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Report of the

# FIRST SESSION OF THE COFI ADVISORY WORKING GROUP ON AQUATIC GENETIC RESOURCES AND TECHNOLOGIES

Brasilia, Brazil, 1-2 October 2015

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## FIRST SESSION OF THE COFI ADVISORY WORKING GROUP ON AQUATIC GENETIC RESOURCES AND TECHNOLOGIES

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## PREPARATION OF THIS DOCUMENT

This document was prepared by the FAO Secretariat with inputs and agreement from the Committee on Fisheries (COFI) Advisory Working Group on Aquatic Genetic Resources and Technologies.

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#### **ABSTRACT**

The relevance of the sustainable use, management and conservation of aquatic genetic resources (AqGR) for food and agriculture is relatively well known and documented, but there is still an urgent need to preserve and better manage existing aquatic diversity to enhance its contribution to food security, nutrition and livelihoods. Aquatic genetic resources for food and agriculture include thousands of species, which are found in the world's oceans, seas, lakes, reservoirs, rivers, rice paddies and other wetlands, and also in aquaculture facilities in marine, brackish and fresh waters. Unlike other sectors, all wild relatives of farmed aquatic species still exist in the wild.

The establishment of the Advisory Working Group on Aquatic Genetic Resources and Technologies (Working Group) and its terms of reference were approved at the 31<sup>st</sup> session of the FAO Committee on Fisheries (COFI) in 2014, based on a request from the 7<sup>th</sup> Session of the FAO COFI Sub-Committee on Aquaculture, and in recognition of the tremendous opportunities to increase food production and improve livelihoods from the responsible use, management and conservation of aquatic genetic resources and technologies. The establishment of the Working Group will assist and provide advice to FAO on matters concerning aquatic genetic resources and technologies, and will enhance international cooperation on aquatic genetic resource management. Following FAO standard procedures for the establishment of the Working Group, ten experts were endorsed taking into consideration technical expertise, and gender and geographical balance. These members will serve a two year term with the possibility of renewal. This report contains the main discussion points and general conclusions and recommendations from the first meeting of the Working Group convened from 1–2 October 2015 in Brasilia, Brazil.

The Working Group developed a general work plan which includes the following activities: (1) Establishment of a web page devoted to aquatic genetic resources and technologies under the FAO Fisheries and Aquaculture web site; (2) Assistance with producing the State of the World's Aquatic Genetic Resources for Food and Agriculture; (3) Assistance with the FAO symposium on "Biotechnologies for aquatic genetic resources in light of food security, poverty alleviation and sustainable resource use"; (4) Revision of definitions related to genetic resources in FAO glossaries; (5) Compilation of a list of the best existing guidelines and published material on management and transfer of AqGR; and (6) Development of a roadmap for countries on minimum requirements for sustainable management, development, conservation and use of aquatic genetic resources.

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## ABBREVIATIONS AND ACRONYMS

AqGR Aquatic genetic resources

CCRF FAO Code of Conduct for Responsible Fisheries

CGRFA Commission on Genetic Resources for Food and Agriculture

COFI FAO Committee on Fisheries

COFI:AQ FAO Committee on Fisheries' Sub-Committee on Aquaculture FAO Food and Agriculture Organization of the United Nations

FI FAO Fisheries and Aquaculture Department

GMO Genetically modified organism

ITWG Intergovernmental Technical Working Group

SoW AqGR State of the World's Aquatic Genetic Resources for Food and Agriculture

#### **BACKGROUND**

- 1. Aquatic genetic resources (AqGR) underpin production in aquaculture and the continued survival of aquatic species in nature. Technical guidelines on genetic resource management in aquaculture have been produced in support of the FAO Code of Conduct for Responsible Fisheries (CCRF) that address broodstock management, genetic improvement, dissemination of genetically improved strains, culture-based fisheries, risk analysis, gene banks and the precautionary approach. However, to date, genetic resources and technologies have been utilized to only a minor extent in implementation of the CCRF.
- 2. In recognition of the tremendous opportunities to increase food production and improve livelihoods from the responsible use of aquatic genetic resources and technologies, the 7<sup>th</sup> Session of the FAO Committee on Fisheries' Sub-Committee on Aquaculture (COFI:AQ) recommended in 2013 the establishment of a body to advise FAO on matters concerning aquatic genetic resources and technologies, and to enhance international cooperation on aquatic genetic resource management.
- 3. The creation of the Advisory Working Group on Aquatic Genetic Resources and Technologies (Working Group) and the draft terms of reference were subsequently approved at the 31<sup>st</sup> Session of the FAO Committee on Fisheries (COFI) in 2014. Following FAO standard procedures for the establishment of a Working Group, ten experts were endorsed taking into consideration technical expertise, and gender and geographical balance. These members will serve a two year term on the Working Group with the possibility of renewal.
- 4. The first meeting of the COFI Advisory Working Group on Aquatic Genetic Resources and Technologies was convened from 1–2 October, 2015 in Brasilia, Brazil, in conjunction with the  $8^{th}$  Session of COFI:AQ. The agenda is included as Annex 1; the list of participants is included as Annex 2. The establishment of the Working Group was especially timely in light of FAO's efforts to produce the first State of the World's Aquatic Genetic Resources for Food and Agriculture (SoWAqGR).

## **OBJECTIVES OF THE MEETING**

- 5. The objectives of the first meeting of the Working Group were to:
  - Start the process by which the Working Group will provide advice to FAO;
  - Review the Terms of Reference of the Working Group;
  - Inform the Working Group on current activities and needs of FAO in regards to AqGR;
  - Prioritize areas on which the Working Group can provide advice; and
  - Establish a general work plan for the Working Group.

## DELIBERATIONS OF THE WORKING GROUP

6. The Working Group selected Mr Mohammad Pourkazemi to serve as Chair and Ms Ingrid Olesen as Vice-Chair for the meeting; Mr Graham Mair was selected as Rapporteur. The Working Group's advice was sought on the following items during the meeting.

## Review of the Terms of Reference

7. The Working Group reviewed its Terms of Reference as well as the composition of the Working Group. The Terms of Reference (Annex 3) were found to be clear and relevant to the needs of FAO and the expertise of the Working Group. The Working Group agreed that its scope of work needs to include the whole continuum of genetic technologies<sup>1</sup>. Furthermore, the Working Group found the process of

<sup>&</sup>lt;sup>1</sup> The Working Group noted that while genetically modified organisms (GMOs) should be included in the scope of its advice, it does not envisage that GMOs will be a focus of the Working Group.

establishing the body to be open and transparent which resulted in a Working Group with geographical, technical and gender balance. Furthermore, the Working Group recognized that issues may arise which require additional technical input on an ad hoc basis.

## Review of current activities and needs of FAO in regards to AqGR

8. The Working Group reviewed documents and summaries of activities from FAO's regular and field programme in fisheries and aquaculture in order to become more familiar with the mandate and needs of FAO's Fisheries and Aquaculture Department (FI). Key documents made available to the Working Group are listed in Annex 4.

## Potential areas of advice

- 9. The meeting was informed that FAO receives instruction and advice from its statutory bodies; those of most relevance for FI are the Committee on Fisheries (COFI), its Sub-Committee on Aquaculture (COFI:AQ) and the Commission on Genetic Resources for Food and Agriculture (CGRFA). These bodies have provided advice relevant to the tasks of the Working Group. COFI:AQ (2013) stated that specific tasks will be assigned by FAO taking into account the recommendations of COFI and giving special attention to the needs of developing countries. These bodies provided the following list as potential areas to be addressed by the Working Group:
  - Build capacity in genetics and breeding programmes (COFI:AQ 2012).
  - Analyse means for developing countries to gain access to genetic technologies and improved breeds of aquaculture species. (COFI:AQ 2012).
  - Establish linkages with other networks and agencies working on AqGR (COFI:AQ 2012).
  - Develop guidelines on the responsible use and exchange of aquatic genetic resources, on the application of genetic technologies, research and technology transfer (COFI:AQ 2013).
  - Create a framework or network for data and information exchange using a regional approach (COFI:AQ 2013).
  - Enhance international cooperation (COFI 2014).
  - Maintain genetic integrity of stocks with regards to stock enhancement programmes (COFI 2014).
  - Strengthen existing information systems and identification of opportunities to strengthen them at the regional and global levels (CGRFA 2015).
  - Contribute to the process of producing the first State of the World's Aquatic Genetic Resources for Food and Agriculture (CGRFA 2015).
  - Identify funding sources.

## Establishment of a general work plan

10. The Working Group reviewed the above and established a tentative work plan to be confirmed by the next session of COFI. The Working Group acknowledged that currently no funds are available to support its work, and therefore only planned activities for the first year that could be implemented with little need for extra funding.

## Establishment of a web page

11. The Working Group agreed to establish a dedicated web page on the FAO's Fisheries and Aquaculture Department (FI) website. The page will include a brief biographical summary of each expert, their photo and a detailed list of potential organizations, institutions, universities and networks involved in aquatic genetic resources development and management at national, sub-regional and international levels. These organizations will be contacted by the FAO Secretariat in order to assess

their willingness to appear in the FAO web page. These institutions could be based in either developed or developing countries, and should promote and improve international collaboration.

12. The web site will have a public access area for general information and a restricted area where communication among the Working Group members will be facilitated and have links to and from the CGRFA web site<sup>2</sup>.

## Assistance with producing the State of the World's Aquatic Genetic Resources

- 13. The Working Group commended the efforts to produce the first *SoW AqGR* and agreed to assist as appropriate. The Working Group agreed to:
  - Review the Terms of Reference of the four thematic background studies.
  - Provide technical assistance to National Focal Points regarding the preparation of country reports, if needed.
  - Provide technical assistance on data analysis, as requested.
  - Review the final draft of the *SoW AqGR* report.

## Assistance with the symposium at FAO on "Biotechnologies for aquatic genetic resources in light of food security, poverty alleviation and sustainable resource use"

14. The Working Group noted the limited application and dissemination of biotechnologies within the aquaculture sector, despite the extensive efforts that have been made by multiple stakeholders. Reasons for this failure should be assessed at the symposium. Ms Thuy Nguyen is a member of the symposium's Advisory Panel and is chair of one of the sessions; members of the Working Group agreed to provide names of relevant experts and topics to be included in the FAO symposium.

## Revision of definitions related to genetic resources in FAO glossaries

15. Three members of the Working Group (Ms Marcela Astorga, Ms Anne Kapuscinski and Mr Graham Mair) and one observer (Mr Alexander Hilsdorf), agreed to review, and propose revisions as necessary, the definitions related to AqGR in the FAO glossaries.

## Compile a list of the best existing guidelines and published material on management and transfer of AqGR

16. The Working Group noted the difficulty in finding comprehensive and authoritative guidelines on development and management of AqGR and agreed to establish a list of the best and most relevant publications on the subject. The list will be posted on the FI web site with links to the web site of the CGRFA.

## Development of a roadmap for countries on minimum requirements for sustainable management, development, conservation and use of aquatic genetic resources

17. The Working Group noted that many countries have had poor success at developing and managing their AqGR. This is a result of a combination of elements e.g. lack of capacity, lack of information and lack of appropriate legislation. The road map was envisaged to address *inter alia* sustainable genetic resources management, capacity building and training, protocols on transfer of genetic resources, necessary infrastructure improvement or development, development of supportive policies, access to improved breeds and access to genetic technologies. The road map will be part of a policy brief on responsible development of AqGR to be produced by the Working Group. The Working Group recommended four main components of the road map: (i) Capacity building and training, (ii)

.

<sup>&</sup>lt;sup>2</sup> http://www.fao.org/nr/cgrfa/cthemes/aqua/en/

Infrastructures and equipment, (iii) Governance/regulatory framework and (iv) Information/databases. The road map will be revised based on lessons learned during the first year of the Working Group.

- 18. A tentative work plan proposed by the Working Group is provided below:
  - Approval of the Working Group members
  - First meeting (Brazil, October 2015)
  - Biography of Working Group members submitted
  - Shared directory established
  - List of relevant links and publications submitted
  - Web page established
  - Terms of Reference for the Thematic Background Papers reviewed
  - Technical assistance on the national reports provided
  - Advice on the analysis of country reports provided
  - Definitions on AqGR in FAO glossaries reviewed and improvements proposed
  - Draft SoW AqGR reviewed
  - Draft road map developed
  - Road map refined
  - Promotion of SoW AqGR enhanced
  - Linkages with the ITWG AqGR established
  - Intersessional meeting (Video conference, depending on funds) held
  - Work plan revised (based on available resources)
  - Second meeting (tentatively in I.R. of Iran, October 2017)

#### **CLOSING**

19. The Working Group drafted a summary of its deliberations that was presented as the Working Group's Chair text to the 8<sup>th</sup> Session of COFI:AQ. This report will be submitted to the 32<sup>nd</sup> Session of the FAO Committee on Fisheries for information and endorsement of the tentative work plan.

## Next meeting of the Working Group

- 20. The Working Group agreed to hold an intersessional meeting between the 8<sup>th</sup> and 9<sup>th</sup> Session of the COFI:AQ around mid-September 2016. The meeting will take advantage of modern communication technology and therefore likely not require travel. The next physical meeting of the Working Group is tentatively planned to be held in conjunction with the next session of COFI:AQ around October 2017 in the Islamic Republic of Iran.
- 21. The Working Group gratefully acknowledges the insight of COFI and its Sub-Committee on Aquaculture in recommending the establishment of this body and looks forward to future collaboration. The FAO Secretariat thanked the Working Group and resource persons for contributing their valuable time to assist FAO in the responsible development and management of AqGR.
- 22. The meeting was adjourned on 2 October at 17.15 hours.

## WORKSHOP AGENDA

1 October 2015, Thursday			
08.45-9.00	Registration		
09.00-09.30	Introduction and background		
09.30-10.00	Objectives of the meeting		
10.00-10.30	Election of officers		
10.30-11.00	Health break		
11.00-12.00	Review Terms of Reference and COFI report		
12.00-12.30	Discussion		
12.30-14.00	Lunch		
14.00-15.30	Review of the process to produce the 1st State of World Aquatic Genetic		
	Resources		
	National reporting		
	<ul> <li>Thematic background studies</li> </ul>		
15.30–16.00	Health break		
16.00-16.30	Biotechnologies for aquatic genetic resources in light of food security,		
	poverty alleviation and sustainable resource use		
16.30–17.00	Scope of material for consideration by the Working Group		
17.00–17.30	Advice sought from the Working Group		
17.30	Close for the day		

2 October 2015, Friday		
09.00-10.30	Advice sought from the Working Group – continue	
10.30-11.00	Health break	
11.00-12.30	Advice sought from the Working Group – continue	
12.30-14.00	Lunch	
14.00–15.30	Summarize advice for statement to COFI Sub-Committee and the side event	
	on genetic resources and technologies	
15.30-16.00	Health break	
16.00-17.00	Arrangements for next session	
17.00	Close	

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## TERMS OF REFERENCE OF THE ADVISORY WORKING GROUP

- 1. FAO will establish the Advisory Working Group on Aquatic Genetic Resources and Technologies to advise FAO on matters concerning aquatic genetic resources and technologies, and to enhance international cooperation on aquatic genetic resource management.
- 2. The Advisory Working Group shall be established according to FAO's rules.
- 3. The Advisory Working Group shall consist of no more than 10 recognized experts in genetic resource use and conservation in fisheries and aquaculture.
- 4. Advisory Working Group members shall be appointed by the Director-General for a period of two years but may be renewable. In appointing experts, in addition to scientific and technical excellence, FAO will consider diversity and complementarity of scientific backgrounds and observe, as appropriate, the principle of equitable geographical representation and gender representation. Experts will be invited to participate in the Advisory Working Group in their personal capacity, as experts, and shall not represent the position of the government of which s/he is an official, or of the organization with which s/he is associated.
- 5. The working language of the Advisory Working Group will be English.
- 6. The scope of the Advisory Working Group shall include the conservation, sustainable use and development of all aquatic genetic resources relevant for fisheries and aquaculture.
- 7. Specific tasks of the Advisory Working Group shall be assigned by FAO with due consideration of the advice from COFI.
- 8. The membership of the Advisory Working Group may be changed by FAO depending on the specific advice being requested by FAO and/or COFI.
- 9. The Secretariat of the Advisory Working Group will be based in the Fisheries and Aquaculture Department of FAO headquarters, Rome, Italy.
- 10. The plan of work of the Advisory Working Group will be prepared and approved by the Advisory Working Group in consultation with the Secretariat taking into account tasks assigned to it in accordance with paragraph 7 above and available financial resources.
- 11. The Advisory Working Group shall prepare a report to the FAO Secretariat providing information on its activities and recommendations.
- 12. The Advisory Working Group may propose amendments to these terms of reference which shall be transmitted to COFI for consideration.

## PRESENTATIONS AND DOCUMENTS

The following material was made available to the Working Group:

#### Presentations

- Advisory Working Group on Aquatic Genetic Resources and Technologies Introduction and background (Devin M. Bartley);
- Advisory Working Group on Aquatic Genetic Resources and Technologies Terms of Reference and COFI report (Matthias Halwart);
- The First State of the World's Aquatic Genetic Resources for Food and Agriculture (*SoWAqGR*) (Ruth Garcia-Gomez);
- A State of the World Report on Aquatic Genetic Resources An ambitious project coming to fruition (Devin M. Bartley, Ruth Garcia-Gomez, Matthias Halwart, Anne Kathrin Hett, and Roger S. V. Pullin).

## Meeting documents

- Prospectus
- Workshop agenda
- List of experts
- CGRFA questionnaire (in English, French and Spanish)
- **FAO.** 2008. *Aquaculture development. 3. Genetic resource management.* FAO Technical Guidelines for Responsible Fisheries. No. 5, Suppl. 3. Rome, FAO. 125p (http://www.fao.org/docrep/011/i0283e/i0283e00.htm)
- **FAO**. 2015. Report of the Commission on Genetic Resources for Food and Agriculture, Fifteenth Regular Session, Rome, 19–23 January 2015. CGRFA-15/15/Report. Rome, FAO. 87 pp. (http://www.fao.org/3/a-mm660e.pdf)
- FAO. 2015. Establishment of an *Ad Hoc* Intergovernmental Technical Working Group on Aquatic Genetic Resources for Food and Agriculture. Item 6, Fifteenth Regular Session of the Commission on Genetic Resources for Food and Agriculture, Rome, 19–23 January 2015. Rome, FAO. 9 pp. (<a href="http://www.fao.org/3/a-mm171e.pdf">http://www.fao.org/3/a-mm171e.pdf</a>)
- **FAO Committee on Fisheries**. 2015. Report of the eighth session of the Sub-Committee on Aquaculture. Brasilia, Brazil, 5–9 October 2015. FAO Fisheries and Aquaculture Report No. 1131. Rome, FAO. 59 pp. (<a href="http://www.fao.org/cofi/44343-053900d0223f462e3e333e5236043302f.pdf">http://www.fao.org/cofi/44343-053900d0223f462e3e333e5236043302f.pdf</a>)
- **FAO Committee on Fisheries**. 2010. Report of the fifth session of the Sub-Committee on Aquaculture. Phuket, Thailand, 27 September—1 October 2010. FAO Fisheries and Aquaculture Report No. 950. Rome, FAO. 158 pp. (http://www.fao.org/docrep/013/k9426t/k9426t00.pdf)
- **FAO Committee on Fisheries**. 2012. Report of the sixth session of the Sub-Committee on Aquaculture. Cape Town, South Africa, 26–30 March 2012. FAO Fisheries and Aquaculture Report No. 1006. Rome, FAO. 59 pp. (http://www.fao.org/docrep/016/i2765t/i2765t.pdf)
- **FAO Committee on Fisheries.** 2014. Report of the Seventh Session of the Sub-Committee on Aquaculture, St Petersburg, Russian Federation, 7–11 October 2013. FAO Fisheries and Aquaculture Report No. 1064. Rome, FAO. 53 pp. (<a href="http://www.fao.org/3/a-i3647t.pdf">http://www.fao.org/3/a-i3647t.pdf</a>)
- **FAO.** 2015. Report of the Thirty-first Session of the Committee on Fisheries, Rome, Italy, 9–13 June 2014. FAO Fisheries and Aquaculture Report No. 1101. Rome, FAO. 126 pp. (<a href="http://www.fao.org/3/a-i4634e.pdf">http://www.fao.org/3/a-i4634e.pdf</a>)

In recognition of the tremendous opportunities to increase food production and improve livelihoods from the responsible use, management and conservation of aquatic genetic resources and technologies, the 31<sup>st</sup> Session of the FAO Committee on Fisheries endorsed the establishment of the *Advisory Working Group on Aquatic Genetic Resources and Technologies* to advise FAO on matters concerning aquatic genetic resources and technologies, and to enhance international cooperation on aquatic genetic resource management. This report contains the main findings of the first session of the Working Group, held in Brasilia, Brazil,

1-2 October 2015.