



**REGIONAL SEMINAR ON AQUACULTURE DEVELOPMENT  
IN AFRICA**

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**05 March 2020, Cotonou, Benin**  
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**Report**

**I. INTRODUCTION**

1. The Regional Seminar on Aquaculture Development in Africa co-organized by the Japan International Cooperation Agency (JICA) and the Fisheries Committee for the West Central Gulf of Guinea (FCWC), was held on Thursday 05<sup>th</sup> March 2020 at the Golden Tulip Le Diplomate in Cotonou, Benin, under the theme: **"Increasing the production of continental aquaculture through a partnership with the private sector"**.
2. The seminar brought together the representatives of the following countries, organizations and structures: the Ministries in charge of Fisheries and Aquaculture of Angola, Benin, Cameroon, Congo, Côte d'Ivoire, Gabon, Liberia, Democratic Republic of Congo and Togo, National Aquaculture Agencies of Senegal and Guinea, ECOWAS, FCWC, JICA, WorldFish Center, Egyptian International Center for Agriculture (EICA), Benin National Institute for Agronomic Research (INRAB), Universities of Benin, private operators from the invited countries and resource persons (attendance list in annex 1).

**II. OBJECTIVES AND EXPECTED RESULTS OF THE MEETING**

**a. Objectives of the seminar**

3. The objectives of the seminar are as follows:
  - Foster and support public and private partnership for the improvement of investment conditions in continental aquaculture in West Africa in order to increase efficiency and improve productivity;
  - Specify the roles and responsibilities of public administrations in the dynamics of supporting aquaculture development in Africa;
  - Identify a regional strategy to support the development of continental aquaculture in West Africa.

**b. Expected results**

4. The estimated results of the seminar are as follows:

- The key factors for the success of strengthening public and private partnership in aquaculture are shared;
- The roles and responsibilities of public authorities are clarified;
- A network of private actors is set up.

## II. OPENING CEREMONY

### 2.1 Statements

5. The opening ceremony was marked by two speeches: a welcome address by the FCWC's Secretary General and the procedural address by the JICA Expert , Technical Advisor to the Minister of Animal and Fisheries Resources (Côte d'Ivoire).
6. Mr. DEDI Séraphin, Secretary General of FCWC, welcomed all the participants to the regional seminar on aquaculture in Africa. He well-versed the meeting that the recommendations from the seminar will serve as the first stage of regional activities on the development of continental aquaculture and as a baseline for the formulation of FCWC's 2021-2030 strategy.
7. Mr. HOMMA Ken prompted the participants on the objectives and expected results of the seminar as indicated above.

### II.2 Bureau of the meeting.

8. The board of the meeting, presented by Mr. KAWAI Shoichiro, JICA Expert and FCWC's Regional Fisheries Advisor, is as follows:

#### **a. Co-Chair of the seminar:**

Mr. Séraphin DEDI, General Secretary of FCWC

Mr. Kojiro FUJINO, Resident Representative of JICA in Côte d'Ivoire.

#### **b. Rapporteurs/clerks**

Mr. TRE BI Christian (Côte d'Ivoire)

Mr. ADZOMLA Kouakou Céphas (Togo)

Mr. DJAM Wilfried Chiatoh (Cameroun)

9. After the participants introduction and the adoption of the seminar agenda , Mr. Séraphin DEDI, Co-Chair of the meeting invited the participants to pay greater attention to the deliberations and to actively participate in the discussions in order to achieve strong recommendations for sustainable development of aquaculture in West Africa.

## III. CONDUCT OF PROCEEDINGS

### 3.1 NOTIFICATIONS

10. Notices were grouped into 04 sessions:

#### **Session 1: Partnership efforts for the development of continental aquaculture.**

- a. **Framework and recent activities of the aquaculture pact, Technology for African agriculture transformation (TAAT)**

11. Ms. Bernadette FREGENE of WorldFish Center explained that TAAT seeks to be the valuable partner to ensure the development of fishing and aquaculture in developing countries, WorldFish relies on the Technology for African Agriculture Transformation project (TAAT). This project aims to: (i) create an environment conducive to the adoption of technologies, (ii) facilitate the provision of appropriate technologies to stakeholders in the value chain and finally (iii) increase aquaculture production and productivity through the identification and extension of appropriate technologies, through the provision of disease resistant and fast growing seeds and improved farming systems; the supply of inexpensive and quality fish feed using locally available raw materials and the development and use of post-harvest technologies to improve production.
12. TAAT assists partner countries to create an enabling environment, provide technology and infrastructure services and disseminate appropriate food production technologies. TAAT has established a network of partners who benefit from capacity building and various supports.
13. In Africa TAAT works with 6 pilot countries (DRC, Ghana, Kenya, Malawi, Nigeria, Zambia) and six extended countries (Burundi, Cameroon, Côte d'Ivoire, Benin, Tanzania and Togo).

#### **b. Training program for the development of fish farming in Africa**

14. The training program for the development of fish farming in Africa was presented by Mr. Mohamed SAID of the Egyptian International Center for Agriculture (EICA). The program, implemented in partnership with the Japan International Cooperation Agency (JICA), started in 2004. The three-year program offers theoretical and practical training that covers all aspects of aquaculture including the basics of aquaculture, seed and food production, aquaculture management.
15. It develops the capacities and skills of learners, in particular: (i) knowledge of current methods applied to the development of fish farming, (ii) application of awareness and techniques learned for fish production, (iii) understanding of the different techniques of fish farming such as seed production, disease prevention, pond construction, extension systems, etc., (iv) development of different methodologies by improving the factors influencing both monoculture and polyculture on fish farms, (v) promoting the exchange of information and knowledge between participating countries on fish farming, (vi) promoting the development of small-scale fish farming (project applicable in the countries using local tools), (vii) analysis and resolution of problems encountered by projects in this area and (viii) creation of links between African participants and the main facilitators of the program.
16. To date, some elements of success have been achieved in particular in terms of: (i) availability of quantity and quality of the fry, (ii) existence of good industrial facilities for fish feed, (iii) availability of tools and equipment for fish farms, including aerators, fishing nets, automatic distributors and lifting pumps, (iv) existence of companies to set up and equip fish farmers, (v) upgrading of spaces, (vi) market development, (vii) activation of the policies controlling the price of the final product.

#### **c. The continental fish farming recovery Project in Côte d'Ivoire**

17. Mr. Jules YAO from the Ministry of Animal and Fisheries Resources (MIRAH) made a presentation on the continental fish farming recovery project in Côte d'Ivoire (2016-2020). He recalled that this project has benefited from technical and financial support from the Japan International Cooperation Agency (JICA). The experiments of this pilot project gave the following results:
18. **Production of monosex male fry:** the masculinity rate obtained is 92% with the Egyptian method which allows the survival rate of the larvae (85%) and fry (90%) compared to the Thai method. Growth is also good, hence the reduction in cycle time with a food conversion rate (TCA) of 0.5.
19. **Feed quality Improved for tilapia and catfish:** the floating extruded feed, LE GOUSSANT, has better zootechnical performances (TCA = 1.16) and a higher GMQ resulting in a reduction in the cycle. However, the non-floating food Ivograin (new food formula) is of very good quality, TCA between 1.5 and 2. The duration of the catfish breeding cycle has been reduced by at least 3 months.
20. **Fattening in cages:** the performance of the Brazilian strain compared to the Bouaké strain is confirmed. Fattening in a fixed floating cage produces better results with a density of 50 fish per cubic meter.
21. **Farmer-to-Farmer type extension:** this extension approach has been tried out and contributed to creating a network of fish farmers.
22. **Stakeholder capacity building:** cooperative societies have been entitled to training on their operation and the search for funding. The actors benefited from training on production techniques, extension approaches, good management practices, marketing and promotion of products.

***Session 2: Private sector investment strategies for the development of continental aquaculture in West Africa.***

23. Session 2 was marked by three (03) presentations on commercial opportunities and investment conditions in aquaculture, on the financing of aquaculture projects by banks, on the regional organizational dynamics of non-state actors in the fisheries and aquaculture sector:

**a. Volta Rapids Tilapia Ltd (VRT)**

24. Mr. George Angelo ADOTEY, a private operator from Ghana shared the experience of his **Volta Rapids Tilapia Ltd (VRT)** farm. Volta Rapids Tilapia Ltd (VRT) is an aquaculture industry in Ghana that has existed for eight (8) years. Its main activity is the production of food tilapia. His vision is to become one of the leading producers of quality tilapia and catfish nationwide. The business includes a 1-acre land facility, a facility of 5 large high-density cages on Lake Volta. Its staff of six (6) workers (farm manager, production team, maintenance and security unit), is supplemented by casual workers during the harvesting activity.

25. The company has very important assets: high quality knotless nets, a complete mooring system, complete diving equipment, an ice machine, electronic scales, sorting tables and a refrigerated van.
26. The company produces 450 and 600 grams of fry and commercial fish for Ghanaian market. Currently, the company is developing a state-of-the-art hatchery for itself and for other fish farmers. It produces 305 tonnes/year with a capacity of 585 tonnes/year.
27. **Fish handling:** harvested fish are quickly killed on a bed of ice, then sorted and eviscerated. They are quickly put under ice then transported by the buyers to the various markets of Accra and Ghana. The refrigeration chain is key to producing quality food fish for the market, however still a challenge for the aquaculture industry.
28. **Marketing:** the fish farmer's role ends as soon as the fish leaves the farm. It is the wholesale fishmongers who take over. However, fish farmers need to be more involved in the sale and marketing of their fish. Some large farms have developed their own sales depots where their fish are sold directly to the general public, which maximizes profits. New customers are entering the market to buy fresh fish to develop new value-added products (sausages, skewers, burgers and fish cakes).
29. The key elements for the success of fish farming are based on public-private partnership with the following basic conditions:
30. **At the public level:** create a Ministry dedicated to aquaculture, support duty and tax exemptions on imported materials and equipment, ban the importation of tilapia, provide free and quality extension services, implement incentive policies and regulatory frameworks, strengthen communication and dialogue between administration officials and fish farmers, reduce bureaucracy, strengthen the organization of fish farmers for more credibility, improve the responsiveness of administrations in times of crisis and finally have aquaculture research centers or universities to support development.
31. **At the private level:** to have solid basic business knowledge, to have qualified and dedicated staff required to manage the farm, access to quality seeds and quality food at affordable prices, to have an efficient refrigeration chain, to know the environment (land and water resources), developing one's own market and to take biosecurity measures.

**b. West African Initiative for Climate-Smart Agriculture (WAICSA)**

32. **Mr. Rodrigue P. TAKOUGNADI** spoke on behalf of the ECOWAS Bank for Investment (EBID). He informed participants of the establishment of the ECOWAS Regional Fund for Agriculture and Food known as the West African Initiative for Climate-Smart Agriculture (WAICSA). This fund includes:
  33. **A Financing Facility (80% of the fund), managed by the EBID, which offers loans at subsidized rates, guarantees and participation in agricultural and fishing businesses and fishermen's organizations both directly and through local financial institutions. It uses guarantees and mixed funding, including contributions from ECOWAS member states, to reduce risk and**

**attract private investment. It encourages the adoption of sustainable fishing practices with respect for environmental and social norms.**

34. Technical Assistance Facility (20% of the fund), managed by the Regional Agency for Agriculture and Food (RAAF). It is funded by grants and assistance from ECOWAS and donors. It helps financial intermediaries to design products that integrate cross-compliance and sustainable fishing practices and provides guidance to fishermen's associations / cooperatives in strengthening fisheries sustainable management . It reduces investment risks, guaranteeing favorable conditions for repayment of loans by supporting sustainable fishing practices, increasing productivity and improving fishermen's incomes.

**c. Platform of Artisanal Fisheries and Aquaculture Non-State Actors in West Africa**

35. Dr. KEBE Moustapha, Consultant presented the **Platform of Artisanal Fisheries and Aquaculture Non-State Actors in West Africa**. In fact, under the aegis of ECOWAS, a Platform of Non-State Actors (NSA) for Artisanal Fisheries and Aquaculture has been created in West Africa which held its Constitutive General Assembly in Abuja, Nigeria, 21 -23 March 2018 to adopt its statute and internal regulations.
36. The platform is set as a Forum for dialogue, coordination and exchange of experiences between non-State actors (NSAs), in order to contribute to the process of developing policies and rules for the sustainable management of fisheries and aquaculture in ECOWAS member states and Mauritania.
37. **Its has as mission** the formulation and implementation of policies and strategies in the fisheries and aquaculture sector in the ECOWAS member states and Mauritania for sustainable management for the benefit of non- States actors.
38. **Its Objectives:** (i) supporting NSAs in the field of fisheries and aquaculture in the ECOWAS Member States and Mauritania, in order to ensure the effective implementation of the political frameworks and strategies for the reform of the fishing and aquaculture sector in Africa at local, national and regional levels, (ii) play a monitoring role to ensure compliance with the principles of ethics and participatory governance of the fishing sector and of aquaculture as well as the coherence and sustainability of policies and interventions aimed at ensuring food security and sustainable livelihoods for fishing communities, (iii) provide a space to coordinate and pool the efforts of NSAs in the prospect of creating ties of solidarity, knowledge sharing and experiences and setting up regional initiatives, (iv) contributing to the capitalization and dissemination of best practices, innovations and research results, (v) facilitate mediation, where necessary, within national NSA councils or between National Platforms, (vi) promote good governance, initiatives aimed at transparency, ecosystem approach, precautionary principles in the fishing and aquaculture sector, (vii) promote the harmonization of policies and regulations and their application in the regional space, (viii) support actors to improve their resilience to new issues (climate change, oil and gas exploitation, conflicts, etc.) and (ix) facilitate the relationship between the NSAs and the Regional Economic Communities (RECs) and the Regional Fisheries Organizations (RFOs).

39. NGOs, networks, platforms or professional organizations associations working in the artisanal fishing and aquaculture sector at national or regional level in ECOWAS member countries and Mauritania, legally recognized at national and regional levels or by the government of a country can belong to the platform.
40. The platform is governed by two bodies: the Regional Coordination Council (RCC) and the Executive Office.

### ***Session 3: Country experiences to promote private sector investment***

41. This session highlighted the efforts of States to improve private investment; it was marked by three (03) presentations on public policies supporting aquaculture development and the promotion of private investment.

#### **a. Public policy to support the development and investment in aquaculture in Ghana**

42. **Mr. Mathew Cofie OYIH** of Ghana Fisheries Commission introduced this theme through the Ghana's experience presentation. He argued that the aquaculture industry in Ghana contributes significantly to national socio-economic development with the aim of creating employment, food security and earning income.
43. Aquaculture production increased from 10,200 tonnes (2010) to 76,620 tonnes (2018), 80% of which is from Tilapia. However, the high cost of inputs (food, materials), limited crop species, lack of credit facilities, poor seed quality and the incidence of disease are observed.
44. Other challenges have still to be taken up, notably the weakness of institutional coordination, extension, training and research; inadequate infrastructure (roads, cold chain, facilities, etc.); insufficient production of fry (171 million), only 60 private and 3 public hatcheries, insufficient human capacity, inadequate compliance and enforcement.
45. The government has taken initiatives for the promotion and development of aquaculture: Fisheries Act (act 625/2002), regulations (LI 1968 of 2010), fisheries and aquaculture policy (2008), strategic framework for aquaculture (2006), zoning of Lake Volta, investment code; collaboration with the Ministry of Finance to grant tax exemption on aquaculture inputs, free provision of extension services, private investment promotion, capacity building for private operators, infrastructure including hatcheries development, aquaculture pathology laboratories, ban on the importation of tilapia.
46. Ghana's other strengths are political stability, social peace, improving the business climate and promoting Public and Private Partnership (PPP) in the aquaculture sector.

#### **b. Public policy to support aquaculture in Nigeria**

47. In his presentation **Mr. Bashir Ola AMIN** of the Federal Department of Fisheries of Nigeria indicated that fish accounts for about 40% of the total protein intake. To cover its needs of 3.2 million tonnes, Nigeria produces only 1.123 million tonnes and imports a significant amount of fish.
48. With an annual aquaculture production of 313,000 tonnes, Nigeria ranks second after Egypt in aquaculture production. It is the leading producer of catfish and its hybrids in Africa.

49. Tilapia farming develops in water bodies (dams, lakes). Cage farming takes place in Asejuié, OyanTiga and the Ike Gorge. Commercial shrimp farming has started in Badagry (Lagos State). For an average production of 1 to 2 kg / m<sup>2</sup>/year, production performance varies depending on the status of the farms: subsistence farms (2 to 4 kg/m<sup>2</sup>/year), family farms (1.5 to 3.5 t/ha/year), commercial farms (200kg to 1 t/m<sup>2</sup>/year). The aquaculture production potential is estimated at 2.5 million tonnes.
50. About 14 million hectares are available for aquaculture development of which 1.7 million hectares are currently used. The need for fish fry is estimated at 5 billion compared to 600 million produced. Aquaculture is practiced in most states. But the southern part has strongly developed the catfish aquaculture industry.
51. The marketing circuit is very short. Wholesalers and retailers pay for fish directly at the farm and sell to restaurants and the public. Fresh produce accounts for 70% of sales while the smoked product is gaining popularity. The fresh product leaves from the south and is distributed in the continental zone.
52. Nigeria is implementing its Agriculture Transformation Agenda (ATA) policy with the objectives of: (i) ensuring food security and diversifying the economy in order to increase foreign exchange earnings through the export of agricultural products , including fish and develop agriculture and aquaculture as businesses and (ii) repositioning agriculture to reduce excessive dependence on food imports, increasing foreign exchange earnings from agriculture, creating jobs and restoring the glory of Nigeria by making it a country with an industrialized agricultural economy.
53. The strategy for implementing the ATA is based on: (i) production by the private sector while the government is facilitating and providing the necessary infrastructure, systems, control and monitoring processes, (ii) federal financial market agreements will play a more regulatory role in ensuring the commercial development of the sector, (iii) strengthening the level of commitment of market players, farmers, states, investors, financial institutions and communities, (iv) research laboratories, customs and donors play an essential role.
54. The government supports the aquaculture sector through several initiatives: (i) implementation of a national hatchery development program, (ii) creation of fry production centers to accelerate and achieve self-sufficiency in fish, the production of quality fish seeds, (iii) creation of national aquaculture technology transfer centers in four sites in the country (Oluponna, Umuna Okigwe, Mando Kaduna and Tiga dam in Kano). They are being rehabilitated and managed through a public-private partnership (PPP), (iv) it is recommended that fish importers invest in aquaculture in order to continue to benefit from quota allocation , (v) development of fish market by building markets to be sold to private actors to increase consumption, (vi) development of fish mills to increase production of fish feed, (vii) import duty exemption (the Federal Ministry of Finance in collaboration with the Federal Ministry of Agriculture and Rural Development has approved a list of agricultural equipment and inputs to benefit from import derogations). Farmers through this window can import with tax exemption. However, the documentation process can sometimes be cumbersome, (viii) The Central Bank of Nigeria has devoted funds to aquaculture development from which fish farmers can access funds at a single

digit interest rate. Access to these funds was problematic due to the conditions to be met. Only a few large producers have benefited from this program, (ix) access to water bodies for the development of aquaculture (the Federal Ministry of Water Resources has handed over 18 water bodies to the Federal Ministry of Agriculture and Rural development for the development of aquaculture at the national level). Some large producers have applied for and obtained licenses and permits for the use of these water bodies, (x) supply of agricultural inputs (ovens for smoking, water pumps are supplied to farmers at reduced prices), (xi) the policy framework (National Aquaculture Strategy, National Aquaculture Development Plan, National Aquaculture Advisory Committee) and (xii) interaction between government and the private aquaculture sector.

**c. Public policy to support development and foster private investment in aquaculture in Benin**

55. **Mr. WENON Dossade** of the Fisheries Productions Department made a presentation on **the public policy to support the development and incentives for private investment in aquaculture in Benin**. He argued that the national production of 90,207 tonnes of fish including 5,114 tonnes of aquaculture products mobilizes 15% of Benin population.
56. The large deficit is offset by the import of 113,014 tonnes of fishery products for a per capita consumption of 17 kg/capita/year. Aquaculture in Benin employs 2018 farmers (205 women). It sums 6,546 ponds, 1,526 water reservoirs, 816 above ground ponds, 612 cages and 124 enclosures. The main species are Tilapia (*Oreochromis niloticus*) and African catfish (*Clarias gariepinus*). However, aquaculture in Benin must meet the challenge of access to seeds and inputs to achieve the target of 20,000 tonnes.
57. The government has developed a political and legal framework to promote aquaculture: (i) Strategic Plan for the Development of Agricultural Sector, (ii) National Strategy for the Production and Certification of Aquaculture Seeds (iii) Concept Note for the Development of Continental Aquaculture, (iv) National Plan for Agricultural Development of Pole 7, (v) National Program for the Development of the Aquaculture Sector and (vi) Referential for Production and Certification of Aquaculture Seeds. Certification Manual for Aquaculture Seeds; (vii) Order No. 0489 setting the conditions for authorizing, installing and operating units for the production of fertilized eggs, larvae, fry and juvenile fish in the Republic of Benin and (viii) Order No. 0490 setting the conditions for the use of steroids in aquaculture in the Republic of Benin and The framework law No. 2014-19 of August 07, 2014 relating to fishing and aquaculture in the Republic of Benin.
58. Incentive measures taken: (i) establishment of Land Compensation Fund (Decision of Ministers Council , in its session of February 5, 2020), (ii) authorization by the Council of Ministers for the installation of a food factory and a fish processing company, (iii) facilitation instruments to represent large food production and distribution companies, (iv) exemptions not limited in time on inputs, aquaculture equipment, (v) improvement of sustainable aquaculture development systems in Agricultural Development Poles (AquaSystem), (vi) acquisition of broodstock and provision of hatcheries, (vii) support for the creation of hatcheries in PPP (exemption on the import of equipment and

subsidies), (viii) creation of aquaculture zones/villages for actors, (ix) creation of a Center for the conservation and genetic improvement of species.

***Session 4: Strategic orientation to support the development of continental aquaculture in West Africa through an effective public-private partnership.***

59. This session of the seminar focused on the presentation of the strategic framework for the sustainable development of Fisheries and Aquaculture in West Africa. This presentation was made by Dr TALL Amadou, PESCAO / ECOWAS Coordinator.
60. **Dr Tall** recalled that in West Africa fish production increased from 2 million (2006) to 3 million tonnes (2016) for the following reasons: (i) increased production in marine and inland fisheries, (ii) support for investments in aquaculture, (iii) increase in fish consumption per capita and (iv) increase in fish imports.
61. However, constraints hamper the optimal contribution of fisheries and aquaculture: (i) lack of strategic orientation, weak governance, (ii) post-harvest losses estimated at 20%, poor information on marketing and the market, informal trade, poor professional organization, poor development of commercial aquaculture and (iii) population growth, high unemployment, habitat degradation and use, diversion of small pelagics for fishmeal production, high impacts of climate change and poor intersectoral coordination and poor implementation of regional commitments.
62. For the development of fishing and aquaculture, the ECOWAS vision translates that: “The fishing and aquaculture sector is based on an effective and efficient exploitation of fishery resources and the promotion of aquaculture enterprises, to achieve sustainable production and productivity for food security and nutrition, and decent employment for all actors in the value chain in West Africa”
63. Its mission: to ensure that the fishery resources (fishing and aquaculture) of ECOWAS are developed, managed and used in a sustainable manner for food security, economic growth, wealth creation and improvement of livelihoods of the population of the Community.
64. Priority areas: (i) governance of fisheries and priority development of small-scale fisheries, (ii) sustainable development of aquaculture, (iii) awareness-raising and human capacity development, (iv) value chain, blue economy and fish marketing, (v) empowerment of women and young people and entrepreneurship, (vi) increased resilience to climate change and institutional improvement.
65. Financing mechanisms include: (i) allocation of the national budget (10% of public expenditure devoted to the agricultural sector), (ii) allocation to fisheries proportional to the percentage of contribution to GDP, (iii) strengthening of regional fisheries organizations (RFOs), (iv) alignment of AfDB financing with national fisheries and Aquaculture Investment Plans, (v) coordination of technical support (FAO, USAID, IFAD, FED, JICA, AIDS Programs, NORAD, AfDB, GIZ, DFID) and leveraging private sector funding for aquaculture research.

66. These different thematic presentations enabled the participants to better understand the strategic orientations and expected results at regional level for the development of aquaculture in West Africa and prompted discussions on the priority strategic axes of the future FCWC Aquaculture Strategic Development Plan. This plan should take into account:

- a. Strengthening national platforms of non-state actors and facilitating access to finance;
- b. Allocating the search for appropriate funding and strengthening the capacities of actors;
- c. Harmonization of continental aquaculture policies;
- d. Financing a tripartite program (JICA, FCWC and the Private sector) for the development of commercial aquaculture.

### **3.2 DISCUSSION AND ITEMS OF FOCUS**

It appears from the presentations made during the different sessions and from the discussions which followed the following points:

#### **67. *Policies/strategies***

- Public policies are increasingly supportive of the development of aquaculture;
- Institutional, legislative and fiscal reforms relating to incentive measures are carried out by the States to encourage private investment;
- Public-private partnerships in the field of aquaculture are increasingly promoted.

#### **68. *Financing***

- Funding lines for young people entering agriculture sector (aquaculture) are set up by the States;
- The West African Initiative for Climate-Smart Agriculture (WAICSA), the fifth window of the Regional Fund for Agriculture and Food (FRAA) was set up by ECOWAS to finance agricultural activities including aquaculture in the region. The RAAF is managed by the ECOWAS Investment Bank (EBID).

#### **69. *Actors' training/organization***

- The theoretical and practical capacity building of actors in the aquaculture sector through the organization of targeted and adapted training in African countries is carried out;
- Partnerships and networks are developing for the sharing of scientific information and knowledge, thus participating in building the capacities of actors;
- The organizational and networking efforts at the regional level with the establishment of the Regional Platform of non-state actors in fisheries and aquaculture are made and should continue at the national level.

#### **70. *Research and extension***

- Support for aquaculture research through the identification, promotion and dissemination (scaling up) of relevant and proven innovations and technologies is a necessity to improve aquaculture production and productivity in Africa;
- The provision of efficient strains of “aquacultivable” fish to aquaculturists through scientific research contributes to the diversification of biological material;
- The creation of incubation centers in order to transfer aquaculture knowledge and technologies to actors is a future support to the development of aquaculture.

#### **71. Aquaculture value chain**

- Strengthening the participation and involvement of the private sector is the engine of aquaculture development in Africa;
- The establishment of a certification system for aquaculture inputs and the creation of efficient hatcheries guarantee the quality of seeds;
- The zoning of fish farming with a view of improving contributes to clarifying land and environmental issues;
- Facilitating and promoting the marketing of aquaculture products contributes to its specification in relation to imported products.

### **3.3 RECOMMENDATIONS OF THE SEMINAR**

The seminar recommends:

#### **72. To FCWC’s Member States**

- Continue and strengthen efforts and reforms to improve the business environment to facilitate private sector investment;
- Strengthen the stakeholders’ capacities to facilitate their access to available funding;
- Strengthen the dialogue between private and public sectors.

#### **73. To private sector**

- Strengthen private operators regional network in the aquaculture sector by setting up or joining platforms at national level;
- Strengthen collaboration with research, extension and funding organizations;
- Continue the professionalization of actors to facilitate their access to funding opportunities.

#### **74. To scholars in scientific and technological research**

- Strengthen the identification, promotion and dispersion of innovation and efficient technologies for the development of African aquaculture;
- Strengthen collaboration with private actors and the transfer of knowledge and technology.

#### **75. To EBID/RAAF**

- Collaborate with the FCWC and Provac-2 in the context of the preparation of circular missions in order to take into account in the WAICSA mechanism, the strategy to be deployed tending to the improvement of investment conditions in the fishing sector and aquaculture;
- Involve the FCWC during the implementation of the capacity building strategy for the beneficiaries of WAICSA in order to allow actors in the fishing and aquaculture industries to have the tools for better use of the WAICSA product;
- Collaborate with Provac-2 to have/collect useful information relating to the environment for funding aquaculture in order to integrate it into the WAICSA context.

#### **76. To the FCWC**

- Strengthen the coordination of aquaculture development actions at the level of all the Member States;
- Strengthen the capacities of states in terms of fiscal policy, strategies and reforms to support the development of aquaculture;
- Mobilize resources to support countries in the implementation of their aquaculture development policies;
- Establish standards and harmonize the promotion of investment in aquaculture;
- Establish a dialogue mechanism between private and public actors by supporting the establishment of dialogue platforms at the national level;
- Promote and strengthen the dispersion of adapted efficient techniques and technologies;
- Improve statistics and profitability data for aquaculture.

#### **77. To JICA**

- Support the FCWC and the Member States in implementing the above-mentioned recommendations;
- Support the FCWC in taking aquaculture into account in the development of the FCWC 2021-2030 strategy;
- Support the FCWC in setting up a dialogue platform supportive of aquaculture (public sector, research, funding structure, private sector, etc.).

### **IV. CLOSING CEREMONY**

78. The session was marked by three speeches: one by the resident representative of JICA in Côte d'Ivoire Mr. Kojiro FUJINO, another one by the FCWC's Secretary General , Mr. Séraphin DEDI and the closing remarks by Mr. Hippolyte Messah HOUENOU , Coordinator of PROVAC in Benin and representing the Minister of Agriculture, Livestock and Fisheries of Benin.

79. **Mr. Kojiro FUJINO**, resident representative of JICA in Côte d'Ivoire, congratulated the participants for the quality of their contribution. He noted that

the seminar was a great opportunity to understand the aquaculture sector in West and Central Africa. It supports the dynamics of aquaculture development.

80. **Mr. Séraphin DEDI**, FCWC's Secretary General , thanked all the participants and particularly the Minister of Agriculture, Livestock and Fisheries of Benin, His Excellency the Ambassador of Japan to Benin, Resident representatives of JICA from Côte d'Ivoire and Benin as well as ECOWAS for their invaluable assistance in holding this meeting.
81. **Mr. HOUENOU** recalled the spirit of sharing and collaboration which he saw during the debates. He therefore thanked and congratulated the organizers and the participants. He declared closed the regional seminar on the development of aquaculture in Africa.

FCWC-JICA Combined Regional Seminar - 4 March 2020 – Cotonou, Benin - Registration Sheet

10.	9.	8.	7.	6.	5.	4.	3.	2.	1.
First Name/Prenom	Surname/Nom De Famille	Organisation	Position	Country	Email address	Número Telephone	Signature		
Sidiki	KEITA	ANAG	DA	Guinée		601131017			
Papa Daouda	AIDARA	ANA	AKA ANA	Sénégal	cheifaidara3M@gmail.com	+221 77 61 3 016			
Ahmadou Tidiane	CAMARA	ANA	chef Ahmadou AKA	Sénégal	camara.ahmadou.tidiane@gmail.com	+221 77 53 21 4 55			
	RAANAN	Secteur Privé/Proxenderie		Ghana					
ASSIEHUE AUGUSTIN	MILAN	Secteur Privé/Pisciculteur à petite-moyenne échelle	PISCICULTEUR	Côte d'Ivoire	mllanocse@gmail.com	+225 09 01 07 03			
Konan Ernest	KOUAKOU	MIRAH/DAP	sous directeur	Côte d'Ivoire	konakouer@gmail.com	+225 09 67 51			
Jule	YAD	MIRAH/DAP	chef d'Antenne PRERICO	Côte d'Ivoire	yadjule77@gmail.com	07 34 43 44			
Tré Christian Omer	TRE BI	MIRAH/DPSP	S/Directeur	Côte d'Ivoire	trebi@nshkn@gmail.com	00225 57898992			
Angaman	KONAN	MIRAH	conseiller Technique	Côte d'Ivoire	angaman.konan@gmail.com	+225 02 04 21 98			
Séraphin	DEDI	FCWC-CPCO	SG	Côte d'Ivoire	Medinadedyd	0018832			

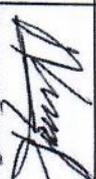
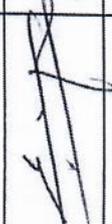
First Name/Prenom	Surname/Nom De Famille	Organisation	Position	Country	Email address	Numero Telephone	Signature
11. Mamadou Alpha	LY	ANAG		Guinée	lyalpha2017@gmail.com	(224) 628 54 9234	
12. Zizi Alphah Sizi	KPADEH	NaFAA	Director	Liberia	zkpadeh@nafaa.gov.lr	+231 886520986	
13. Devine Key	ANDERSON	Secteur Privé/Pisciculteur	CEO	Liberia	divinekey1@gmail.com	+231 771486940	
14. David M.	MOORE	National Aquaculture and Inland Fisheries Federation		Liberia	moorcd881@gmail.com	+231 88645 2143	
15. Mathew Cofe	OYIH	Fisheries Commission		Ghana	woyih@lufhid.com	+233 2432 60969	
16. Joseph	KORANG	Secteur Privé/Pisciculteur à petite-moyenne échelle	Farm	Ghana	Joseph.korang@gmail.com	+233 20190324	
17. George Angelo	Adotey Habib	Secteur Privé/Pisciculteur à échelle industrielle		Ghana	angolohabib@yahoo.co.uk	+233 204600-001	
18. Bashir Ola	AMIN	FMARD		Nigeria	aminbasha60@yahoo.com	+234803396 3245	
19. Muazu	Abdullahi	Secteur Privé/Pisciculteur à échelle industrielle		Nigeria			
20. Céphas K.	ADZOMILA	Secteur Privé/Pisciculteur à petite-moyenne échelle		Togo	cephasadzomila@gmail.com	+228 9012 4826	
21. Kossi	AHOEDO	DPA		Togo			

	First Name/Prenom	Surname/Nom De Famille	Organisation	Position	Country	Email address	Numero Telephone	Signature
22.	Avlikoé Galévo	AZIABA	DPA	Assistant CSPH	Togo	leanbera.afia@com gmail.com	+228903816023	
23.	Kokou	AKAKPOVI	Secteur Privé/Pisciculteur à petite-moyenne échelle	Promoteur de la mod.	Togo	gremetal@kp0@gmail.com	+22892633942	
24.	Mohamed	SAID	Egyptian International Centre for Agriculture	Coordinateur in EICA	Egypt	mohamed-elkhalaf@hotmail.com	+201005081050	
25.	Bernadette Tosan	FREGENE	World Fish		Nigeria			
26.	Alain Sy	TRAORE	CEDDEAO					
27.	Amadou	Tall	CEDDEAO		Nigeria			
28.	Moustapha	KEBE	Consultant		Sénégal			
29.	ECOBANK							
30.	BIDC							
31.	Kofi	TAYLOR-HAYFORD	FCWC-CPCO					
32.	Adejolu	ADEKUNLE	FCWC-CPCO	Aquaculture & Fish Trade Advisor	Ghana	adekunle.adejolu@gmail.com	+233 26 465 3870	

	First Name/Prenom	Surname/Nom De Famille	Organisation	Position	Country	Email address	Numero Telephone	Signature
33.	Felicia	Adjei	FCWC-CPCO	Secretary	Ghana	Felicia Adjei feliciaadjei@gmail.com	0242618188	
34.	Kiyofumi	KONISHI	S.E. Ambassadeur du JAPON					
35.	Yuki	ASAKA	Ambassade du Japon					
36.	Gérard	ZONDJI	Ambassade du Japon					
37.	Hiroyuki	TANAKA	JICA Siège					
38.	Shunji	SUGIYAMA	JICA Siège					
39.	Kosei	BANURA	JICA Siège					
40.	Koichi	SASADATE	JICA Bénin					
41.	Anna	SHIMPO	JICA Bénin					
42.	Benjamin	MORERE	JICA Bénin					
43.	Kojiro	FUJINO	JICA Côte d'Ivoire					

	First Name/Prenom	Surname/Nom De Famille	Organisation	Position	Country	Email address	Numero Telephone	Signature
44.	Yoshihiro	TAKATA	JICA Côte d'Ivoire	JICA <i>Coordonateur</i>	Côte d'Ivoire	Takata Yoshiro y.takata@jica.go.jp		<i>高田</i>
<del>45.</del>	Shunji	SEGAWA	JICA Côte d'Ivoire					
46.	Hirofumi	WATANABE	JICA Ghana			watanabe, hirofumi@jica.go.jp		<i>渡辺</i>
47.	Makoto	IKEDA	JICA Expert	JICA Expert	Maroc	ikedamak@hotmail.it		<i>ikeda</i>
48.	Seichi	OUCHI	JICA Expert	JICA	Guinée	ouchisei@ntt.jp		<i>大内</i>
49.	Ken	HOMMA	JICA Expert	JICA <i>LIBRAIR</i>	Côte d'Ivoire	homma.ken@gmail.com		<i>α</i>
50.	Shoichiro	KAWAI	JICA Expert		Côte d'Ivoire			
51.	Kosuke	SANO	OFCF	expert	Cameroun	sano@ofcf.gov		<i>山本</i>
52.	Masanori	DOI	PROVAC-2	JICA expert	Japon	doi.masanori@jica.go.jp		<i>土肥</i>
53.	Makoto	SATO	PROVAC-2	JICA Expert PROVAC	Japon	sato@internjapan	229 61 37 6559	<i>佐藤</i>
54.	Yoshikazu	OGINO	PROVAC-2	expert	Japon	ogino@ofcf.jp		<i>小久保</i>

	First Name/Prenom	Surname/Nom De Famille	Organisation	Position	Country	Email address	Numero Telephone	Signature
55.	Kenzo	UTSUGI	PROVAC-2	JICA Expert	Japon	kenzutsugigi@gmail.com		田中 健蔵
56.	Kotaro	AMEZAWA	PROVAC-2	JICA Expert	Japon	amezawa@i-interningen.co.jp i-interningen.co.jp	9897 23 84	田中
57.	Kou	YANG	PROVAC-2	JICA Expert	Japon	yang@interningen.co.jp	19 49 31 18	
58.	Simon	GOUJIS	PROVAC-2	Projet Expert	Japon	goujissimon@gmail.com		
59.	Wlfried Chiatoh	DJAM	PROVAC-2	Pisciculteur	Cameroun	wlfried.djam@nirak.com	+237 691814671	
60.	Alain	NKOUÉ MBAH	PROVAC-2	Agent d'encadrement	Cameroun	h.m.alain@yopmail.com	+237-67452 92 44	
61.	Rodrigue	ASSONGTIA JAHOUN	PROVAC-2		Cameroun			
62.	Camel	BOUNDOKOU MANGOUMBA	PROVAC-2	chef de service de la Promotion et vulgarisation	Gabon	bundoku@yopmail.com	+241 62 09 64 86 +241 74 09 64 86	
63.	Valentin	LOSSANGOYE	PROVAC-2	Pisciculteur	Gabon	valentin.lossangoye@gmail.com	+241 66 16 33 91 97 84 84 44	
64.	Ahmed Stanislas Belvère	NAKAVOUA	PROVAC-2	Directeur de l'agriculture	Congo	nakavoua@yopmail.com	+242 20 66 67 60 92	
65.	Florent	BANIMBA Guy	PROVAC-2	Pisciculteur	Congo	banimba.guy@yopmail.com	+242 05 69 2-4 6 56	

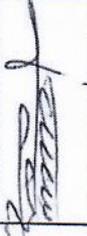
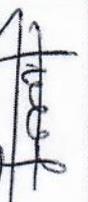
	First Name/Prenom	Surname/Nom De Famille	Organisation	Position	Country	Email address	Numero Telephone	Signature
66.	Macaire	MILONI MPIMPA	PROVAC-2	DI RECTEUR AGRICULTURE	RDC	macaire.miloni@ymail.com	+243823425844	
67.	Léon	BWAMAYAMA MABAYA	PROVAC-2	PRODUCTEUR	RDC	bwamayama@gmail.com	+243824348161	
68.	José Kiulo Mendes	KUPESSA	PROVAC-2	JOSÉ KUPESSA	Angola	Jose.Kupessa@gmail.com	+24472557020	
69.	Catarina Mena	QUIACANIA	PROVAC-2	Agriculteur	Angola		+942823204	
70.	Noé Tchawéla	KASSAH	MAEP		Bénin			
71.	Gaston	DJHINTO	DPH	DPH	Bénin	adjihintedph@gmail.com	94127878	
72.	Dossa	WENON	DPH		Bénin			
73.	Cyrille	AHOLOUKPE	DPH		Bénin			
74.	Arsène	D'ALMEIDA	INRAB		Bénin	almeida_arsene@yahoo.fr	95534642 910902016	
75.	Christian	GUIDIBI	Secteur Privé/UNIPAB		Bénin			
76.	Hermès	TONON	Secteur Privé/SPCH Tonon & Fils		Bénin			

	First Name/Prenom	Surname/Nom De Famille	Organisation	Position	Country	Email address	Numero Telephone	Signature
77.	Gisele	HOUNSOU	Secteur Privé/Piscicultrice Clé PROVAC-2		Bénin			
78.	David	ARODOKOUN YAO	Secteur Privé/Ferme Agro-Pastorale de la Vallée		Bénin			
79.	Hippolyte	HOUENOU	PROVAC-2		Bénin			
80.	Léon	IWA	PROVAC-2	Hommeologue Provac	Bénin	iwaleon@gmail.com	96 60 62 34	
81.	Libérat	HOUNSOU	PROVAC-2	PROVAC	Bénin	nibecef@sigabo.com	96.100646	
82.	Ignace	GOHOUN	PROVAC-2	Hommeologue Provac	Bénin	ignacegohoun@gmail.com		
83.	Prudence	ZAMMASSOU	PROVAC-2		Bénin			
84.	Eugénie	FAÏZOUN	Pisciculteur Clé PROVAC-1		Bénin			
85.	Ataroua	ALI	Pisciculteur Clé PROVAC-2		Bénin			
86.	Claude	DENAKPO S.	Pisciculteur Clé PROVAC-2		Bénin			
87.	Scholastique	ADJAGBA	Pisciculteur Clé PROVAC-2		Bénin			

	<b>First Name/Prenom</b>	<b>Surname/Nom De Famille</b>	<b>Organisation</b>	<b>Position</b>	<b>Country</b>	<b>Email address</b>	<b>Numero Telephone</b>	<b>Signature</b>
88.	Fabrice	WANDJI	Pisciculteur Clé PROVAC-1		Bénin			
89.	Stanislas	SONON	Pisciculteur Clé PROVAC-2		Bénin			
90.	Arnold	GBETO	Pisciculteur Clé PROVAC-2		Bénin			
91.	Oké Samuel	HONFOGA	Pisciculteur Clé PROVAC-2		Bénin			
92.	Céline	FONTON	Pisciculteur Clé PROVAC-1		Bénin			
93.	Damien A.	MINDETON	Pisciculteur Clé PROVAC-2		Bénin			
94.	Dominique	KPOSSOU	Pisciculteur Clé PROVAC-1		Bénin			
95.	Elisabeth	AHOVOEKPLI	Pisciculteur Clé PROVAC-1		Bénin			
96.	Monpeu	DEGBEDJI	Pisciculteur Clé PROVAC-2		Bénin			
97.	Victoire	GNANHO	Pisciculteur Clé PROVAC-2		Bénin			
98.	Giséle	ADOGONY	Pisciculteur Clé PROVAC-1		Bénin			

	<b>First Name/Prenom</b>	<b>Surname/Nom De Famille</b>	<b>Organisation</b>	<b>Position</b>	<b>Country</b>	<b>Email address</b>	<b>Numero Telephone</b>	<b>Signature</b>
99.	Antoine	KAKALAKA S.	Pisciculteur Clé PROVAC-1		Bénin			
100	Giséle	HOUNSOU	Pisciculteur Clé PROVAC-2		Bénin			
101	Pierre	FOURDI	Pisciculteur Clé PROVAC-1		Bénin			
102	Olivier Kuamivi	ZAGA	Pisciculteur Clé PROVAC-2		Bénin			
103	Philippe	TOULASSI	Pisciculteur Clé PROVAC-1		Bénin			
104	Sylvain	TINIGO	Pisciculteur Clé PROVAC-2		Bénin			
105	Anick	MEDEDJI	Pisciculteur Clé PROVAC-1		Bénin			
106	Kévin	HOUNGUE	Pisciculteur Clé PROVAC-2		Bénin			
107	Alphonse	IDOLEKE	Pisciculteur Clé PROVAC-2		Bénin			
108	Paul	SAGBO C. E.	Pisciculteur Clé PROVAC-1		Bénin			
109	René	KOUDJOU	Pisciculteur Clé PROVAC-1		Bénin			

	<b>First Name/Prenom</b>	<b>Surname/Nom De Famille</b>	<b>Organisation</b>	<b>Position</b>	<b>Country</b>	<b>Email address</b>	<b>Numero Telephone</b>	<b>Signature</b>
110	Eugénie	LINSOUSSI	Pisciculteur Clé PROVAC-1		Bénin			
111	Séraphin	BOKOSSA	Pisciculteur Clé PROVAC-2		Bénin			
112	Jacques G. D.	HOUNOUKON	Pisciculteur Clé PROVAC-1		Bénin			
113	Suzanne Zouvenissé	BEDIE	Pisciculteur Clé PROVAC-1		Bénin			
114	Biaou Moïse	DJANGBO	Pisciculteur Clé PROVAC-2		Bénin			
115	Haliloulaye	ALIZAKARI	Pisciculteur Clé PROVAC-2		Bénin			
116	Abdouwahabi	BOUKARI GBANI	Pisciculteur Clé PROVAC-2		Bénin			
117	Rachel	DISSONON	RENACA		Bénin			
118	Marial	MINAVOA	ALIDé		Bénin			
119								
120								

	First Name/Prenom	Surname/Nom De Famille	Organisation	Position	Country	Email address	Numero Telephone	Signature
121	Firmen	ADANIMATI	MASH		BENIN	Firmen dan iminat-kon@ymail.com	222.9581628	
122	Séverin	DANHOSSOU	SWISS CONTACT Rénim	Conseiller technique Agro-Industrie	Benin	danhoossou18@gmail.com	+229 66585723 64128762	
123	Ibrahim	IMOROU TOKO	URAKAY Université d'Abomey	Directeur	Benin	imorou.ibrahim@univ-abomey.ac.bj	96132150	
124	TAKOUNGNI	Podippe	BIDC	Responsable CFS	Togo	ptakoungni@bidc-podippe.org	09013000	
125	Veïta	Sidie	ANAG	DG	Guinée	sidie.veita@anag.gn	00229 00131012	
126	ADOHO	Emmanuel	DRIFE/ MAEP	DFOI	Benin	bicemmanuel@yahoo.fr	9263142 95428228	
127	LATHA	Sanaqa	MAFC	Dessert Japan	Benin	Sanaqalathad@yahoop.fr	67212211	
128	ASSOUASSI	Eugène	MAEP	Chief Programme	Benin	assouassi.eugene@maep.org	97580372	
129	HOUDINDE GENON	Donatien	ATDAP/MAEP	Assistant Chief Programme	Benin	houdinde.donatien@atdap.org	97268080	
130	CHARBI KANGOU ZOUA	Abiva	MAFC	Service des Inventaires	BENIN	charbi.kangou@mafc.com	9624020	

