illegal, Unreported, and Unregulated
IYAFA - International Year of Artisanal Fisheries and Aquaculture
LAC - Latin America and the Caribbean
MCS - Monitoring, Control and Surveillance
MSME - Micro, Small and Medium Enterprise
MMABE - Ministry of Maritime Affairs and the Blue Economy
OECD - Organisation for Economic Co-operation and Development
OSPESCA - Organisation of the Fisheries and Aquaculture Sector of the Central American Isthmus
RFAB - Regional Fisheries Advisory Body
RFMO - Regional Fisheries Management Organisation
SDG - Sustainable Development Goal
SICA - Central American Integration System
SIDS - Small Island Developing States
SSF - Small-scale Fisheries
UNCTAD - United Nations Conference on Trade and Development
UNEP/CEP - United Nations Environment Programme – The Caribbean Environment Programme
USA - United States of America
WECAFC - Western Central Atlantic Fishery Commission
WHO - World Health Organisation

EXECUTIVE SUMMARY

Prior to the COVID-19 global pandemic, the fisheries and aquaculture sector of many WECAFC countries was facing challenges that hampered efforts to achieve sustainable fisheries management and meet related SDG goals, especially Goal 14 (Life below water). Besides climate change and IUU fishing, many WECAFC countries had a large portion of informal workers operating in the sector; these operators were often outside of the reach of routine fisheries monitoring activities and government-operated social protection programmes. At the level of sector management and administration, core challenges included an incomplete technical and science base that hindered informed representation of the sector's needs, and stagnant or declining operational budgets. These sector-specific troubles were exacerbated by international trade and economic policies, which for the LAC region, were causing a declining GDP growth rate, rising inequalities in all forms, and increasing environmental degradation.

The severe mobility restrictions, intended to contain the spread of the COVID-19 virus, negatively affected every aspect of life and economy globally. For the WECAFC region, major impacts were reported for the fisheries and aquaculture sector, which is also dependent on a thriving tourism sector. There was a marked decreased demand for seafood locally, owing to reduced international visitor traffic to the region, and lower demand by importing countries suffering similar restrictions and economic slowdown. Many WECAFC countries reported problems to access input supplies usually imported to support the sector's operations. These developments, together with the continuing rise of COVID-19 infections, triggered a series of impacts along the value chain, including, *inter alia*: losses in production; unpredictability of market and consumer access, and hence also market prices; stock-piling of processed forms of seafood that affected fresh seafood sales; reduced cash-flow and access to credit for small-scale operators; worker absences and skeleton work teams; loss of migrant labour; fishing vessel crew anxiety about contracting COVID-19 and access to health care; reduced repair and maintenance services; loss of post-harvest jobs to reduce running costs and for better adherence to social distancing rules; increased cost of aquaculture operations to maintain products in marketable condition for extended periods, and hence also disruptions to aquaculture production cycles; increased costs of post-harvest operations.

At the level of management and administration, the main work of RFMOs to update legally binding fisheries management decisions with the associated international negotiations, and to monitor management compliance in a timely fashion was adversely impacted. RFABs, in comparison, which relied on voluntary compliance by countries, reported decreased attention by countries to their RFAB commitments. Both RFMOs and RFABs reported a weakening of MCS and increases in IUU fishing. In addition, both RFMOs and RFABs reported cancellations and/or delays in programmes and projects involving travel, field work and transport. At the national level, fisheries and aquaculture management and administration agencies experienced disruptions in daily routine tasks requiring face to face interactions, such as data collection, licensing and registration, MCS. Face to face meetings were also affected both at the national and regional levels, but this was alleviated somewhat by the increased use of virtual meeting platforms.

There were several social impacts as a result of the COVID-19 global pandemic. Informal workers, especially those in low-skilled or part-time jobs, would have been the first to be laid off work during the COVID-19 global pandemic. These informal workers also had difficulty in accessing the benefits of social protection measures put in place. Additionally, the lockdowns were accompanied by closure of schools, and this meant an increase in daily

childcare duties at home. These developments increased tensions at the household level, causing a rise in domestic violence. Women were also at greater risk for negative coping practices in societies and households with gender-related power imbalances.

In response to the COVID-19 global pandemic, WECAFC countries adopted numerous measures to protect public health and safety, and to alleviate the accompanying negative economic and social impacts. Besides the public health and safety measures, economic measures were most common, followed by social protection measures, and these were primarily aimed at economic and livelihood protection. Of the social protection measures, cash transfers were most popular, consisting of: new transfer arrangements, increase in the disbursement amounts or expansion of the list of beneficiaries, and earlier delivery of disbursements. Food transfers/ food cards were also popular. Also important were gender-related measures, with a predominant focus on education and case management support for gender-based violence towards women. National measures were formally supported by specially developed legislation and regulations in some cases. Several regional initiatives were launched to serve as vehicles for coordinating complementary pandemic relief support to individual countries and for knowledge sharing, e.g., the *COVID-19 Observatory in Latin America and the Caribbean: Economic and Social Impact*, SICA's *Regional Contingency Plan*, and CARICOM's *COVID-19 Response Agri-Food Plan*.

In implementing pandemic-related response measures, some measures have required conditions for participation of beneficiaries. Where conditions have incentivized more responsible fisheries management behaviours, the experiences are valuable for informing and refining post-COVID recovery efforts on a broader scale and especially for countries with similar social and economic circumstances. Some good practices were identified, which address under-performance in three key areas: social protection, including gender; economy; and environmental degradation.

For instance, for delivery of the social protection measures, some governments introduced conditionalities, which were in support of improved fisheries management, e.g. cash transfers requiring fisher registration and in one country's case, mandatory installment of GPS on fishing vessels. There were examples of women-specific recovery measures for advancing gender equity and women's contribution to economic development. Some of these measures targeted rural women and female heads of households specifically and included the need to pay attention to clean and sustainable growth. There were also measures to improve digital capacity and literacy, especially for women's enterprises, and for rural communities, which have potential to support positive social development opportunities, as well as sustainable economic growth. Some of these measures have been supported by legislation, and have involved public-private partnerships, two elements that can guarantee sustainability and continued progressive evolution of the initiatives. In the case of measures for gender-based violence, in many cases, the measures have covered a range of services, and would now need to consider how to sustain such services in the longer-term. Of course, inter-sectoral coordination would be necessary to ensure that the sector's specific needs are addressed in governments' delivery of general social protection measures.

As a result of the pandemic-related disruptions, the fisheries and aquaculture sector was brought into sharper focus in view of rising concerns about food and nutritional security. Some governments responded by giving priority attention to measures that positioned the sector to be more productive and competitive on the international market, e.g. approving projects and activities for upgrading of market infrastructure to satisfy international sanitary control

standards, fisheries improvement projects focused on increasing profits and employment options without sacrificing responsible fisheries management practices, and improving production and monitoring efficiency.

In terms of response measures in fisheries management and administration, agencies at the national and regional levels developed their usage of virtual meeting platforms, introduced teleworking arrangements, sought to digitalise certain operations such as fisher registration, and in some cases, include public-private partnerships/ cooperation and citizen science techniques where possible. The use of virtual meeting platforms is expected to continue going forward for meetings whenever possible. There was a successful example of public-private cooperation helping producers to access a local market and customers. The same public-private partnership also supported MCS tasks, with cooperation participation being remunerated but requiring fishers to be registered and licensed. There were instances of fishers using common digital platforms to reach local customers and managing deliveries themselves.

In concluding, the Pandemic's experience has revealed several key vulnerabilities of the fisheries and aquaculture sector in most WECAFC countries, with the most important ones being: informality of labour; lack of comprehensive and informed social protection; limited industry diversification and use of domestic and regional markets; heavy reliance on imported input supplies and few export markets; and, limited digitalisation. These vulnerabilities would need to be addressed going forward, and several recommendations are formulated for consideration by WECAFC countries as summarized below.

- a. Reduction of informality of labour through fisheries management arrangements that support and represent the sector during times of progress, as well as in times of disaster and recovery.
- b. Comprehensive social protection programmes that include a participatory approach in their design and implementation.
- c. Continuing relevance of EAF, which provides a human-centred and balanced approach for simultaneously addressing economic, social, and ecological/environmental objectives.
- d. Achieving product and market diversification, with options for strengthening domestic and intra-regional market options, for reducing dependence on imported raw input materials, and for uptake of climate-friendly and environment-friendly technologies.
- e. Use of public-private cooperation for advancing industry diversification and performance, and for supporting management and administration tasks.
- f. Increased digitalisation of operations to broaden both social and industry development opportunities and performance, and for greater cost-efficiency and effectiveness of management and administration.

Achieving comprehensive social protection and eliminating inequality is a fundamental step for ensuring sustainable economic growth and blue transformation for the fisheries and aquaculture sector in the future. All sectors of the economy are accountable for the SDG 2030 Agenda. Hence post-COVID goals and plans should be guided by SDG commitments, and for this, close and constant inter-sector cooperation would be an essential supporting element for success.

INTRODUCTION AND BACKGROUND

COVID-19, caused by the virus SARS-CoV-2, first emerged in December 2019 in Wuhan City, China. By January 2020, COVID-19 had spread beyond China, and on 11 March 2020, the World Health Organisation (WHO) declared it to be a global pandemic². Positive cases of COVID-19 were confirmed in the Western Central Atlantic Fishery Commission (WECAFC) region by March 2020. COVID-19 has since had a devastating overall impact across the world, and by the first quarter of 2022, there were five major waves of virus spread. By April 2022, WHO reported over 500 million cases and more than 6.2 million deaths globally³. Considering only the countries and territories physically located in the WECAFC region and excluding mainland USA, the region accounted for 9.7% of the global cases confirmed, and 19.5% of the cumulative number of deaths reported up to 24 April 2022⁴. Including mainland USA increased the region's percentage contribution to the global case and death counts to 25.5% and 35.3% respectively. In terms of the rate per 100,000 persons, the region's average was 2.58 to 2.6 times the global average case rate, and 1.75-1.79 times the global average death rate⁵.

As a first priority, from early 2020 and continuing into most of 2021, governments imposed public health and safety measures to contain the spread and to minimize hospitalization demand services, including: cessation and/or adjustment of non-essential businesses and services, including schools; restrictions, rules and procedures for public and private mobility and gatherings; restricting movement within countries; and initial border closures by most countries, followed by closely monitored controls on movement of people and goods and associated virus spread between and among countries⁶. As a direct consequence, the global economy shrunk, with the outlook in June 2020 estimated at -4.9%⁷. UNCTAD (2022) noted a 9% decrease in international trade in 2020, together with a loss in working hours of the equivalent of 255 million full-time jobs. The initial shutdown of the fisheries and aquaculture sector and subsequent declines in production levels ranged from 40% to 80% (UNCTAD, 2022).

It is important to note that ECLAC (2020b) signalled that the world and region were facing three crises before the onset of the COVID-19 global pandemic (hereinafter Pandemic). There was a declining trend in GDP growth rate, rising inequalities in all forms, and increasing environmental degradation. International trade and economic policies had created an environment that did not support sustainable development in a meaningful way, and so the world was not registering progress on the SDG 2030 Agenda. The policies in place were having serious consequences for sustainable management of the capture fisheries sector that was directly dependent on the health of the natural resource base and environment, and on a workforce consisting mostly of self-employed, small-scale operators and informal workers. Informal workers would not usually be registered and monitored by the government, and hence were also not usually subject to taxation. The Pandemic has exacerbated the challenges, and highlighted clear weaknesses in the development approaches.

² Source: <https://www.weforum.org/agenda/2020/04/coronavirus-spread-covid19-pandemic-timeline-milestones/>

³ <https://covid19.who.int/>

⁴ <https://covid19.who.int/data>

⁵ For the ranges provided, the lower figure is the average of countries and territories physically located in the region excluding USA, and the higher figure includes USA.

⁶ Source: <https://covid19.who.int/measures>

⁷ Source: <https://www.imf.org/en/Publications/WEO>

This paper provides a review of available, documented information and knowledge about the impacts of the Pandemic on the fisheries and aquaculture sector of the WECAFC region, and offers recommendations that consider not only the lessons of the Pandemic but also the ongoing and deepening challenges of social and economic development, and of environmental degradation. We commence with a review of the sector's performance prior to the onset of the Pandemic, highlighting the range of key challenges faced at that time. We then consider the Pandemic's impacts on the sector and examine the supporting measures for easing the resulting multiple shocks. Noteworthy, good practice examples have been compiled to demonstrate home-grown possibilities for addressing recovery efforts. Recommendations for recovery actions are presented, which consider the region's situation and capabilities.

STATUS AND CHALLENGES PRIOR TO COVID-19

The status of the fisheries and aquaculture sector in the WECAFC region is the main subject of a separate meeting document (WECAFC/XVIII/2022/3). It provides details of trends in sector performance, and highlights several key challenges faced by the sector prior to the Pandemic.

In general, production levels for many of the region's commercial fishery resources have been declining over the years in comparison to their peak historical performances (WECAFC/XVIII/2022/3). Quantitative assessments were noted for a number of coastal and marine fishery stocks of regional and international commercial importance. However, many of the region's major pelagic, reef, and continental shelf finfish fisheries have not been formally assessed, although they provide a crucial source of income and food security for many artisanal and coastal fishing communities. The lack of knowledge about the health status of these fisheries and their capacity for continued social and economic contribution are cause for concern in view of several other challenges some of which are expected to grow worse.

Climate change is a major threat, with its accompanying growing troubles: more frequent and intense storms; changes in ocean properties such as temperature, salinity and dissolved oxygen; and sea level rise. Many of these changes were becoming a reality ahead of the Pandemic. The change in ocean properties is expected to result in major changes in the marine biodiversity of the Caribbean Sea ecosystem (Cheung *et al.* 2019a,b). The regional *Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region* (also known as the *Cartagena Convention*), aimed at protection of the Caribbean Sea and supported by three Protocols, has been in force since 11 October 1986⁸. However, UNEP/CEP (2019a) reported continued degradation of coastal and ocean environments from various sources of pollution, noting the challenges this posed for achieving optimised development of the blue economy. The expansion of aquaculture activities has presented issues regarding loss of coastal habitats such as mangroves (Acosta *et al.*, 2020), and pollution of downstream ecosystems (UNEP/CEP, 2019a). Illegal, unreported, and unregulated (IUU) fishing has been an ongoing challenge (Agnew *et al.*, 2009), its persistence supported by economic incentives that have contributed to an excess of global fishing capacity of 2-3 times what is considered sustainable, as well as weak governance and enforcement (Widjaja *et al.*, 2019; Telesetsky, 2015). Amid the growing challenges, national fisheries management administrations have continued to operate with stagnant and even declining budgets (Singh-Renton and McIvor, 2015). While the

⁸ <https://www.unep.org/cep/who-we-are/cartagena-convention>

region has the highest marine biodiversity in the Atlantic region (WECAFC/XVIII/2022/3), its productivity is comparatively low and the region has a high density of different political entities, including both very poor and rich nations. This adds to the challenges of regional inter-governmental coordination in fisheries management. Regional fisheries and environmental organisations have been collaborating for over a decade to advance the ecosystem approach to fisheries management (UNEP/CEP, 2019b).

In terms of prior socio-economic challenges, the sector has struggled with incomplete accounting at several levels. For example, the exact number of fishing vessels, the number of small-scale fishers, and the number of sector workers are unknown. Registration information is often incomplete for the sector, and there is limited disaggregation of data, e.g., by size of operations, by age and by gender. Such incomplete data and information put the sector at a serious disadvantage for: adequate representation of the sector's economic development interests and needs within national work plans and budgets; and formal government support for management of labour standards, gender equity, and human rights. The low information status would have limited further potential investment in the sector and kept the sector in a 'low' performance mode, similar to a 'poverty trap'. This, in turn, was perpetuating challenges of labour informality and stagnant industry performance.

IMPACTS

Fisheries management

An initial assessment of the Pandemic's impacts on the sector was carried out by FAO in May 2020, via a survey of regional fisheries management organisations (RFMOs) and regional fisheries advisory bodies (RFABs), to obtain their understanding and expectations of the consequences that were still evolving at the time and to identify required assistance for mitigating measures (FAO, 2020a). The RFMOs and RFABs confirmed various impacts on their work, as well as on fisheries and aquaculture management activities of their member states. The WECAFC region is supported by one RFMO, the International Commission for the Conservation of Atlantic Tunas (ICCAT), which is responsible for coordinating legally binding management decisions for tuna and tuna-like fisheries in the Atlantic Ocean and adjacent Seas, including the Caribbean Sea. Similarly, several RFABs are active within the wider Caribbean, mainly the Caribbean Regional Fisheries Mechanism (CRFM), the Organisation of the Fisheries and Aquaculture Sector of the Central American Isthmus (OSPESCA) and WECAFC. These three RFABs were established by different country/sub-regional groupings; however, they have overlapping memberships and mandates, and in recent years, have established formal partnerships to address challenges of regional significance to the sector. All three RFABs coordinate technical advice and support on fisheries management to their member countries and adopt non-binding decisions.

Impacts common to both RFMOs and RFABs

Common disruptions reported by both RFMOs and RFABs included cancellation or postponement of meetings (FAO, 2020a). The possibility of increased IUU fishing activities was a concern for both RFMOs and RFABs, as key monitoring, control and surveillance (MCS) activities at both national and regional levels, particularly at-sea observer programmes, as well as port and at-sea inspections, could not be undertaken during the lockdown periods. Moreover, transshipment activities, previously carried out in ports and which were now being conducted offshore, could not be independently monitored. Some RFABs also noted that widespread

labour and travel disruptions resulting from the Pandemic caused an increase in artisanal and subsistence fishing in nearshore areas and in marine protected areas; this development was compounded by a weakened MCS presence. RFMO and RFAB research programmes and projects suffered cancellations or delays, especially those involving travel, sea cruises and collection and shipment of perishable samples.

RFAB-specific disruptions

As RFABs adopt non-binding decisions, this meant that member country governments could downsize spending on non-binding fisheries management commitments without penalty. In this regard, RFABs highlighted concerns about re-assignment of law enforcement services for Pandemic-related relief efforts and that there were no special arrangements to lift travel restrictions for fisheries inspectors: both developments weakened the MCS operational frameworks. In some instances, where research or other fisheries management funds were redirected for use in social assistance at national levels, RFABs expressed concern that there was a possibility that the funds would not be replaced (FAO, 2020a).

RFMO-specific disruptions

As RFMOs typically have a responsibility for coordinating legally binding management actions, the consequences were potentially more severe, limiting ability to: provide updated scientific advice and to negotiate essential management actions in a timely fashion; monitor non-compliance with agreed management measures; and, identify and deal with incidents of IUU fishing. Although remote working arrangements were introduced, as RFMO Secretariat staff did not always have access to office facilities, this caused delays in administration tasks and services. For the most urgent meetings requiring sensitive negotiations, these were postponed initially as there were concerns about the security and hence confidentiality of the online meeting platforms being used, and that the usual supporting informal and side meetings were not happening (OECD, 2021).

Value Chain

In several countries, fisheries and aquaculture operations were initially excluded as essential business operations (EBO), and the initial shutdown of the sector by some countries brought about declines in production levels ranging from 40% to 80% (UNCTAD, 2022, CRFM, 2020). The closure of borders and non-essential business operations, and travel and transport restrictions brought a halt to the tourism sector and most of the supporting business operations, such as hotels, restaurants, and a host of recreational activities, such as sailing, sport fishing, diving, wildlife tours, etc. UNCTAD (2022) reported a decline in visitor traffic of about 60-80% in 2020, which would have had serious implications for all the supporting business operations and hence the local demand for seafood supplies. Port entry restrictions and reduced port services also negatively affected trade of fresh and frozen seafood, which are highly perishable items. This was made worse by the decreased demand by export markets that were subjected to similar mobility restrictions. In consequence, the entire seafood value chain experienced decline in demand, and the primary producers downsized their activities accordingly (FAO, 2020b).

Production

Generally, fish is not the main source of animal protein consumed in the LAC region, and during the first months of the Pandemic, consumers with less purchasing power were selecting cheaper forms of protein (UNCTAD, 2022). In 2019, several Caribbean islands reported a per capita consumption of fish markedly higher than the global average of 20.5 kg, with the above

average range for such islands being 23.9 kg - 55.5 kg per capita consumption (FAO, 2021a). Related to this fact, certain fisheries provide a steady source of affordable protein to local and rural, coastal populations, and there were initial reported concerns about decreased access to fresh fish (CRFM, 2020). When domestic and export demands first declined early in 2020, fresh fish prices generally decreased (FAO, 2020b; CRFM, 2020, UNCTAD, 2022), although a few countries (Caribbean SIDs) reported price increases (CRFM, 2020).

During the first months of the Pandemic, small-scale fishers and aquaculture farmers found it difficult to access input supplies. Usually, fishers require gear, bait, equipment, and ice, and aquaculture farmers require feed, seed and veterinary drugs. In the case of aquaculture feed, this would normally be dependent on supplies of fish meal from capture fisheries, which in turn, had decreased operations in response to disruptions in the market and trade channels. Repair and maintenance services were also heavily reduced to save costs in view of the overall economic slow-down. For many small-scale fishers and fish farmers with limited savings and safety nets, the reduction of financial transactions along the value chain, and the sudden, drastic decline in local and export sales reduced their cash-flow and usual access to credit, with implications for business continuity.

Regarding at sea activities, it was difficult for fishing vessel crews working in confined spaces aboard fishing vessels to adhere to the social distancing and sanitization procedures (FAO, 2020a). Crew anxiety was reported to be a common problem, as persons were fearful that they would be more exposed to contracting the virus while at sea, and in cases of extended sea trips, there were concerns about access to emergency health care. Fishing operations using migrant workers and those that typically used more than one port for crew changes, offloading and transshipping their catches, experienced difficulties with port access due to quarantine and other mobility and travel restrictions (UNCTAD, 2022). These challenges created situations of smaller crews going to sea and longer working hours, which would compromise adherence to decent working and safety standards (FAO, 2021b). The continuing rise in COVID-19 infections also contributed to worker absences, creating additional disruptions because of necessary contact tracing, testing procedures and minimum quarantine periods required in cases of positive results.

Aquaculture farms operated with a reduced physical staff presence. While this was aimed at observing COVID-related precautionary measures, farms dependent on migrant workers faced staff absences because of border and travel restrictions, COVID-positive cases and quarantine measures. Farms made efforts to keep business operations going with smaller work teams, which would have strained working conditions and in turn the general health and safety of those involved. The lack of access to the usual export markets meant that aquaculture farmers had to maintain their live produce in marketable condition, which incurred additional costs to production, and disruption of the usual production cycles. With reductions in feed supply, this would have caused further production losses.

Post-harvest, marketing and trade

When and where local fish markets and processing plants were able to operate during and after the first weeks of the Pandemic, they did so at reduced capacity (FAO, 2020a; UNCTAD, 2022). This was necessary to satisfy social distancing requirements and because of reduced domestic and export demand for fresh and frozen fish. Not surprisingly, the public was reacting to the uncertain health and economic situation by stockpiling more processed forms of food and fish with a longer storage life, such as pre-packaged frozen and canned seafood.

Many processing plants laid off staff to minimize running costs (UNCTAD, 2022). The reduction in staff, either through layoffs, social distancing rules or COVID-19 infections, resulted in longer work shifts than normal, putting staff health and safety at risk. Like production activities, processing plant operations faced difficulty in accessing input supplies. Longer and added storage for raw input materials, as well as for finished products, increased the cost of post-harvest operations.

Central American and Caribbean countries have few principal export markets for fish and fish products, primarily USA, EU and China (FAO and ECLAC, 2020a). FAO and ECLAC (2020a) further noted that the Caribbean, Central America and South America sub-regions, each sent over 93%, 90%, and 86% respectively of agricultural and fisheries exports to countries outside of its sub-region, with relatively small percentages traded within each sub-region. While food imports by the USA declined by about 2.2% in 2020, fresh and perishable products were most affected, with a 9% decline in the export of fish and fish-related products reported for January-June 2020, compared to the same period in 2019 (FAO and ECLAC, 2020). Regaining the pre-pandemic export market arrangements was therefore heavily dependent on the management of COVID-19 in export destinations (UNCTAD, 2022). The USA, which is the primary market for the region, experienced several major waves of virus spread during 2020.

Social protection

Informal labour forms a large portion of the sector's workforce (WECAFC/XVIII/2022/2), with women dominating the vending and processing components. Many of the informal jobs are low-skilled and part-time, and were the first to be lost during the Pandemic (FAO, 2020c).

Moreover, informal workers, which often includes migrant/ mobile workers, had high potential of exclusion in the application of COVID-related social protection measures (FAO, 2020c), owing to incomplete reach of social protection information and systems. Low levels of education and literacy, and hence capacity to understand the social assistance procedures involved, as well as travel constraints for rural-based workers, and the existence of social snobbery towards vulnerable groups, would have hampered the expected uptake of social assistance measures by the poorer operators who most needed it (Chambers, 2014).

Societies' gender imbalances are often reflected at the individual household level, with poorer households generally experiencing greater tensions from such imbalances (FAO, 2020e). As a result of the Pandemic and such household power imbalances, poorer women were expected to be the first to give up their savings, as well as access to healthy food and medical care as an immediate coping strategy (FAO, 2020e). The lockdown arrangements and job loss situations also caused a rise in incidents of domestic violence. Traditionally, women carry most of the responsibility for the daily, unpaid tasks of family and home and community care. These duties are essential, but are time-consuming, and imposed extra work burden for women during COVID with cessation of physical school attendance and family members becoming ill from the virus.

RESPONSE MEASURES

A suite of public health and safety measures for containing the spread of COVID-19 were imposed at short notice in early 2020 and has been the most severe in the history of the world.

The extended closure of borders and non-essential businesses and services have had major impacts on economic activities.

To address immediate concerns about human life, and the need to maintain acceptable levels of social and economic well-being that included protection of the food-producing sectors, several regional initiatives were launched to serve as vehicles for coordinating complementary pandemic relief support to individual countries and for knowledge sharing. Led by the government of Mexico, a meeting on 26 March 2020 of the Community of Latin American and Caribbean States (CELAC) discussed an approach to management and monitoring of the Pandemic and its impacts (ECLAC 2020a). The *COVID-19 Observatory in Latin America and the Caribbean: Economic and Social Impact* (hereinafter, COVID-19 Observatory-LAC) was subsequently established (ECLAC, 2020a). It has enabled regional monitoring of the Pandemic, and of the measures undertaken by CELAC countries to alleviate the impacts. It serves as an important source of information for informing decisions during the Pandemic.

As early as 15 March 2020, the Central American Integration System (SICA)⁹ approved a *Regional Contingency Plan*, which included a recommendation on food and nutrition security that called for a meeting of the Central American Agricultural Council (CAC) and other Central American regional partners and international development partners concerned with agricultural health management, fisheries and aquaculture management, and management of the information systems programme on resilience in food and nutritional security (SICA, 2020). At about the same time, the Caribbean Community (CARICOM)¹⁰ approved the *COVID-19 Response Agri-Food Plan* to complement existing agriculture, fisheries and food and nutrition policies, while ensuring the continuity of essential food chains during the Pandemic, and to explore options for import substitutions¹¹ (CRFM 2020).

National measures were formally supported by specially developed legislation and regulations in some cases¹², while regional coordination and cooperation have been anchored in initiatives such as the COVID-19 Observatory-LAC, SICA's *Regional Contingency Plan*, and CARICOM's *COVID-19 Response Agri-Food Plan*. Some regional and international organisations have also held webinars at regular intervals to provide updates and to facilitate knowledge sharing among countries about best practices for mitigation and about recovery options, e.g., FAO¹³.

ECLAC (2020a) reported that by 22 April 2020, countries in the region had adopted various combinations of emergency and recovery measures, which apart from public health and safety measures, included measures in the areas of economy, employment, social protection, and education. The COVID-19 Observatory-LAC includes data on measures undertaken by 25 of 34 WECAFC member states¹⁴, and the measures are categorized by the following 8 major

⁹ Seven Central American States and the Dominican Republic are members of SICA

¹⁰ CARICOM has 15 Members (Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago) and 5 Associate Members (Anguilla, Bermuda, British Virgin Islands, Turks and Caicos Islands, Cayman Islands)

¹¹ <https://caricom.org/caricom-covid-19-response-agri-food-plan/>

¹² <https://www.cepal.org/en/topics/covid-19>

¹³ <https://www.fao.org/in-action/globefish/news-events/media/videos/en/>

¹⁴ COVID-19 Observatory-LAC data are for 25 of 34 WECAFC member states. The countries not covered are USA, those countries with overseas territories in the region, and members that are not physically located in the WECAFC region.

theme areas: vaccination; movement across and within countries; economy; education/ schools; labour; gender; social protection; health. These 8 major themes included several sub-themes. For example, economic measures included fiscal, monetary, business policy, economic activity restrictions, price and quantity controls, etc. Social protection measures included mostly cash transfers, food transfers, and guarantee of basic services. The data indicate very few exceptions in non-adoption of all types of measures and the amount of data and information provided by countries for each theme were variable. For instance, while all countries made efforts to vaccinate their citizens, and obtained vaccines at different times, every single effort / measure was not always formally reported to COVID-19 Observatory-LAC.

Countries presumably adopted measures, based on priority needs, and national capacities and resources for implementation. The COVID-19 Observatory-LAC data showed that, after the public health and safety measures (vaccination, movement, and health), economic measures and particularly fiscal policy measures were by far the most common, followed by business policy measures. Among the measures reported under each theme area by May 2022, the total number of economic measures adopted by the 25 ECLAC countries that were also members of WECAFC was 1029, more than three times as many as social protection measures which was the next common type and which totaled 342 measures across the 25 countries. Of the social protection measures, cash transfers were most popular, consisting of: new transfer arrangements, increase in the disbursement amounts or expansion of the list of beneficiaries, and earlier delivery of disbursements. Food transfers/ food cards were also popular. Also important were gender-related measures, with a predominant focus on education and case management support for gender-based violence towards women.

While some measures made specific mention of fish and aquaculture workers, uptake of the benefits was hampered by incomplete and non-disaggregated information about the numbers of small-scale operators, SMEs, and informal workers employed at different points along the value chain. Where countries have had a general challenge of growing inequalities in all its forms prior to the Pandemic, this could also have posed challenges for efficient delivery of measures aimed at social protection targeting those with little or no safety nets.

SOME GOOD PRACTICES TO NOTE

In the region, some measures have required conditions for participation of beneficiaries. Where conditions have incentivized more responsible fisheries management behaviours, the experiences are valuable for informing and refining post-COVID recovery efforts on a broader scale and especially for countries with similar circumstances. A few good practice examples are described to illustrate possibilities for the three primary areas of under-performance identified by ECLAC (2020b) and of relevance to the fisheries and aquaculture sector: social protection including gender; economy; and environmental degradation.

Social Protection and Economic Practices

Social protection, including gender

In some instances, for delivery of the social protection measures, some governments introduced conditionalities, which were in support of improved fisheries management. For example, in Jamaica, fishers were offered a single grant to offset losses caused by the shutdown of the hotel and restaurant trade supporting the tourism sector. To obtain this grant, fishing boats had to be formally registered, and undergo mandatory installation of GPS trackers. The Jamaican

government's action resulted in 17,000 fishers complying with the conditions and receiving the grant. At the same time, the action contributed to improved quantification of national fishing capacity and a shift towards digitalisation of MCS (Northrop *et al.*, 2020; FAO, 2021b).

In another example, fishers were not a special target group for the measures during the Pandemic in St. Vincent and the Grenadines and struggled to maintain business operations. However, the additional shock of a volcanic disaster in April 2021 required comprehensive information on the demographics of the national fishing communities to estimate the extent of social protection requirements. Only registered fishers were eligible for agreed cash transfers, and this encouraged an increase in fisher registrations. Moreover, the double shock experienced by St. Vincent and the Grenadines highlighted the vulnerability of the small-scale operators. As a result, a strategy and action plan was developed for a structured and comprehensive approach to social protection going forward, and which incorporates the full range of social protection services that includes readiness for shocks (Singh-Renton, in prep.)

In the area of business measures, Colombia adopted a recovery plan that included a business policy measure on investment for improving rural connectivity to the internet and ICT. Its implementation would expand digital capacity and literacy, which in turn, would expand social development opportunities for rural communities in the medium to long term. Related to this measure was a social protection/ cash transfer measure delivered to companies that replaced a 'transportation subsidy' for low-income workers (less than 2 minimum wages) with a 'digital connectivity subsidy' of the same value.

The most common gender-specific measure adopted was for management of gender-based violence which had increased during the pandemic period. The measures usually included actions to raise awareness and education about the issues, and to maintain or strengthen communication/ awareness programmes, protection (e.g. shelters, safe houses) legal (e.g. emergency protection orders), and counselling services. If such strengthened measures are retained by the public services after the pandemic, it's an important step for shifting and eventually retiring outdated attitudes about the value of women to society.

Colombia reported a series of women-specific recovery measures¹⁵ that, if maintained, are important steps for advancing gender equity and women's contribution to economic development generally. One measure was a presidential directive¹⁶ for all ministries to include programmes that guarantee inclusion and job creation for Colombian women, especially rural women and female heads of households: commitment to clean and sustainable growth is one of the four main areas identified for attention. A second measure was making use of Colombia's Entrepreneurship Law¹⁷ that includes criteria to promote participation by women and women's companies in the public procurement system. In a third measure, training was to be provided to support digital transformation of women's enterprises. Also reported by Colombia was the establishment of the *Fondo Mujer Emprende* (Women's Entrepreneurship Fund) as a permanent fund. The *Fondo Mujer Emprende* is designed to support women involved in Micro, Small and Medium Enterprises (MSMEs) with development of their production and commercial marketing capacities. At least three of these measures were supported by legislation and, very importantly, by public-private partnerships. They offer a timely

¹⁵ Source: COVID-19 Observatory-LAC

¹⁶ Directiva Presidencial núm. 11. "Compromiso por Colombia" (Presidential Directive No. 11. "Commitment to Colombia")

¹⁷ Law No. 2069, cited in COVID-19 Observatory-LAC

opportunity for the Colombian ministry responsible for fisheries and aquaculture to coordinate with the relevant ministries in guaranteeing the inclusion and participation of the sector's female stakeholders.

In Costa Rica, the National Institute for Women (INAMU) was able to acquire funds to launch a *Fund for the Promotion of Productive Activities and Organization of Women (FOMUJERES)*, that expanded INAMU's economic recovery support for women and women's organisations. Again, as for Colombia, inter-sectoral coordination would be essential to ensure inclusion of female entrepreneurs in the fisheries and aquaculture sector, and to promote inclusion of potential future female entrepreneurs.

Longer-term improved economy and sustainability

Certain economic measures have offered potential for focus on long-term objectives that also support sustainability. In the early period of the Pandemic, the fisheries and aquaculture sector was brought into sharper focus in view of rising concerns about food and nutrition security. Some governments were willing to prioritise measures that allowed the sector to advance some long-standing issues that were shelved in favour of other prevailing priorities in previous times. For example, in Barbados, the Ministry of Maritime Affairs and the Blue Economy (MMABE) was able to implement upgrading of fish market and processing infrastructure and services towards satisfying requirements for international sanitary control standards (UNCTAD, 2022). MMABE also deployed several fish aggregating devices (FADs) in national waters, a move designed to increase catch levels and improve cost-efficiency of fishing trips, but which also facilitated MCS more easily for the fishing trips targeting offshore pelagic species. Allied to this development, Barbados was able to advance a project during the Pandemic to create more profits and employment niches for its tuna industry, while also ensuring that the fishery operates more responsibly and sustainably (UNCTAD, 2022).

While not directly related to the Pandemic, recent work on risk insurance for the sector is relevant. In recent years, the WECAFC region has faced an increasing number of severe weather systems and their impacts, believed to be caused by climate change. In view of this and the need to address emerging new challenges of climate change adaptation and mitigation, the Caribbean Oceans and Aquaculture Sustainability facility (COAST) project¹⁸, an initiative of several key regional and international partners, worked to develop a climate risk parametric insurance product, i.e. an insurance policy based on a model of probability of an adverse weather event known to disrupt operations of the fisheries and aquaculture sector. At present, COAST's climate risk parametric insurance product provides coverage for losses from two categories of weather events: tropical cyclones; and other adverse weather resulting in high waves and heavy rainfall. This instrument can address sector-specific natural disaster needs, and is intended to promote good industry practices for climate change resilience, e.g. management of coastal fisheries infrastructure, protection of fishing vessels and equipment. In Jamaica, a safety net insurance policy was introduced by a national insurance company, offering coverage to fishers for various perils and loss of assets¹⁹. Effective delivery and targeting of insurance policies aimed at social protection would be dependent also on maintaining updated information on beneficiaries. These insurance initiatives provide

¹⁸ COAST has been formulated and implemented through a partnership of the U.S. State Department, the World Bank, the Caribbean Catastrophe Risk Insurance Facility (CCRIF SPC), and the Caribbean Regional Fisheries Mechanism (CRFM).

¹⁹ https://www.crfm.int/index.php?option=com_k2&view=item&id=690:minister-green-launches-insurance-coverage-for-fishing-vessels&Itemid=179

examples for managing business risk for the sector in accordance with levels of social and economic vulnerability.

Improved public private cooperation and e-commerce

There were certain economic measures for which the success depended on close public private cooperation. In Costa Rica, the Costa Rican Institute of Fisheries and Aquaculture (INCOPECA), worked in partnership with Guanacaste Chamber of Fishers (CPG) to introduce fishers to farmers' markets during the Pandemic. The cooperation resulted in the *Arroz y Frijoles* (Rice and Beans) initiative in which the CPG purchased fish from the artisanal fishers for resale at the farmers' markets; this 'new' domestic market supported the livelihoods of the artisanal fishers at a time when the demand from the tourism sector had dropped (UNCTAD, 2022). In countries where digital literacy was sufficient, fishers and fish farmers switched to using online platforms such as *Instagram* and *WhatsApp* for selling their fresh fish directly to local consumers (FAO and ECLAC, 2020b). Both Belize and Costa Rica reported that producers began to use online platforms to reach potential local customers directly, and in some cases, also undertook direct deliveries. This effectively shortened the value chains.

RFAB and improved public private cooperation for intra-regional commerce

Regional public private cooperation has been working to identify opportunities for intra-regional trade, particularly for ensuring access and distribution of food products. In this regard, the ongoing work of OSPESCA, and its cooperation with the Confederation of Artisanal Fishers of Central America is of interest (UNCTAD, 2022).

Environmental degradation

From the standpoint of the sector, the issue of environmental degradation would normally be addressed through efforts to achieve responsible and sustainable fisheries management.

Improved public private cooperation

The INCOPECA-CPG cooperation noted previously resulted also in the *PescaconCiencia* (Fish with Science) initiative that facilitated the CPG and its fishers to be formally remunerated for contributions to fisheries monitoring tasks. Only registered and licensed fishers could participate, providing a disincentive for remaining informal and for engaging in IUU fishing activities that could be more easily detected with this arrangement. This initiative represents a new, strengthened public-private working arrangement that offers potential for nurturing mutual trust for fisher livelihood investment and protection through regular and direct engagement with the primary producers.

Similarly, in Belize, as MCS activities were being impacted by within-country mobility restrictions, the Fisheries Department issued a public notice as a reminder about the fisheries regulations. This helped to engage coastal communities and non-governmental organizations, which responded positively to provided localized support for monitoring fishing boats in their locations and for reporting incidents of IUU fishing (UNCTAD, 2022).

Digitalisation of fisheries administration tasks

Border closures and travel restrictions compelled regional and international fisheries bodies to explore more seriously virtual platforms for convening their meetings. The virtual meeting platforms have since been used for many meetings. They have also been vital for facilitating more urgently required, regular regional-scale dialogue and knowledge sharing for managing the evolving impacts of the Pandemic (FAO, 2020a). Going forward, meetings for legally

binding decisions involving negotiations may return to face-to-face meetings. However, virtual meetings reduce the need for travel with its associated carbon footprint and are expected to continue when they can adequately serve the purpose. Apart from using virtual platforms for meetings, workshops, and information dissemination, national fisheries administrations had shifted to teleworking conditions when possible, and to the use of electronic forms for information and documentation services, e.g. registration and licensing, landings, etc. (UNCTAD, 2022).

RFMOs/ RFABs and expanded inter-sessional engagement

The regional fisheries bodies adjusted their working arrangements to maintain primary services to their membership, which included: use of video conferencing tools for meetings, and accommodation of remote working arrangements and teleworking for their staff to the extent possible. Business continuity plans were put in place to overcome the constraints faced with delivery of services in a timely fashion. In the case of RFMOs and for the most urgent meetings requiring sensitive negotiations, RFMOs used their network of working group chairpersons and fisheries directors to engage informally and formally on urgent matters, and to facilitate important decisions to be taken using agreed written procedures.

CONCLUSIONS AND RECOMMENDATIONS

Pre-Pandemic State

Despite agreement on the SDG 2030 agenda, and prior to the Pandemic, countries across the world and the region were not making sufficient progress towards their sustainable development goals. GDP growth rate trends were on the decline, inequality in all forms was increasing, and environmental degradation continued (ECLAC, 2020b).

Prior to the Pandemic, the fisheries and aquaculture sector within the WECAFC region was facing continuing and growing challenges. Common challenges included declining production levels, outdated administration and management of the sector in many instances which was made worse by stagnant and declining operational budgets, informality of labour in many instances also with associated various inequality issues, IUU fishing, environmental degradation and climate change.

Pandemic's Impacts

Within the WECAFC region, the Pandemic caused major disruptions to every aspect of national economies, triggering widespread emergency measures to protect public health and safety, and to cushion the social and economic shocks. Besides the public health and safety measures, economic measures were the most common, followed by social protection measures. These latter measures were primarily aimed at economic and livelihood protection.

The Pandemic diminished activities at all stages of global seafood value chains that depend on international trade, and this greatly impacted fisheries and aquaculture operations for the WECAFC region's high value seafood products normally exported to a few international markets. Initially, the fisheries and aquaculture sector's operations were not classified as EBOs, and this halted activities across the seafood value chain for some time, from production to consumer access. Even when activities resumed, this required adjustments to operations to cater for the general economic slowdown and pandemic-related illnesses and deaths, with the

sector experiencing to a greater or lesser extent one or more of the following: reduced operations; worker anxiety of contracting the COVID-19 virus, labour shortages due to worker absences, COVID infections and quarantine procedures, travel restrictions affecting migrant worker availability; deteriorated working conditions for skeleton work teams when these were in effect; reduced employment opportunities which would have impacted migrant workers and low-skilled workers first; reduced incomes; loss of credit access for self-employed operators; loss of livelihoods; increased operational costs; disruptions to production and post-harvest cycles; and, restricted distribution of and access to seafood supplies affecting sales and consumption.

In response to the Pandemic's impacts, efficient delivery of emergency relief measures that could benefit the sector was hampered by the predominance of informality of the labour force, together with incomplete information on the social protection and development needs of the sector.

Recommendation: In addition to the pre-Pandemic challenges that have hindered sustainable development of the fisheries and aquaculture sector in the WECAFC region, the sector should work to reduce and eliminate the arrangements that allow informality of labour to persist. Further, WECAFC countries should maintain a strong information and knowledge base to support and represent the sector effectively and efficiently both in times of progress and in times of disaster and recovery.

Shifting the Development Approach

The Pandemic's emergency and recovery measures were not used to influence a shift in behaviours and attitudes towards a sustainable development pattern that would minimize the human impact on the environment and climate (ECLAC 2022b). As a result of the Pandemic, ECLAC (2022a) estimates that developing economies within the region would be on a lower growth trajectory until 2025, compared to pre-Pandemic projections. In comparison, developed economies are expected to regain or improve their pre-Pandemic growth trajectory. Notwithstanding, for the fisheries and aquaculture sector, there are some examples of recovery measures that considered long term goals regarding social protection, gender, and sustainable fisheries management.

Recommendation: The good practice examples of Pandemic-related response measures illustrate possibilities for changing development positively but must be an integral part of an overall comprehensive approach for ensuring an optimised balance of economic development, universal and sectoral social protection, and sustainability of the natural resource base.

Promoting a Human-Centred Approach

In its outlook for 2022, ILO (2022) emphasizes that to ensure greater resilience to future crises, recovery action would need to be human-centred, focused on achieving an inclusive and participatory economic growth, equitable decent work opportunities, and universal social protection. This is logical as humans are also at the centre of the problem. In the case of the fisheries and aquaculture sector, the human-centred approach is embraced by the principles underlying the ecosystem approach to fisheries (EAF) (Garcia et al., 2003), which strives to balance economic, social and ecological/ environmental objectives. EAF is reflected in many international fisheries instruments and underpins the concept of Blue Transformation that has gained popularity in recent years. In view of the predominance of small-scale fisheries in the

WECAFC region, it should be recalled that the *Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries* (hereinafter SSF Guidelines) (FAO, 2015), which addresses the specific interests of small-scale fisheries, promotes a human-rights based approach. Similarly, the pillars underpinning the recently adopted IYAFa Global Action Plan give due and equal attention to social, economic, and environmental issues that must be simultaneously addressed for a holistic and sustainable path forward (FAO, 2022).

Recommendation: EAF remains relevant for sustainable fisheries management that balances economic, social and ecological/ environmental objectives, and should underpin plans and programmes for all recent, new general and specific themes of social and economic interests for the sector, whether it is blue transformation, securing sustainable small-scale fisheries, or general social and economic goals of the SDG 2030 Agenda (e.g. goals pertaining to ending inequality, poverty, and hunger, and goals for sustained, inclusive economic growth and decent work for all).

Strengthening Efforts to Address Inequality in all Forms

The Pandemic highlighted significant gaps in the development approaches commonly pursued by countries within the WECAFC region, with comprehensive social protection being the weakest link in the chain. In this regard, FAO (2020d) and ECLAC (2020b) identify the importance of eliminating inequality in all its forms as an essential step for sustainable economic growth.

Social Protection and Social Development, including digital literacy

In view of the large informal labour force for the sector, comprehensive social protection cannot be overemphasized, and the example of St. Vincent and the Grenadines' strategy and action plan shows a logical first step. Fisheries administrations should strengthen their understanding of the sector's socio-economic status, via establishment of a formal register of all value chain operators within the sector, as this would be crucial to inform any social development programmes of relevance, as well as to ensure that all eligible beneficiaries receive social assistance in times of shock. Collection of sex and age-disaggregated data and information, along with gender and vulnerability assessments, should be used to inform gender-responsive policy measures, and to improve the design, implementation and performance accountability of national social development and protection programmes (FAO 2020e). Such programmes require accurate beneficiary information to guarantee assistance that meets the specific needs of different vulnerabilities, particularly those affecting women, migrant and informal workers who play essential roles in the sector. A participatory approach to the design of the social protection programmes and measures, as well as their delivery and evaluation, is strongly recommended. This would help to overcome challenges such as non-specific targeting of beneficiaries, which could hamper delivery of assistance to those who are in most need of it (Chambers, 2014).

A comprehensive approach to social protection should include technical support / education activities that help to transition operators out of a low-education and limited-skill status that restrict their income earning capabilities. Raising the level of education and skills of the sector's labourers would broaden the livelihood options available to all concerned. That is to say, it should create opportunities for workers to transition from low-skilled, temporary and informal labour to more formal and also higher employment niches, e.g. transitioning from farm labourer to farm management or farm ownership. It should also equip workers for livelihood diversification options that also take travel and mobility considerations into account.

Social development activities should be tailored to address a range of needs, including those of women and other vulnerable and marginal groups who are often engaged in informal labour with low and unpredictable incomes. Activities should be developed and customized for handling the challenges posed by the various forms of inequalities present within each country, to provide equitable development opportunities for all concerned.

The value of digitalisation for producers was highlighted during the Pandemic. Digitalisation has introduced new ways of doing business ranging from management to seafood sales, and social protection. As such, the sector should ensure that social development programmes for its stakeholders address the issue of digital literacy. The efficiency of social protection programmes could be improved if the beneficiaries have digital literacy, e.g., digital banking for delivery of cash transfers. Linked to this is a country's overall digital capacity, and this issue may need to be addressed simultaneously, as shown by the example of Colombia and its action to improve digital connectivity and ICT in its rural communities.

As social development programmes work to improve livelihood and income-earning opportunities generally, this could help to decrease the level of informal labour within the sector, especially if supported by suitable sector and/or labour regulations for registering operators and promoting more formal sector participation accountability arrangements. Further, the attainment of improved labour opportunities could be expected to improve the sector's stakeholders' inclusion in national social insurance and pension programmes, which provide important safety nets for management of the usual life cycle risks. For this, social protection programmes should include suitable education and outreach activities. Elevating the social status of workers could then be expected to translate into higher economic performance for the sector in general.

Recommendation: WECAFC countries should work to decrease and eliminate the informality of the sector's labour force through comprehensive social development/ protection that allows workers to transition out of poverty and to achieve greater equality status in income and employment performance. This effort should be supported by a strong information base on the sector's labour force, which could be used for gender and other vulnerability-related assessments, and to inform a participatory approach to social protection, audience appropriate social development programming that includes attention to digital literacy needs, and outreach and education about life and livelihood risk management.

Strengthening Economic Resilience

The Pandemic unveiled the following economic vulnerabilities: long value chains; limited number of export markets; high dependence on imported input supplies, such as fossil fuels, fish feed and seed; lack of product and market diversification; limited digitalisation; limited development of domestic and regional market options. The Pandemic forced the sector to explore alternative options for addressing some of the vulnerabilities. For example, digital literacy helped fishers and farmers to reach alternative markets domestically. Public private cooperation proved successful for supporting further development of the domestic value chain. Likewise, there was greater regional cooperation to connect food suppliers and buyers across sub-regions; this, too, was facilitated using online platforms for e-commerce, and required public private cooperation. Diversification of products for customers also helped to increase commerce.

Governments should continue to provide the incentives for strengthening regional cooperation, supported by public private cooperation, with the aim of optimised development of intra-regional food trade. Likewise, governments should consider incentives for development of domestic food trade, and for supporting the role of public private cooperation towards this goal. It would be important for countries to invest in keeping pace with new technologies in digitalisation and specific digital applications for improving the business of the sector's value chains. In view of vulnerabilities caused by heavy reliance on imported input supplies, such as aquaculture feed and seed, governments should use the present time to encourage and incentivize new investments in more sustainable and environmentally friendly technologies to minimize input and operational costs, e.g., environmentally sensitive non-fed mariculture. Given the simultaneous challenges of climate change and environmental degradation, there is a clear urgency for incentives to encourage a full transition of industry operations to the use of renewable energy.

Recommendation: WECAFC countries should evaluate the potential for the sector to create a variety of products to satisfy all market opportunities, with particular emphasis on ensuring full development of domestic and intra-regional market options and using PPPs for optimised results. Further, WECAFC countries should provide the conditions to support market diversification, digitalisation of business operations, and investment in methods and technologies that reduce dependence on imported raw material supplies and which are climate-friendly and environment-friendly.

Fisheries Administration and Management

The Pandemic forced a shift, with reasonable success, to the greater use of virtual platforms for meetings and administration services, both at the country level and by RFABs within the region. The Pandemic also highlighted: weaknesses in the information and knowledge base for the sector, which, besides being basic for informing management actions generally, also often did not account for the informal workforce component; and the complexity of the sector's operations and management demands.

Shifting to the use of virtual platforms for tasks, such as data collection, routine communication and reporting services, licensing and registration, offers the potential for greater cost-efficiency and performance impact. Practical options for full digitalisation of sector management and administration should therefore be explored. The work burden could also be eased by investing in public private cooperation arrangements and in the greater application of citizen science techniques, as shown by the *PescaconCiencia* example of Costa Rica, and enforcement of queen conch regulations by Belize respectively. Use of citizen science techniques would help to increase public understanding of key sector management issues generally. Additionally, digitalisation of MCS would enable greater transparency in fisheries management, particularly important for data and information exchange, and regional and international cooperation. This is a key factor for combatting IUU activities, a primary concern identified in SDG Goal 14, Targets 14.4 and 14.6 aimed at achieving sustainable fishing levels and capacities. If not addressed going forward, IUU fishing activities will continue to detract from progress made in other areas. It follows that digitalisation would help countries to be more efficient in their implementation of the *Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing* (FAO 2016).

Recommendation: WECAFC countries and RFABs within the region should continue to explore and develop the use of virtual platforms and digital technologies for greater cost-

efficiency and performance impact in delivery of sector administration and management, with countries placing emphasis also on optimising digitalisation of information management, MCS, and research. Inclusion of options for public private cooperation and application of citizen science techniques could help to reduce costs further, while also improving overall performance and public understanding of the sector's contributions to society at large.

Inter-sectoral Cooperation is a Necessity

Post-COVID recovery plans should incorporate the lessons learned and embrace the balanced approach espoused by EAF, which underpins the related, popular concept of Blue Transformation. Successful implementation of initiatives addressing one or more of these concepts demands close and consistent inter-sectoral cooperation that ought to be informed by comprehensive information and knowledge of the issues and trade-offs. All sectors of the economy are accountable for the SDG 2030 agenda, which therefore provides a common agenda for inter-sectoral cooperation.

Recommendation: WECAFC countries should foster inter-sectoral cooperation both at the national and regional levels, using the inter-related goals of the SDG 2030 Agenda as a key reference, and ensure that the interests of the fisheries and aquaculture sector are not marginalized but effectively incorporated across the inter-related SDG goals.

Continued opportunity during Pandemic Recovery

Through its hardships, the Pandemic has yielded an opportunity for WECAFC countries to consider and pursue different options of doing business. Some relief/ recovery practices within the region offer good potential for addressing pre-Pandemic challenges more efficiently, and for improving social and economic resilience. As many of the practices are still in the early stages, it would be important to keep monitoring them for their results and relevance for wider applicability. Some of the emerging good practices within the region depended on public private cooperation, both at the national and regional levels, and show the strength of combining public sector and private sector expertise once there is sufficient appreciation of the mutual benefits to be derived. As relief/ recovery measures did not include specific attention to environmental protection, the opportunity of ongoing Pandemic-related recovery actions urgently need to address the gap of environmental resilience if social and economic recovery measures are to be successful in the long term. The best approach would be to incorporate the environmental needs into the social and economic objectives through: active application of EAF for Blue Transformation; inter-sectoral cooperation for integrated implementation of the SDG 2030 Agenda; and, adoption of climate-friendly and environmental technologies.

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