Florida Sea Grant College Program
A statewide university program for
Coastal Research, Education & Extension

Building 803 McCarty Drive
P O Box 110400
Gainesville, FL 32611-0400 U.S.A.
(352) 392-5870
FAX (352) 392-5113
www.flseagrant.org

February 28, 2013

To: Mrs. Jennifer Norfolk and Mr. Abe Henry, Counterpart International

Reference: Caribbean Coastal Communities Small Grants Program: Florida Sea Grant Milestone Three Status Report (December 2012-February 2013).

Project Title: A Participatory Co-Management Strategy for the use of Fish Aggregation Devices in Dominica and St. Vincent and the Grenadines to Sustain the Caribbean Pelagic Fishery and Communities that Depend on it.

Dear Mrs. Norfolk and Mr. Henry,

On behalf of our project team, I am pleased to submit this status report that summarizes the FAD fishery stakeholder meetings that took place in December 2012 on Dominica and St. Vincent and the Grenadines, per our work plan certification agreement (Milestone Three).

The success of the stakeholder meetings was due to the tremendous support provided by the Dominica Fisheries Division, which organized, sourced local venues, and assisted with the meeting logistics. I also recognize the positive and helpful collaboration among project team members, each of whom played a significant role in the planning, facilitation, and reporting of the meetings.

Please advise if you would like additional clarification or information regarding our project-related activities.

Best regards,

Charles Sidman

Charles Sidman, Ph.D.
Associate Director for Research
Florida Sea Grant
University of Florida

(352) 392-5870
csidman@ufl.edu

COUNTERPART INTERNATIONAL
In partnership for results that last.

Milestone Certification

A Participatory Co-Management Strategy for the use of Fish Aggregation Devices in Dominica and St. Vincent to Sustain the Caribbean Pelagic Fishery and Communities that Depend on it."	
Grantee	Florida Sea Grant
Grant No.	*318-CCC-1201*
Counterpart Award Code:	*318 Frohring Foundation*

This is to certify that Florida Sea Grant has reached the milestone(s) listed below as required under the Fixed Obligation Grant (FOG) for the implementation of "A Participatory Co-Management Strategy for the use of Fish Aggregation Devices in Dominica and St. Vincent to Sustain the Caribbean Pelagic Fishery and Communities that Depend on it." The documentation specified under "Evidence of Completion" in the Grant Agreement is attached, as required under the Grant Agreement. The following table provides detailed information on the milestone.

Milestone No.	*3*	
Milestone Item		***Evidence of Completion***
First trip to study locations. Hands-on analysis of data collected and stakeholder meetings in Dominica to identify issues and discuss management options for the sustainable use of FAD's. Meeting to update St. Vincent Fisheries Department on results of workshops in Dominica.		*Progress report of initial workshops & meetings on Dominica and St. Vincent to discuss FAD fishing use data and management options.*

The Grantee hereby certifies that the Milestone Certification has been prepared in accordance with the terms of this Agreement and to the best of their knowledge and belief is correct.

Certified By:
Florida Sea Grant

Charles Sidman

Dr. Charles Sidman
Associate Director of Research

2/28/13

Date

Accepted by:
Counterpart International

Jennifer Norfolk
Senior Environmental Programs Manager

Date

Counterpart Caribbean Coastal Communities Small Grants Program
Dominica FAD Fisher Meetings: Project Milestone Three Status Report
February 28, 2013

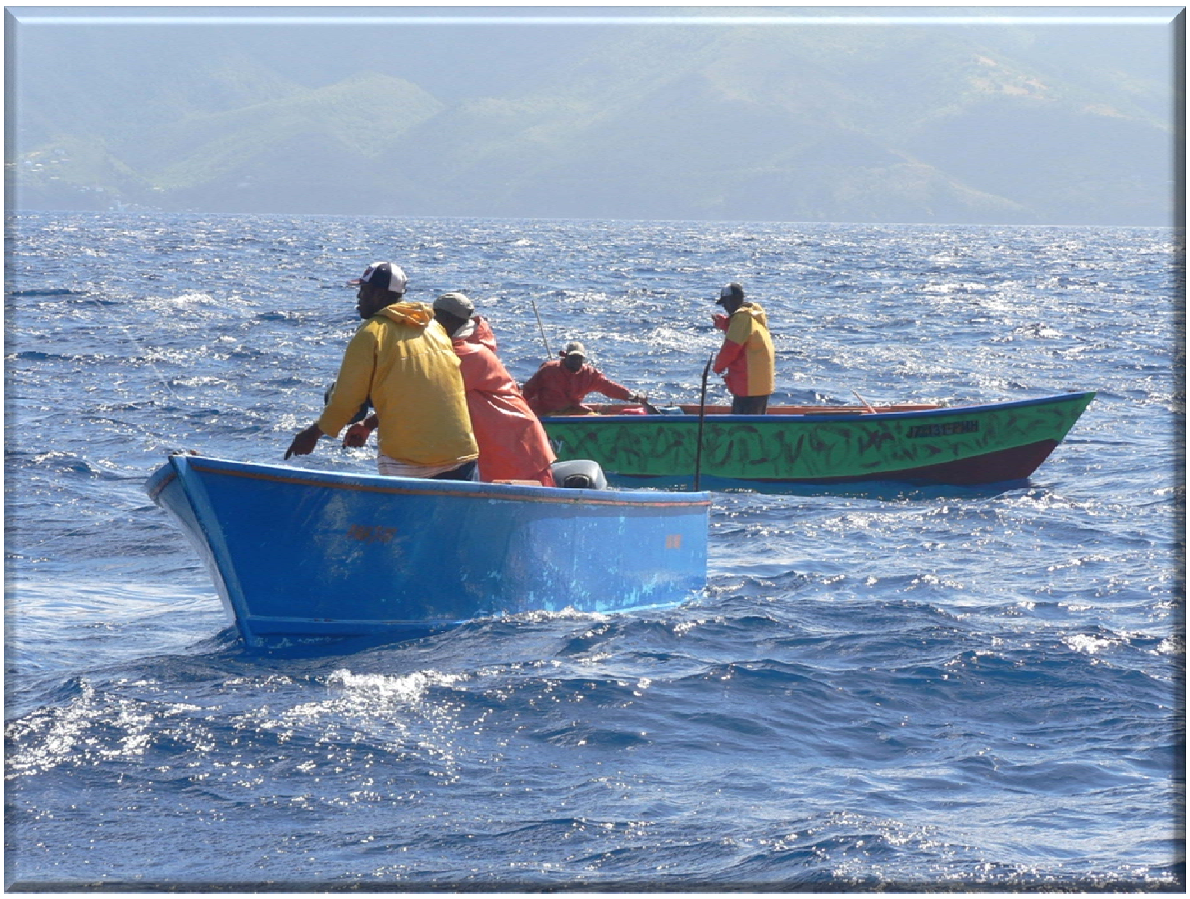
Project Title

A Participatory Co-Management Strategy for the use of Fish Aggregation Devices in Dominica and St. Vincent and the Grenadines to Sustain the Caribbean Pelagic Fishery and Communities that Depend on it.

Project Team Members Involved in Milestone Three Activities

Kai Lorenzen, Fisheries and Aquatic Sciences, University of Florida
Charles Sidman and Joy Hazell, Florida Sea Grant, University of Florida
Andrew Magloire, Riviere Sebastien, Norman Norris, Fisheries Division, Dominica
Baylon Fontaine, National Association of Fisherfolk Cooperatives, Dominica
June Masters, Caribbean Regional Fisheries Mechanism
Hyrone Johnson, Fisheries Division, St. Vincent and the Grenadines

Deliverables for Milestone Three: Progress report of initial workshops and meetings on Dominica and St. Vincent and the Grenadines to discuss FAD fishing use data and management options.



Introduction

The Dominica Fisheries Division has partnered with the St. Vincent and the Grenadines Fisheries Division, the University of Florida Sea Grant Program, and the Caribbean Regional Fisheries Mechanism to evaluate catch success and the benefits derived by fishers who use fish aggregation devices (FADs). This effort is being funded through grants and services supplied by the Caribbean Regional Fisheries Mechanism (CRFM), the University of Florida Sea Grant Program (FSG), and Counterpart International.

For the past year (February 2012-January 2013) the Dominica Fisheries Division has been working with project partners to collect information on FAD fishing trips including the time spent fishing and the weight and species of fish being caught. Information has been obtained by data collectors from fishers at Fond St. Jean, Dublanc, and more recently, at the Marigot landing site.

The main conclusions drawn from an analysis of the FAD fishing data are as follows:

1. How well a FAD produces depends on how many boats of fishers are using it. It is best if FADs are used by no more than 2-3 boats on average. Catch and economic returns are reduced in circumstances where more than 2-3 boats of fishers compete at the same time for a FADs resources.

2. Public FADs attract too many boats of fishers per FAD. Fishers who currently use privately deployed and maintained FADs experience larger catches and achieve greater economic returns from fishing than fishers who use public FADs.

3. The ability to use multiple FADs on a trip may result in more stable catches for fishers. In Marigot, public and private FADs are spaced in a manner that allows fishers to access several FADs on a trip, which may help to explain why Marigot fishers have more consistent catches.

A series of meetings were held with fishers at the participating landing sites in order to share results of the participatory research, discuss management implications, and possibly facilitate action to address the issues and opportunities identified.

This report summarizes the process and outputs of the fisher meetings. A summary of the data analysis and results of the meetings on Dominica was provided to St. Vincent and the Grenadines Fisheries Division and CRFM staff in Kingston St. Vincent directly following the meetings.

Fisher Meeting Objectives

1. To thank FAD fishers for providing fishing trip information,

2. To share the results of the data collection, and

3. To solicit input from FAD fishers about options to improve fishing success.

Fond St. Jean Meeting – Group Discussion

Dublanc Meeting – Data Analysis Presentation

Fisher Meeting Agenda

Meetings lasted about two hours. Each meeting began with an opening prayer and welcome remarks, followed by an icebreaker activity where each attendee introduced him or herself and described why FAD fishing is important to them and their community. Introductions were followed by a presentation by Dr. Kai Lorenzen, during which he described the results of the data collection effort at the three landing sites. Following the presentation, fishers provided feedback on the results and some of their implications. Attendees were then divided into smaller groups consisting of about 15 fishers to facilitate discussion, which centered around three themes:

1. Challenges to achieving optimal use of FADs and lessons learned from successful approaches such as group-based FADs.

2. Management options that can increase catch and economic returns to FAD fishers.

3. The role of fishers, fishing cooperatives, and the fisheries division in implementing co-management options for sustainably managing FAD use and pelagic fishery resources.

More than 100 FAD fishers participated in the three meetings, which took place on December 11, 2012 at the Fond St. Jean Fishing Cooperative, on December 12, 2012 at "The House" in Dublanc, and on December 13, 2012 at the Marigot Fisheries Complex. The agenda for those meetings is provided in Appendix A.

The meetings offered opportunities for both large group and small group interaction. Each small group was facilitated by two members of the project team who worked collaboratively to guide the discussion. One member of each facilitation team also was tasked with summarizing comments and suggestions made by participants on flipcharts. Following the small group discussions members of the project team reported-out the main points made by small group participants to the entire audience.

Marigot Meeting - Introductions

Dublanc Meeting - Reporting Out

Summary of Meeting Outputs

Feedback on data analysis

The presentation of results was received with great interest by fishers at all three landing sites. Fishers were excited to see an analysis of data they themselves had provided. They clearly followed the analysis, embraced the results and almost immediately started drawing out management implications. Fishers felt that in general, the analysis confirmed patterns they had expected but had been unable to quantify (e.g. the high returns to fishing on individual/private FADs and the reduction in catch variability associated with visiting multiple FADs on the same trip). The results therefore provided fertile ground for subsequent small group discussions.

Challenges to managing FADs

The first topic of the small group discussions centered on a finding of the data analysis which indicated that catch and economic returns were significantly reduced when more than two or three fishers competed at the same time for a FAD's resources. A number of management challenges were identified by participants:

1. Cooperation among fishers with respect to the deployment, use, and maintenance of FADs could be improved. For example, individual fishers, particularly those who have purchased licenses to use public FADs, do not believe that it is their responsibility to help maintain FADs. Thus, public FADs are not adequately maintained to the same degree as are private FADs.

2. There exists a need for better information sharing and communication among fishers, particularly with respect to which FADs are producing and which aren't, profitability of FAD fishing, and education on proper FAD fishing techniques.

3. Despite government efforts to promulgate regulations to make all FADs available for public use there remains a very strong belief among some fishers that the exclusive right of individuals to maintain private FADs should be recognized and poaching offenses enforced. Poaching on private FADs is a significant issue expressed by some fishers, who also were frustrated that fishers typically do not seek prior approval for access nor do they compensate owners of private FADs for fish caught using them.

4. Fishers do not let public FADs "rest" sufficiently to maintain consistent numbers of larger fish in the vicinity of the FAD. As a result, fishers tend to take too many small fish that remain, compromising the long-term sustainability of the pelagic FAD fishery.

5. Too few public FADs have been deployed to optimally accommodate the number of FAD fishers. This creates a situation of crowding and conflict at FADs and lowers the economic return to fishers who must compete with many others for a share of the resources attracted by public FADs.

6. There exists a challenge to provide some level of exclusive use rights to fishers who (individually or in small groups) invest in the deployment and maintenance of private FADs, with the need to provide equitable access to the wild pelagic fishery resources.

Marigot Meeting - Small Group Discussion

Marigot Meeting - Reporting Out

FAD management options

The second topic of the small group discussions focused on options that could support the co-management of FAD fishery resources to improve FAD fishing success. A review of the discussion notes identified the following management options to consider.

1. Greater inputs from government to deploy, monitor, and repair public FADs. This includes the desire among fishers for more FADs and consistent updating and communication by the fisheries division, which could take the form of a quarterly newsletter or scheduled meetings. These expressed desires should be reconciled within the context that the government seeks to more actively involve fishers in the management of FADs. There may be an opportunity for government to support small groups of fishers to facilitate co-management and cooperation.

2. A “code of ethics” and similar self-regulatory guidance to promote safety, FAD fishing education, increased cooperation, and to improve information sharing (e.g., themes could include letting FADs rest, leaving small fish, poaching/piracy on private FADs, actions to optimally use public FADs). Two common suggestions were the need to observe a “first come first serve” ethic while fishing a public FAD: Fishers should be advised to “move on” if confronted with a situation where there were already three boats of fishers working a FAD. It was also suggested that owners have the first right to exploit resources around a private FAD.

3. A strategy to manage the timing of fishing could help to reduce conflicts and improve fishing success. This could take the form of separate licensing for full or part-time fishers, or allocating specific fishing days and times based on the type of license purchased. More discussion is warranted to determine the legalities of the proposed licensing arrangements or to arrive at other practical measures.

4. A flexible regulatory framework that recognizes the intrinsic benefits of supporting both exclusive right (private FADs operated by individuals or small groups) and open-access (public FADs open to all licensed fishers) choices.

5. Spatially separate FADs to balance use, reduce conflicts, and increase the chances of catching fish. A common suggestion was to disperse use and accommodate both private and public FADs based on distance to shore (e.g., public FADs would be deployed in near-shore waters less than 20 miles out; private FADs could be deployed offshore greater than 20 miles out).

6. A finding of the meetings was that fishers who use the Marigot landing site, many of whom are indigenous Kalinago Indians, exhibit a greater degree of social cohesion and cooperation than Dublanc and Fond St. Jean fishers. This was particularly evident with respect to fishing activities related to deploying, using, and maintaining group FADs. This situation may help to explain the comparatively higher degree of fishing success and economic returns attributed to Marigot fishers.

The role of fishers, fishing cooperatives, and the fisheries division

The third topic of conversation involved a discussion of the roles of three key stakeholders (Fishers, Fishing Cooperatives, and the Fisheries Division) in managing FADs, FAD fishing, and FAD fishery resources. A review of the discussion points suggests the following opportunities for stakeholder collaboration to promote co-management of FAD fishery resources.

1. The Fisheries Division can help support and provide assistance to individuals or small groups of fishers to pool resources to construct, deploy, and maintain FADs. This includes helping to secure government and private funding. Such government assistance, however, should be provided in a manner that promotes self-sufficiency in the industry.

2. Fisherfolk cooperatives can help source markets for fish products and add value to fish products as a way of increasing fish consumption.

3. Fishers and the Fisheries Division can collaborate to develop a "code of ethics" for FAD fishers and encourage self-compliance with FAD fishing principles through outreach and education. This may include education and training on proper FAD fishing techniques, and dealing with issues of poaching/piracy on private FADs.

4. The Fisheries Division can implement a regulatory framework, such as licensing, to attain the optimal ratio of boats per FAD and to reinforce self-compliance with FAD fishing principles (i.e., code of ethics).

5. Fishers can promote individual accounting and primary data collection so that FAD use, catch effort, and profitability can be monitored.

6. The Fisheries Division can collaborate with fishers too increase communication and cooperation among fishers. There is an opportunity to develop systems to help inform fishers about the location of FADs, where the fish are, who is out, and where fishing activities are planned.

7. The Fisheries Division can partner with fishers to optimally locate and space FADs to disperse fishing pressure: Offer more public FAD options closer to shore so that fishers can access more than one FAD on a trip if the first choice is not producing or is being visited by a large numbers of fishers.

A complete transcript of the flip chart notes that were used for this summary is provided in Appendix B.

Next Steps

Expansion of public FADs

A need for deployment of more FADs in order to spread fishing effort on public FADs to more sites has been clearly identified as a priority. The Dominica Fisheries Division has recently deployed two new public FADs in the vicinity of Fond St. Jean. The effectiveness of this investment in reducing pressure on individual FADs and increasing returns to fishers will be evaluated through continued monitoring.

Facilitating communication and cooperation among fishers using public or shared FADs

Processes and tools will be developed to facilitate communication and cooperation among fishers involved in the use of public or otherwise shared FADs. Meetings will be held at the landing sites to kick-start this endeavor. Immediate possibilities for facilitating communication may be tools for sharing information on FAD use, such as maps or activity planners. Implementation of such activities will also provide wider insights into the willingness and capacity of fishers to share information and act collectively.

The project team has developed a Daily Activity Planner, which will be implemented at the Dublanc landing site, and possibly at other sites (see Figure1 below). The idea for a Daily Activity Planner stems

from the meeting with FAD fishers in Dublanc who expressed a desire to (1) increase communication and cooperation among themselves, (2) disperse use to reduce the number of fishers that might visit a FAD at any given time, and (3) to help fishers observe a "first come first serve" norm that was discussed. The planner will allow fishers to determine prior to their trip if more than two to three fishers plan to visit a particular FAD that day, and the times (based on the departure time) when other fishers might be visiting a particular FAD. The planner also can be used to determine if fishers return safely from sea. Mrs. Thora Lambert, the mayor for the town of Dublanc, has volunteered to instruct fishers on how to use the planner. At the end of each day the information written on the planner will be transcribed into a data spreadsheet. The information on the planner will then be erased so that the next day's activities can be entered by fishers. The planner is meant to function as a guide to help fishers organize their trips based on knowledge of what others plan to do, such that overlap and competition with other fishers at particular FADs is minimized and individual catch is maximized. The data collected from the planner will be compared with information on catch and effort currently being logged at the Dublanc landing site to determine if the planner has a positive effect in increasing catch success and reducing the number of fishers that compete for resources at particular FADs. A follow-up meeting with Dublanc fishers, planned for 2013, will be conducted to discuss the effect that the planner had on increasing communication and cooperation among the fishers. A similar management practice is being discussed for Fond St. Jean.

Dublanc Offshore Fishing Daily Activity Planner

Date:

Fisher's Name	Departure Time (Out)	Return Time (In)	FADs Likely to Visit			Not likely to fish on FADs checkbox
			Dublanc Fisheries FAD checkbox	NAFCOOP FAD checkbox	Other FAD checkbox	
			❑	❑	❑	❑
			❑	❑	❑	❑
			❑	❑	❑	❑
			❑	❑	❑	❑
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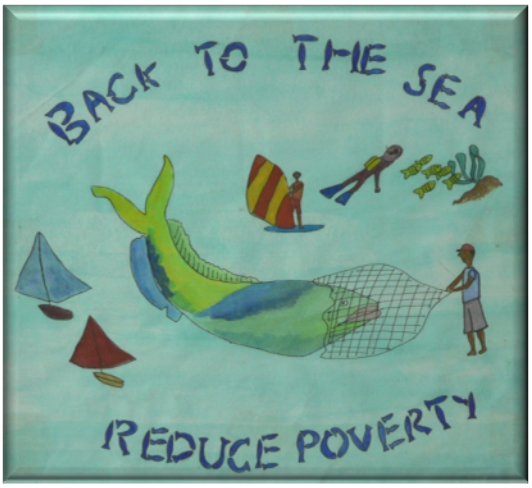
Figure 1. Offshore Fishing Daily Activity Ledger for Dublanc.

Exploring innovative options for balancing exclusive use rights for FADs and public access to fisheries resources

Many issues preventing optimal use of FADs stem from conflict between two fundamental requirements: (1) the need for some level of exclusive use rights for fishers who (individually or collectively) invest in the deployment and maintenance of FADs, and (2) the need to provide equitable access to the wild fisheries resources which the FADs are designed to aggregate for the benefit of fishers who have invested in them. Although this conflict is often polarized, most fishers appear to recognize informally that (individual or collective) FAD owners are entitled to benefit from their investment, and that this entitlement is limited by the fact that others are also entitled to a fair share in the fisheries resources. This suggests that it may be possible to design "compromise solutions" that would provide recognized and enforceable but limited exclusive rights to FAD owners. For example, exclusive fishing rights may be awarded to FAD owners for a period of three or six months after FAD deployment, upon which time fishing on the FAD might become open to the public. Another possibility might be to allow small groups of fishers to gain exclusive fishing rights for FADs they deploy, thereby incentivizing the formation of such groups and reducing barriers to entry into FAD fishing. Discussions to explore such "compromise solutions" will be held among the project team.

Continuation of data collection to analyze effectiveness of interventions

The current data collection effort at Fond St. Jean will be expanded to include the two new FADS, thereby, allowing the project team to test the effect of providing additional FADs, as a best management option, to increase fishing success and profitability. A follow-up meeting with Fond St. Jean fishers, planned for 2013, will be conducted to discuss the benefits that the additional FADs have had on fishing success.



Appendix A. FAD Fisher Meeting Agenda

Team Members	Agenda Item	Description	Time	
Sebastien, Fontaine	Opening prayer		5 minutes	5:00-5:05
Magloire, Sebastien, Fontaine	Welcome remarks	Why we are here. What we hope to accomplish.	5 minutes	5:05-5:10
Sebastien	Icebreaker and introductions	Name and why FAD fishing is important in your community.	15 minutes	5:10-5:25
Lorenzen	Presentation of project and preliminary results	Explain why we are collecting FAD fishing data. Discuss what data means. Get fisher's perspective. Do results make sense?	15 minutes	5:25-5:40
Magloire, Sidman, Norris, Sebastien, Hazell, Masters, Johnson	Discussion / Focus Groups	Management options to improve FAD fishing Challenges to reaching 2-3 boats per FAD at one time. Role of stakeholders in helping to co-manage the FAD fishery.	20 minutes 20 minutes 20 minutes	5:40-6:00 6:00-6:20 6:20-6:40
Masters, Norris, Hazell	Report out	Report findings from discussions.	15 minutes	6:40-6:50
Magloire, Sebastien, Lorenzen	Next steps	Upcoming tasks and how FAD fishers can help.	5 minutes	6:50-7:00
	Refreshments		1 hour	7:00-8:00

Appendix B. Transcription of discussion points made by FAD fishers and meeting attendees.

Fond St. Jean – FAD Fisher Meeting
December 11, 2012
Fond St. Jean, Dominica

Discussion from Group 1

Facilitators –Charles Sidman and Norman Norris; Charles Sidman (note taker)

Question 1 – Management options to arrive at 2-3 boats concurrently fishing a FAD

- More FADS operated by smaller groups of fishers as opposed to publicly deployed FADs used by everybody
- Diversify the use of existing FADs – may be problematic to implement during peak season
    - Fishers can skip FADs with many boats
    - Fishers can alternate the use of the FADs
- Don't take undersized fish (e.g., baitfish)
- Mandatory licensing to reduce pressure on FADs

Question 2 – Challenges to reaching 2-3 boats concurrently fishing a FAD

- Finances
    - Need financial assistance for small groups of individuals to construct and deploy FADs
    - Increase cooperation among fishers for financing the construction and deployment of FADs
- More FADs and increase distance between FADs
    - Through a licensing regime ensure that larger boats fish offshore and smaller boats fish near-shore (disperse the fishing and reduce competition around near-shore FADs)
    - Deploy FADs that are near-shore and offshore to reduce pressure and disperse use
- Reduce loss of FADs by incorporating navigation lights and radar reflectors and avoid deploying near shipping lanes

Question 3 – Role of various stakeholders in co-management of FADs

- Fishers
    - Groups of fishers pool resources for the construction, deployment and maintenance of FADs
    - Enhanced record keeping at an individual level – as it relates to finances and how much money is being made to determine fishing effort profitability from FADs
- Cooperatives
    - Help to source markets for fish products
    - Provision of ice/storage to keep fish products fresh
- Fisheries Division
    - Licensing and management of licensing for use of FADs
    - Enforcement of licensing system
    - Outreach and enforcement to convey the importance of releasing excess baitfish – encourage catching only the amount of baitfish needed to cover the costs for the fishing trip

Discussion from Group 2

Facilitators – Baylon Fontaine; Joy Hazell (note taker)

Question 1 – Management options to arrive at 2-3 boats concurrently fishing a FAD

- Education, training and workshops for fishers to increase fishing and catch handling skills
- Exchanges with fishers from other communities and countries to share information
- More FADs
- Better/Increased cooperation among fisher folk
- Good management practices designed by NAFCOOP and Fisheries Division
- Areas of improvisation in setting and building FADs (coming up with new methods of paying for and innovation in locating and dispersing FADs)
- Groups of fisherfolk (and maybe community members) come together to build one or more FADs that are then "property" of that group
- Good preservation/storing and handling of catch to ensure a satisfied customer and increased profit through increased demand
- Training on keeping fishing equipment safe
- A loan program to fund the construction, deployment and maintenance of more FADs
- A FAD fund that each boat owner pays into that can be used to build and maintain FADs – stakeholders believed most, but not all, would be willing to pay such a fee
- Distribute FADs well to allow boats to maximize use, don't put too far to reach or so close that everyone will default to the close FAD(s)

Question 2 – Challenges to reaching 2-3 boats concurrently fishing a FAD

- If a FAD belongs to one individual there may be conflict or that FAD can't be used even if an alternative FAD is experiencing heavy use
- Not enough FADs
- There are about 10 boats that may go out on a given day (from FSJ and Stowe) and 5 FADs so they should be able to reach the optimal number but they don't
- FADs may be deployed too far for some boats to reach
- The number of fish/FAD means that fishers may all choose to go to one FAD after word spreads about a good catch
- Lack of communication between fisherfolk, between community members and between fisherfolk and community members
- Perhaps Marigot is optimized because there are fewer fishers and more FADs

Question 3 – Role of various stakeholders in co-management of FADs

- NAFCOOP, Individual cooperatives and Fisheries Division can provide more FADs and training on how to effectively use them
- Fishers and FSJ cooperative can provide data
- Non-governmental organizations can provide funding for FAD program
- Processors and fishers can keep fish clean and safe for customers
- Local cooperatives can help to increase cooperation among fishers
- Everyone can encourage fish consumption for taste and health to increase demand and therefore profits

Discussion from Group 3

Facilitators – Andrew Magloire and Riviere Sebastian; June Masters (note taker)

Question 1 – Management options to arrive at 2-3 boats concurrently fishing a FAD

- Placing more FAD's
- The Government could assist fishermen to build and place more FAD's
- The location of FAD's could also be looked at (near or far, in FSJ area they are placed all over the sea)
- The Cooperative should also help to place more FAD's
- The Community should also come together as a group and place FAD's

Question 2 – Challenges to reaching 2-3 boats concurrently fishing a FAD

- Finances – the funds it takes to build a FAD is about EC$3000 -7000. It is not hard for the government to find those funds, and not too difficult for the cooperative as well, but it would be very hard for a fisherman to come up with that kind of money to build a FAD. Thus enough FAD's not being available is as a result of not enough finances to built FADS.

- Where the cooperative is concerned; the cooperative does not have enough members to be effective. For example only half of this group (5-10 persons) are members of the cooperative and this is not good enough. The bigger the membership of the cooperative the more effective the cooperative will be and there would be more benefits for all. It means therefore that the cooperative could place more FAD's if the membership was bigger.

- There is also the challenge of the cohort of fishers getting older and there is not enough young people to replace the older generation.

- There is also the challenge of proper management and protection of the FAD's. If we do not manage and protect those FAD's that we already have, others (Government, donor agencies etc.) will not be willing to help us to place more FAD's, for fear that we will not take proper care of them.

- There is also the challenge of none durability of the FAD's (the FAD's don't seem to last a long time). This could be a function of the technology used or the location in which the FAD is placed.

- With regards to the number of fishers becoming members of the cooperative; the challenge there is that some persons are being rejected as cooperative members. The President of the cooperative later clarified that this was not the case.

- There is also the challenge of the conflict that could arise with the placing of FAD's by individuals. The group felt that the system of individuals placing FAD's in the ocean should be avoided and the job of placing FAD's should be the responsibility of the Government, or the cooperatives, or groups, which would help to avoid some of the issues of conflict.

- The challenge of maintaining FAD's and management of FAD's was also discussed. It was felt that various mechanisms could be used to ensure that FAD's were maintained these included: the users of the FAD's could make a promise to put aside funds to maintain the FAD's. There was once a system in place where for each marlin that was caught, 2 lbs or $10 of that marlin was put aside in a FAD fund (this system failed when fishers started putting in their own FAD's (i.e., individual FAD's) into the water. With regards to responsibility of putting aside funds for the maintenance of the FAD's this is the responsibility of the boat owners, and the boat owners should come up with some mechanism for collecting and setting aside funds for this purpose, and then paying over those funds to the Fisheries Division.

- There is also the challenge of individual and collective responsibility, which does not seem to work.

- The challenge of enforcing penalties for breaking the FAD regulations

- The challenge of the change in how the community functions; in bygone days the community could be depended on for policing and reporting breaches, but that is not so anymore. So it's best that these roles be executed by the responsible government agencies

Question 3 – Role of various stakeholders in co-management of FADs

- The Fisheries Division is doing a lot but fishers and community need to do a bit more
- However the fishermen need more help in terms of supplies, hooks and gas etc. from the Fisheries Division
- The Fisheries Division could also provide money by matching; provide half the funds needed to construct a FAD
- The Village Council should also help with the management of FAD's

Dublanc – FAD Fisher Meeting
December 12, 2012
Dublanc, Dominica

Discussion from Group 1
Facilitators - Norman Norris and Charles Sidman; Charles Sidman (note taker)

Question 1 – Management options to arrive at 2-3 boats concurrently fishing a FAD

- First come, first serve: Fishers should move if they arrive and find that more than 2-3 other boats are already fishing a FAD
- Public FADs placed within 20 miles of the shore, private FADs placed farther than 20 miles. Separate public and private FADs based on distance from the shore
- Government support to limit use of private FADs to the owners of the FADs – support exclusive rights of owners to fish private FADs
- Place a few more FADs to relieve pressure on existing FADs
- Rest FADs
- Space FADs at least 5 miles apart

- Only take enough small fish for bait

Question 2 – Challenges to reaching 2-3 boats concurrently fishing a FAD

- Compliance
    - Standard code of ethics for voluntary compliance particularly as it relates to leaving small fish
    - Education and training on how to properly fish FADs
- Enforcement
    - Report offenders

Question 3 – Role of various stakeholders in co-management of FADs

- Fishers
    - Alternate fishing on FADs – as it relates to resting FADs
    - Greater financial contribution of groups of fishers to construct and deploy FADs
    - Fishers should contribute funds to cooperatives for FAD repair and replacement
    - Non contributors should compensate "owners" for the use of the private FAD
- Cooperatives
    - Supervise the maintenance and deployment of FADs.
    - Source funding for the deployment of FADs
    - Provide education and training on proper fishing techniques for FADs
    - Promote data collection among fishers
    - Promote fish hygiene and health benefits of fish consumption
- Fisheries Division
    - Collaborate with local cooperatives to source markets for fish
    - Develop value added market for product
    - Regulate licenses for optimal use of FADs – the regulation of licenses should maintain the optimal ratio of boats per FADs
    - Communication system to notify fishers of FAD use
    - Development of a daily ledger to ID which fishers are on the water and which FADs are being used and by how many fishers

Discussion from Group 2

Facilitator – Hyrone Johnson and June Masters; June Masters (note taker)

Question 1 – Management options to arrive at 2-3 boats concurrently fishing a FAD

- It might be more successful to manage the number of FADs as opposed to the number of boats fishing FADs
- Give a time frame for boat to fish on FAD
- Regulate the number of fishers before regulating the number of boats
    - Cap the number of fishers
- More FADs
    - We must have more FADs
- Regulation
    - To regulate we must have all fishermen and boats licensed by Fisheries Division

    - Fisheries Division should also give different categories of licenses. For example, distinctions and different rates for part time versus full time fishers
- Enforcement
    - Greater enforcement by coast guard and police is needed
- Research
    - Need to find out the number of boats fishing on FADs then how many FADs would be needed to achieve 2-3 boats fishing on a FAD
    - Then fishing regulations must be enforced. Breaches of fisheries regulations made by the community must be investigated and followed up on by the police

Question 2 – Challenges to reaching 2-3 boats concurrently fishing a FAD

- Lack of regulations and enforcement governing FAD use
- Lack of funding to increase the number of FADs
- Lack of cooperation by fishers in terms of sticking to guidelines
- Rights to individual FAD
- All FADs need to be regulated by the law
- Individual FADs cause problems
- The law must clarify property rights to fish in regards to FADs
- Individual FADs should be the property of the individual

Question 3 – Role of various stakeholders in co-management of FADs

- Fishers
    - Fishers should make a contribution to maintaining FADs
    - Regulations must be enforced and reported by fishers, cooperatives or fisheries division
- Cooperatives
    - Assist Fisheries Division with regulations but Fisheries Division needs to get regulations passed so they can be acted upon
    - Deploy more FADs
    - The cooperative should employ a supervisor to oversee use and to maintain FADs
    - Data collectors should check license and if fishers can go on the FAD

- Fisheries Division
    - Fisheries Division data collectors should do routine checks of licenses as part of their regular duties
    - Should provide more fisheries officers to be on the ground
    - Government should have the resources to put FADs into the water for the benefit of all
    - Support fishers that deploy their own FADs – either privately or in groups

Marigot – FAD Fisher Meeting
December 13, 2012
Marigot, Dominica

Discussion from Group 1
Facilitators - Norman Norris and Charles Sidman; Charles Sidman (note taker)

Question 1: What are reasons for FAD fishing success?

- Fewer boats equates to more fish being caught by fewer fishers
- Private FADs are better maintained
- We time the deployment and placement of FADs during peak season
- Arrangements to use multiple FADs – pirate French FADs and there is piracy of local FADs by local fishermen
- Boat owners and captains have a deeper interest in FAD maintenance and in deeper interest in maintaining other people's FADs – because they pirate each other's FADs
- Greater #s of private FADs – better ratio of FADs to fishers

Question 2: What are challenges in managing FADs?

- Greed, which manifests itself in:
    - Piracy –fishers leave early and take fish from private FADs – typically piracy only applies to dolphin fish which stay on the FAD
    - Lack of contribution to FAD construction
    - SOLUTION-Fishers could contribute a portion of their catch to a maintenance program
    - SOLUTION -Cooperation needed to allow new fishers to utilize the existing FADs to make money to contribute to new FADs

Question 3: What improvements can be made to increase fishing success?

- Fishers
    - "Share the love" - Better communication among fishers, more sharing of information among fishers
    - Communication system to inform who fishers who went out and where they are going – will also help with safety
    - Find common ground for cooperation
- Ask permission with of FAD owners to reduce piracy
- Non FAD owners try to compensate FAD owners
- Cooperatives
    - Source funding for deployment of FADs and provide location of those FADs to fishers
    - Provide data related to currents, location of FADs, where the fish are to fishers – need for cooperatives to support actions that promote greater cooperation and transparency among fishers
    - Source markets for product
- Fisheries Division
    - Provide venue for fishers to get together for information and for education and training on how to use the FADs

Question 4: What advice would you give to other FAD Fishers?

- More private FADs
- Space FADs out to disperse the use

Discussion from Group 2
Facilitators – June Masters and Riviere Sebastien; June Masters (note taker)

Question 1: What are reasons for FAD fishing success?

- We have better cooperation between fishers and we are able to place more FADs
- Better maintenance of FADs
- We take less immature fish
- We feed the fish around the FAD and the big ones remain
- We share the expenses for construction and deployment of FADs
- We talk to each other about things that are not right
- We maintain the FAD collectively - anyone who fishes the FAD looks to see what is wrong and fixes it

Question 2: What are the challenges in managing FAD use?

- Material availability
- Issues with other vessels cutting the FAD
- Finance
- Conflict between private FAD owners and fishers who poach – the owner of the FAD should be allowed to be the first to fish his FAD each day
- Currents – drift or move the FAD
- We lose about $20,000/year when the FAD is lost
- Location, such as shipping lanes, are not known which can be a problem

Question 3: What improvements can be made to increase FAD fishing success?

- Fishers
    - Fishers should not overfish the FAD
    - Deploy more FADs
    - Make public FADs the responsibility of the cooperatives
- Fisheries Division
    - Make more materials available to the fishers
    - Fisheries Division should put at least 2 more FADs in each fishing village
    - The public FADs are set to far and should be placed closer than 22 miles out
- Cooperative
    - We do not have a fishermen's cooperative, we have a multipurpose cooperative
    - We need a fishermen's cooperative
    - Work to increase membership in fishermen's cooperative (fishers are willing to join)
    - The best thing that can be done is to give the rights to individual fishermen to place their own FADs. NAFCOOP can continue to place FADs but fishers should be able to place their own