SUB-REGIONAL OFFICE FOR THE PACIFIC ISLANDS

MISSION REPORT

TCP/PAL/3301

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Prepared by

(FAO Consultant and FAOSAP Fishery Officer)

Pedro B. Bueno and Masanami Izumi

Mission to Palau and Guam
TCP/PAL/3301

Pedro B. Bueno and Masanami Izumi[1]

Summary

The mission to Palau and Guam, carried out under the project TCP/PAL/3301, was part of the initiative of FAO to establish a subregional aquaculture network in Micronesia. It was the latest activity in a process that drew impetus from a meeting called "Building on Progress: An Evening on Pacific Aquaculture" on 23 September 2010. The mission reported to the government and other major stakeholders in Palau and Guam the status of the initiative to establish the Network, assessed the views of Palau and Guam aquaculture sector stakeholders on the establishment of the Network and their participation in its operation, consulted with the Palau government and the other stakeholders on the proposal for Palau to host the coordinating unit or secretariat of the Network, and consulted with the aquaculture stakeholders in Guam on the proposal for Guam to host the inception workshop of a regional technical cooperation programme or TCP project envisioned to provide the initial support to the establishment and development of the Network.

The mission found keen interest in the establishment of the Network, broad support in Palau to hosting the secretariat, and in Guam to hosting the inception workshop. The mission also visited various aquaculture projects, facilities, farms and sites in Palau and Guam that, collectively, would constitute a valuable regional resource that can be shared as well as further strengthened and developed through technical cooperation under the Network. Taken together, the results of this mission and those of the previous activities give a strong justification to proceed with the development of the regional TCP that will support the establishment of the Network.

I. Introduction

The mission was carried out by Pedro Bueno and Masanami Izumi on 24 February -03 March 2011. It was the last of a series of regional and national activities which are directly related or associated with the proposal to establish a sub-regional aquaculture network in Micronesia[2]. The Network is provisionally called Micronesian Association for Sustainable Aquaculture (or MASA).

1. Purposes

The mission had the following purposes:

1) The mission to Palau was (a) to report on the progress of the initiative to establish the Network, (b) to consult with the stakeholders on the establishment of the aquaculture

[1] Consultant and Fishery Officer of the FAO Subregional Office for the Pacific Islands (FAO SAP), respectively.

[2] These include the informal meeting on aquaculture in the Pacific on 23 Sep 2010 (FAO SAP and SPC, 2010) held in conjunction with the Global Conference on Aquaculture 2010 held in Phuket, Thailand, the Meeting of Ministers of Agriculture in the Western Pacific in April 2011, the Regional Scoping Workshop to develop a Pacific Aquaculture Regional Cooperative Programme in Nadi, Fiji, on 11-14 October 2011, the informal consultation among delegates from Micronesian countries and Guam immediately after the Regional Scoping Workshop, and a mission to Nauru on 17-21 October 2011 to consult with government on the subject.

Network and (c) to consult with government on the possibility of Palau hosting the coordinating unit (Secretariat) of the Network.

2) The mission to Guam had the same purposes as the above (a) and (b). A very specific purpose was to consult with the government and stakeholders on the feasibility of hosting the inception workshop of the regional technical cooperation programme or TCP project envisioned to support the establishment of the Network.
3) The mission also visited R & D facilities, projects and farms for an overview of the technical resources that Palau and Guam could share through technical cooperation under the Network.

2. Methodology

2.1. In Palau, the mission met with the Director of the Bureau of Marine Resources (BMR), David A. Orrukem, conducted the stakeholders consultation and visited the various aquaculture facilities, farms, projects and sites. In Guam, the mission met with the stakeholders followed by site visits. A report on the status of the initiative to establish the Network was presented by the mission to serve as the basis of the discussions during the stakeholders meeting in Palau and Guam.

2.2. Mr. Orrukem chaired the Palau stakeholders consultation which was held at the new headquarters of BMR.

2.3. In Guam, the meeting was arranged by Dr. Hui Gong, Associate Professor of the College of Natural and Applied Sciences, University of Guam (UOG)[3]. It was held at the Agriculture and Life Sciences building of the UOG.

3. Participation

3.1. Palau: 23 from national government development, regulatory and environment agencies, state governments, academic and R & D institutions, non government organizations and farmers took part in the consultation. The list of participants appears as Annex 1-a.

3.2. Guam: 10 from government agencies, University of Guam, and a farmers group took part in the meeting. The list of participants appears as Annex 1-b.

II. Results of the Consultations

1. Palau

1.1. Meeting with the BMR Director

1.1.1. The meeting with BMR Director David Orrukem on 27 February covered the following issues: increasing the technical capacity of BMR through recruitment of additional (5) staff for breeding, seed production and culture of finfish species; developing a project on fry collection of milkfish from Peleliu State to reduce dependence on imported seed and provide an additional means of livelihood in Peleliu; the possibility of developing feed using local resources; and the result of the survey in which Palau received the most number of nominations as host of the aquaculture network Secretariat. The technical resources present

[3] Dr John Brown, who is the interim focal point for UOG of the aquaculture networking initiative, was attending a conference in the US and had requested Dr Hui to organize the arrangements.

in Palau which could be shared with the other countries through technical cooperation and networking were briefly described.

1.1.2. On the first issue, the mission was informed that a five-year development plan for the new hatchery in Airai State has been submitted to the Government following a discussion with the President of Palau while visiting the BMR's new offices. The Airai hatchery will concentrate on rabbitfish (*Siganus* spp.) while the renovated BMR hatchery at the headquarters premises is continuing breeding work on a number of grouper species with a local technician and two experts from the Technical Mission of Taiwan Provice of China. The five year plan includes the recruitment of five technical personnel to increase the manpower capacity for hatchery and culture. The giant clam hatchery of BMR continues (*below with Harvey Renguul, veteran giant clam hatchery technician*) to produce seed of various species for on-growing by members of the Palau Association of Clam Aquaculturists. There was a plan to add trochus breeding and seed production using a portion of the present giant clam hatchery.

1.1.3. On the fry collection issue, the mission was informed that the BMR and the Governor of the State of Peleliu have come to a general agreement to renew the initiative to exploit the significant milkfish seed resource of the state. An earlier activity assisted by FAO SAP assessed the milkfish fry resource in the state including the extent of the resource, the sites and seasonality of occurrence[4]. However, for various reasons, the envisioned fry collection on a significant and organized scale to supply seed to the growing milkfish culture sector of Palau did not materialize. Almost all of the fry at present being grown in Palau farms are imported, except in a few small ponds that depend on natural recruitment of seed. The BMR Director advised the mission that the renewed effort has received stronger support from the government of the State of Peleliu and inquired if FAO SAP could provide assistance to this renewed initiative. The mission suggested that the consultation discuss the matter further to provide FAO SAP with a stronger basis for another technical assistance.

1.1.4. On the feed issue, the driver of BMR's desire to develop a local feed industry is the rising price of feed, all of which is imported. The targeted finfish species for development such as groupers, rabbitfish, and mud crab as well as milkfish need to be fed artificial feed (lablab,

[4] Note: FAO had engaged the services of J.Eric Basco for the assessment in Peleliu under the TCP/RAS/3208 (Sustainable aquaculture development in Pacific Micronesia). Mr Basco subsequently reported at the stakeholders meeting on 28 Feb that the Ngatpang Aquaculture Project used to collect wild milkfish fry in the waters around Ngatpang State by using lights to attract them.

a natural food for milkfish grown in extensive and semi intensive condition in earthen ponds, cannot be grown successfully under Palau's climatic pattern). The feed issue is a common constraint throughout the region to the development of culture species other than molluscs and plants and the mission noted this for a possible FAO technical assistance on aquafeed development in Micronesia with a programme located in Palau.

1.1.5. The mission informed the BMR director of the result of the survey on the establishment of MASA, particularly the near unanimous opinion among the respondents the Palau would be the most suitable host of the Network coordinating unit i.e. the Secretariat. Mr. Orrukem welcomed the result of the survey and indicated BMR's willingness to host the Secretariat. He suggested that this issue be brought up at the Stakeholders Meeting, which was scheduled for the next day.

1.1.6. Relevant to the role of Palau in the Network, the current resources in aquaculture research and development which could be shared with other countries through technical cooperation were briefly described. These include a grouper hatchery and a giant clam hatchery in the BMR premises, a newly built hatchery in Airai State that will be devoted to rabbitfish (*Siganus* spp.) breeding, a multi-species hatchery operated by the Palau Community College Cooperative Research and Extension programme, three well-established and productive aquaculture farms (pond-based milkfish farm with an additional floating cage facility in Ngatpang State growing milkfish for food and some for bait, a very productive floating cage farm for milkfish culture in Koror, and a pond-based baitfish production farm in Airai). There are also several small private farms growing milkfish, rabbitfish and crabs in various places (FAO, 2011)[5].

1.2. Stakeholders Meeting

1.2.1. The meeting was held at the BMR conference room in the morning of 28 February. David Orrukem welcomed the participants, introduced the mission members and explained the purpose of the stakeholders meeting.

1.2.2. Masanami Izumi thanked the Government of Palau particularly the BMR for facilitating the mission and making the arrangements for the stakeholders meeting and the participants for taking the time to join the consultation. He then proceeded to review the beginnings and rationale, and Pedro Bueno briefed on the progress of the initiative to establish a Micronesian subregional aquaculture network with the aid of a powerpoint presentation. The presentation in pdf format appears as Annex 2.

1.2.3. After the presentation, the discussion focused on two issues regarding the establishment of the Network: the responsibilities of Palau as host to the Secretariat and the role of FAO in establishing the Network. This was followed by discussions on technical and economic issues faced by the nascent aquaculture sector of Palau, the environmental and governance issues

[5] The report "Study of Milkfish Industry in Palau" by Theo Isamu, former BMR director, has a comprehensive list and detailed description of these resources.

that are seen to provide a strong influence on the growth of the sector, and the role of the aquaculture network in addressing these issues.

1.2.4. The stakeholders agreed that for Palau to be an effective host and member of the Network, the stakeholders in the sector should be better organized. The stakeholders urged the formation of a national aquaculturists association, which has been a plan for a quite some time; and to develop a national network among the various stakeholders. BMR was requested to provide the lead role in both initiatives.

1.2.5. The possible environmental impacts of an expanding aquaculture sector and the regulatory framework to mitigate such impacts were discussed. The meeting agreed it was very critical to the orderly and responsible growth of the sector to have a governance framework that would strike a balance between the economic and social development objectives of aquaculture and environmental sustainability.

1.2.6. The feed and seed issues were discussed in light of the urgent need to acquire the technical expertise for the development of these major input factors using in the long term Palauan resources and expertise. The current expertise in Palau needs to be considerably improved by the engagement of external experts who would work with local technicians so that the latter acquires the skills, training of local personnel in Palau and elsewhere.

1.2.7. The plan to resume an earlier initiative to develop the local fry collection subsector (in Peleliu and other areas that had been identified by a study conducted for FAO SAP by former BMR director Theo Isamu) to supplement the current milkfish fry supply through imports was endorsed by the Meeting.

1.2.8. In this connection, the Meeting also noted that a milkfish broodstock development programme is underway in the PCC hatchery, with the collaboration of BMR and private sector. Its objective is to develop a reliable local source of hatchery reared fry in the future. Exploiting, sustainably, the wild seed resources combined with the development of artificial breeding of milkfish to supply hatchery bred seed are envisioned to wean Palau from importation of seed.

1.2.9. It was also noted that there is a growing interest in the culture of grouper and rabbitfish among the farmers so that the provision of a reliable seed supply (as well as a cheap source of quality feed) will boost the production of these high value species with a good local and regional demand.

1.2.10. The Meeting also urged the inclusion of issues associated with the impacts of climate variability in the national as well as the subregional network programmes.

1.2.11. An important issue was raised and its resolution recommended by the meeting: a donor government that is not a member of FAO, such as the Taiwan Province of China, but providing bilateral assistance in aquaculture and fisheries development to countries in Micronesia, can participate in national aquaculture research and development activities that may be part of the Network's work programme. It would do so in its capacity as a bilateral donor. The positive results and useful lessons from the bilateral projects in aquaculture R & D will be regionally disseminated through the Network's information and training activities.

1.2.12. The meeting also welcomed the idea of inviting as partners the relevant national and regional institutions and agencies located in Asia such as NACA, SEAFDEC and INFOFISH, and

those in the US such as the University of Hawaii and others, and technical and academic institutions in China, Japan and Korea.

1.2.13. Finally, after a description by the mission of the role of FAO in establishing such already functioning and successful regional networks as NACA and NACEE (in Central and Eastern Europe) and the nascent ones in Africa and Latin America, and an explanation of what an FAO regional technical cooperation programme (TCP) project would contribute to MASA's establishment and development, the Stakeholders Meeting strongly urged FAO SAP to develop the TCP project and reiterated its endorsement of the proposal for Palau to host the Secretariat. They requested BMR to take the lead in bringing this matter up to the highest level of government for positive action. Many of the participants expressed their personal support and participation in presenting this proposal to host the Network to the appropriate authorities in Government.

1.2.14. Mr Izumi assured the stakeholders of FAO's support through the TCP mechanism and other measures, and appreciated their enthusiasm in the formation of the Network

1.2.15. Mr Orrukem reiterated BMR's highly positive response to the proposal of hosting the Network and said BMR will take the lead in discussing the issue with the appropriate government authorities. He will then advise FAO SAP of the result. He thanked the participants for their keen interest and expression of support. He thanked FAO and the members of the mission for the continuing support from FAO to the development of aquaculture in Palau and the Micronesian subregion.

1.3. Site visits

1.3.1. The mission visited the following projects, farms and sites with Ms Lora Demei of BMR as the technical guide: (i) NECO Aquaculture floating cages and fry holding ponds, (ii) Palau Community College multi-species hatchery, (iii) a private cage culture operation stocked with siganids in Airai, (iv) the MT Airai FIshfarm which is producing milkfish for bait, and (v) Ngatpang State fish farm.

1.3.2. On 27 February, the NECO's SE Palau Aquaculture floating cages stocked with milkfish (*photo below, left*) as well as the farm's fry nursing and holding ponds were visited after meeting with the BMR director. The key informant was John Eric Basco, technical manager of the aquaculture operation. The farm was scheduled to harvest in two days. They now harvest twice a month with nearly 1000 pounds of 400 gram milkfish. The harvest was made on 29 February, and sold on site to pre-orders from establishments and individuals and some to walk-in customers. The harvest is announced a few days before on Palau radio.

1.3.3. The milkfish fry nursery/holding ponds of NECO Groups's SE Palau Aquaculture were also visited (*above, right*). At the time of visit the ponds were awaiting the next shipment of fry from Taiwan.

1.3.4. The Palau Community College (PCC) multi-species hatchery was visited. The key informants were Mr Lynden Airai (*below, left*), hatchery technician and then Mr Thomas Taro, Vice President of Palau Community College and Associate Director of the Cooperative Research and Extension programme of the college. The facility was built in 2009-10 and began operations in June 2010. At the time of visit the hatchery had broodstock and fingerlings of two species of rabbitfish, mudcrab (*Scylla serrata*) crablets spawned in the hatchery (*below, right*).

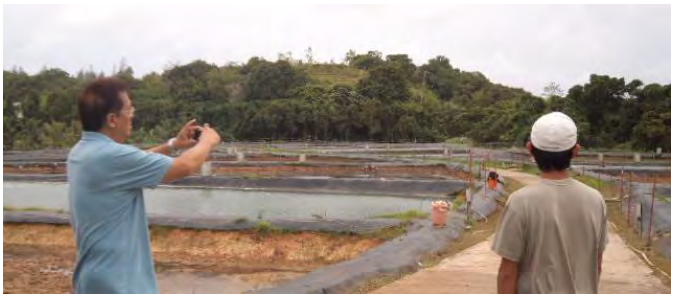

1.3.5. Nine milkfish broodstock that are nearing maturation are being reared in a deepwater cage off the coast (*above, left*). The fish were provided by NECO Aquaculture. Also in the same floating cage facility are juvenile and broodstock rabbitfish, and juvenile groupers of the *Plectropomus* spp., also in the deepwater cage, which were going to be brought to the University of Guam hatchery for spawning trials by Prof John Brown of the UOG. Prof Brown helped the PCC hatchery staff collect the specimens. The PCC hatchery shall concentrate on crab and milkfish as soon as the Airai Rabbitfish Hatchery is functional.

A demonstration crab pen culture in a mangrove beside the hatchery facility is being planned for establishment as soon as permission is obtained from the Environment Quality and Protection Board.

1.3.6. On 28 February, after the stakeholders meeting, the cage culture operation owned by a farmer and member of the Airai State legislature, F. Kerai Ngirmelar, was visited. He was in the stakeholders meeting. He had a few hundred rabbitfish (left from some 3000 fingerlings after some mortality) in the cages (*picture, right*) at the time of visit. He was looking forward to the Airai Hatchery being operational as a source of seed. The present stock was provided by the PCC hatchery. A major constraint is the high cost of feed. The mission thinks cage culture management also needs upgrading.

1.3.7. The newly built Airai Hatchery (*right*) was also visited. BMR will operate the hatchery. Technical staff will be recruited for the hatchery.

1.3.8. The next facility was the MT Airai Fish Farm (*below)*, which is producing milkfish for bait. The key informant was Sam Lee, the head technician. He attended the stakeholders meeting. It is a 7-ha earthen pond system although only 4 of the 14 ponds were stocked at the time of visit. The production is based on orders from the local tuna fishing industry; it has a regular buyer. The baitfish are grown for 2 months. Seed and feed are from Taiwan Province of China.



1.3.9. The last facility visited is the Ngatpang State Aquaculture Project, a 15-ha pond system with an 18-unit floating cage facility (*below, right*). The key informant was Valentino Emesiochel, Manager (*right, talking with Mr Izumi in photo below)*. There have been a few months during which the farm has not produced, owing to some mortality, although it was finally scheduled to harvest on 01 March. Not all ponds were stocked at the time of the visit because technical capacity is at present inadequate to manage a full capacity operation. The senior technician has had health problems and gone back, along with this assistant, to the Philippines. Fry and feed are imported from Taiwan. The manager advised the mission that he was making a financial viability assessment of the farm. This project had been a recipient of technical assistance from FAO that included post harvest processing of milkfish for value addition.

1.3.10. After the visits, the mission had an informal meeting with Shallum Etpison, President of the NECO Group. He had promoted finfish aquaculture in Palau early on by initiating and developing the Ngatpang State Aquaculture Project and then establishing, as a private enterprise, the cage culture of milkfish -- both with technical inputs from a regional source of manpower and technology (the SEAFDEC Aquaculture Department in the Philippines), and from FAO (in the case of the Ngatpang aquaculture project), In this regard, he welcomed the idea of a Micronesian aquaculture network. He assured FAO of support from NECO as needed.

1.3.11. In the morning of 29 February, because of the delayed flight to Guam, the mission witnessed the sale of NECO's milkfish harvest on the NECO premises. A large portion of the harvest is usually pre-sold to early institutional and individual orders but a portion is allocated for walk-in customers, many of the Palauans (*below*).



1.3.12. The mission travelled to Guam on the evening of 29 February.

2. Guam

2.1. Stakeholders Meeting

2.1.1. A brief meeting with Dr Hui Gong, University of Guam (UOG), to discuss the arrangements, participation and conduct of the Stakeholders Meeting preceded the meeting.

2.1.2. As in Palau, the participants were informed of the origin, rationale, objectives and the progress of the initiative to establish the Micronesian aquaculture network.

2.1.3. The participants were also requested to give their opinions on the proposal for Guam to host the inception workshop of the (proposed) TCP project to support the establishment of the Network. The mission explained that Guam -- being a part of the Micronesia sub-region and having the technical resources and expertise to share with others through the Network, as well as needs that the Network could meet -- has been strongly suggested to FAO by relevant officers of the other governments of the Micronesian subregion, to be a member of the Network.

2.1.4. The meeting welcomed the formation of a Micronesian aquaculture network and Guam's membership in it and expressed their endorsement to Guam's hosting the inception workshop of the TCP project.

2.1.5. They suggested that the UOG and the Division of Aquatic and Wildlife Resources (DAWR) of the Department of Agriculture provide an advisory note to the governor's office before the governor attends the Micronesian Chief Executives Summit) where this initiative of forming the Micronesian aquaculture network will likely be mentioned by Palau; the mission informed the meeting that Palau's BMR will be advising the President's office of this initiative.

2.1.6. In order to be a more effective participant and in the event that the authorities approve Guam's hosting of the inception workshop to start the project, the meeting felt that the stakeholders get themselves organized and, in their words, "put our house in order".

2.1.7. The meeting recommended that UOG and DAWR be the focal points for the Network activities. In this connection, Mr Brent Tibbatts of DAWR was nominated. Mr Tibbatts accepted the nomination; he and Dr. John Brown shall be the focal points for Guam.

2.1.8. The representative of the Western Pacific Regional Fishery Management Council (WPRFMC), a federal agency based on Hawaii, was highly supportive of the proposed network. He also assured active participation of the Council in the Network activities including the inception workshop.

2.1.9. Technical and environmental issues were also discussed. The rising cost of feed has made commercial scale farming increasingly unprofitable and regulations and standards can considerably raise the cost of entry to fish farming. Seed has to be imported because the cost of producing it locally is high owing to the high labour cost. New high value species developed for aquaculture such as grouper could provide more opportunity for farming in addition to the milkfish, tilapia and marine shrimp species now being farmed in the few farms still operating. Environmental regulations are important especially in an island ecosystem with many established users of resources (such as the navy and the fishers) but they tend to make aquaculture more costly and entry to aquaculture difficult. Experiences and expertise shared through the proposed network will be helpful.

2.2. Site visits

2.2.1. On 01 March, after the stakeholders meeting Dr Hui showed the aquatic sciences research laboratory of UOG, supervised by her; it includes equipment for PCR and virology studies. A number of graduate students from Micronesia (and one from Thailand's Kasetsart University) are using the facilities for their research.

2.2.2. The hatchery facilities of the UOG's Guam Aquaculture Development and Training Center (GADTC) were visited (*below, left*). Key informants were Frank Alig and J. Adrian Rojas of the GADTC. Tilapia juveniles were stocked in one tank (*above*). The coral trout specimens currently in the PCC hatchery in Palau shall be transferred to UOG for spawning trials. The GADTC hatchery is working on marine shrimp (*P. monodon*) breeding and health management (*below, right*).

2.2.3. The next day was a tour of the southern part of the island where the aquaculture farms are located with Brent Tibbatts of the Department of Agriculture Division of Aquatic Resources

and Wildlife (DAWR). We visited a project on a 2-acre freshwater lake that is being developed for recreational fishing *(below, left*), talked with the caretaker of a Chinese-owned freshwater fish farm (milkfish and tilapia), passed by a fish farm that is no longer operating and with the ponds overgrown with vegetation, and a milkfish farm (*seen from a distance below, right*).

2.2.4. A short informal discussion with DAWR officers, who also expressed their support for Guam's participation in the Network and hosting the inception workshop, ended the mission's official activities.

III. Conclusion

1. The following conclusions are drawn from the mission activities:

   1.1. The mission found strong and broad support for the Network among stakeholders.
   1.2. There was keen interest in Palau to host the Secretariat of the Network.
   1.3. There was strong interest in Guam to take part in the Network and to host the inception workshop.
   1.4. Palau and Guam have good technical assets and capacities that can be shared among Network participants through technical cooperation and networking.

2. These findings of the mission reinforce the results of the questionnaire survey, the informal consultation in Fiji as well as the recommendations of the Regional Scoping Meeting in October 2011. Together, they give a strong justification for a technical cooperation programme (TCP) project to provide the initial support to the establishment of a functional and autonomous Micronesian aquaculture network.

IV. References

FAO SAP and SPC. 2010. Building on Progress: Report of the Informal Meeting on Aquaculture Development in the Pacific, 22-25 September, Phuket, Thailand, 8p.

FAO. 2011. Study of the milkfish industry in Palau. Consultancy Report of Theo Isamu for FAO SAP, Feb. 2011. Apia, Samoa. 26p.

Report of Mission to Nauru under TCP/NAU/3301. October 2011. FAO SAP, Apia, 15p.

Annex 1-a: Participants

National Consultation on the Establishment of a Sub Regional Aquaculture Network in Micronesia
BMR Conference Room, Koror, Palau
28 February 2012

Fred Sengebu	Director, Bureau of Agriculture	ffns@palaunet.com
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F.Kerai Ngirmelar	Fishfarmer and legislator, Airai State	779-56

Annex 1-b. Participants

Guam Stakeholders Consultation Meeting
University of Guam, Guam
01 March 2012

Joshua DeMello	Western Pacific Regional Fishery Management Council Joshu.demello@noaa.gov
Frank Toves	Guam Aquaculture Growers Association (GAGA) ankiguam@yahoo.com; 727-4330
Johnny Taifano Arulai	Fish farmer/fisher
Brent Tibbatts	Division of Aquatic and Wildlife Resources (DAWR) brent.tibbatts@yahoo.com
Hui Gong	University of Guam, College of Natural and Applied Sciences, Western Pacific Tropical Research Center hgong@uguam.uog.edu
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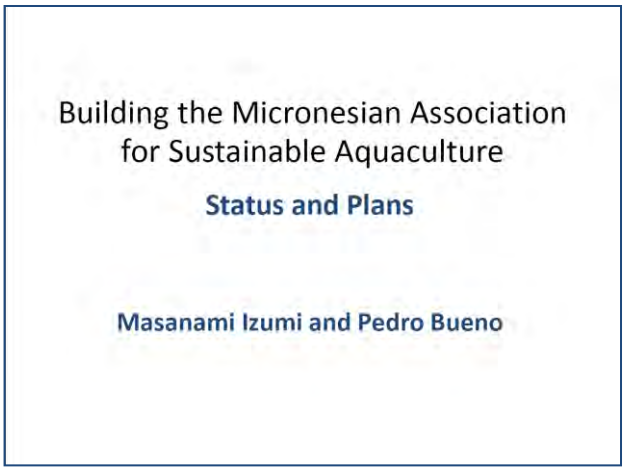
Annex 2: Powerpoint Presentation of the Mission

Building the Micronesian Association for Sustainable Aquaculture:
Status and Plans



What have been done?

- Review of experiences and lessons - 8 countries: identified opportunities for improving aquaculture, by FAO SAP, 2010
- Global Conference on Aquaculture, Sept. 2010 Thailand: Informal, fruitful meeting "An evening of Pacific Aquaculture" :
  - recommended a regional workshop to develop identify areas for regional cooperation programme (FAO/SPC; 5 Pacific delegates; donor and technical assistance organizations, ACIAR, NACA, SEAFDEC, JICA, Aquaculture without Frontiers, WAS, others)

- Meeting of FAO South West Pacific Ministers for Agriculture in Va'vau, Tonga, April 2011
  - development of aquaculture network
- Regional Scoping Workshop: Development of a Pacific Aquaculture Regional Cooperative Programme - Nadi, Fiji, October 2011 (FAO/SPC/Min of Fisheries and Forests) :
  - identified emerging issues and opportunities;
  - required support for its development;
  - exchanged lessons and good practices;
  - recommended a potential regional aquaculture development framework and programme for aquaculture development for PICTs i.e. a Networking arrangement

- Informal consultation held in Nadi on 15 October 2011 (after the Regional Scoping Workshop)
  - discussed benefits of a network, the issues associated with its establishment, and the technical and legal steps to establish and make a network fully functional.
  - endorsed regional TCP project to support establishment of the Micronesian aquaculture network ("MASA")
  - identified /designated interim focal points of governments for the proposed TCP project

Interim Focal Points and Responsibilities

- Ms Florence Edwards, RMI
- David Orrukem, Palau
- Karibanang Aram, Kiribati
- Valentin Martin, FSM
- Monte Depaune, Nauru.
- John Brown (University of Guam), Guam

Responsibilities:
- Communications with FAO SAP
- Coordinate project-related activities in the government

Front row l-r: Clyde James, Valentin Martin, Pedro Bueno, Masanami Izumi, Ms Melba Bondad-Reantaso. Standing: Monte Depaune, John Brown, Ms Moeo Finaugi, Karibanang Aram, David Orrukem, Beero Tioti, Robert Jimmy, Jiansan Jia

Questionnaire Survey

- **COLLECT INFORMATION AND VIEWS RELATED TO THE ESTABLISHMENT PROCESS OF A MICRONESIAN ASSOCIATION FOR SUSTAINABLE AQUACULTURE**
- Respondents: Six government officers from Micronesian states

Information gathered

- National experts' positions on establishing and joining a regional cooperation organization in aquaculture development;
- Government's capacities to support and contribute to a sustainable regional organization;
- Experience of the government in regional cooperation in any technical and economic area;
- Perceived benefits to governments , functions of a regional or subregional network organization, and constraints to establishing the organization.

Result of survey

- Everyone welcomed the initiative to establish a subregional cooperative arrangement.
- Not seen as a duplication, an additional burden or a waste of resources.
- Few said the government has no capacity to support the organization. Mostly no opinion was given.
- Thought that cooperation in the region was not working well in practice
- Agreed to the listed benefits (19 in all) of a regional cooperative arrangement.

- The functions of a regional network are well recognized.
- No serious constraint in establishing and sustaining the network was foreseen.
- The Republic of Palau earned the most number of endorsements as the host to the organization. **Reasons given**: relative accessibility to the other countries, but mostly for its recognized advanced initiatives in aquaculture and infrastructure.

Development priorities identified

- better market access
- harmonization of regulations and standards among countries
- policy advice
- research manpower training
- strengthening of extension capabilities
- aquaculture business development
- information.

Some opportunities for technical cooperation

- information and technology development and exchange
- training and best practices
- promotion of women's roles in developing the aquaculture sector
- development of aquaculture enterprises: could be an opportunity for private sector exchanges and joint ventures

Benefits (as listed in the Q survey)

1. Eliminate duplication of R & D efforts.
2. Facilitate technical information generation, and dissemination together with technology transfer.
3. Pools national resources and strengthen national systems.
4. Hasten widespread and coordinated aquaculture development.
5. Effective use of scarce resources and the sharing of benefits among members.
6. Better attract funding from donors.
7. Maximize use of training/research facilities and expertise.
8. Promote technical cooperation among countries.
9. Increase investment in research, development and business
10. Improve fish trade relations among countries

Benefits

11. Facilitate access to world markets
12. Enable less advanced countries in aquaculture R & D to catch up with the more advanced countries.
13. Facilitate liberalization of export and import.
14. A platform to counter adverse comments of some groups
15. Platform for requesting more assistance from FAO and others
16. Strengthen relations with FAO and other development agencies
17. Make it possible to improve and harmonize standards, laws, regulation in aquaculture among members
18. Provide a better opportunity for scientists and researchers to actively provide advice to their governments
19. Increase awareness of international standards, treaties, agreements on aquaculture and increase access to information

NEXT STEPS

- Subregional TCP – formulation, endorsement, submission for approval
- Inception workshop: work plan
- Drafting of legal and administrative instruments
- Development of Technical Work Programme
- Options for funding, resourcing, staffing, hosting
- High level meeting to adopt “MASA”