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## **Marine Reserves for Sustainable Fisheries Management in Rodrigues**

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May 2006



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### **Summary**

The artisanal fisheries are extremely important to the local population of Rodrigues, however the fisheries are in serious decline and the methods used by the fishers also cause damage to the lagoon habitats. In response to the decline in fish stocks, the Rodrigues Regional Assembly, in collaboration with *Shoals Rodrigues*, has now approved the creation of 4 marine reserves in the northern lagoon. It is hoped that the first reserve at Rivière Banane will be proclaimed during the latter part of 2006 and in respect of this, meetings were held with 7 stakeholder groups during February and March 2006 in order to ensure local support for the project. The meetings showed that in general, fishers and boat operators were in support of the development of marine reserves due to recent declines in their catches, however many were concerned about their loss of livelihood if they were unable to fish in the reserve areas. Most fishers asked for compensation ranging from 3,000 – 8,000 rupees per month, however many would consider alternative livelihoods such as beach cleaning, re-forestation and off-lagoon fishing. All fishers were very concerned about enforcement of the reserve areas; in general the fishers thought that the reserves should be policed by groups of fishers in collaboration with the National Coastguard and Fisheries Protection Service. Fishers were also concerned about how un-registered fishers would be regulated as they would not be eligible for compensation. A series of recommendations are suggested of how these issues can be addressed based on previous experiences from other marine reserves around the world.

## **Contents**

1	Introduction.....	1
2	Results from Stakeholder Meetings.....	3
3	General Conclusions.....	4
4	Management Recommendations.....	5
5	References	

## **List of Figures**

Figure 1	The 4 marine reserves in the northern lagoon.....	2
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## **List of Tables**

Table 1	Summary of stakeholder meetings February-March 2006.....	3
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## **Acknowledgments**

This work was funded by the U.K. Department for Environment, Food and Rural Affairs (DEFRA) Darwin Initiative. The authors would like to acknowledge the co-operation of the Rodrigues Regional Assembly and the Mauritius Oceanography Institute in the undertaking of this work.



## 1 Introduction

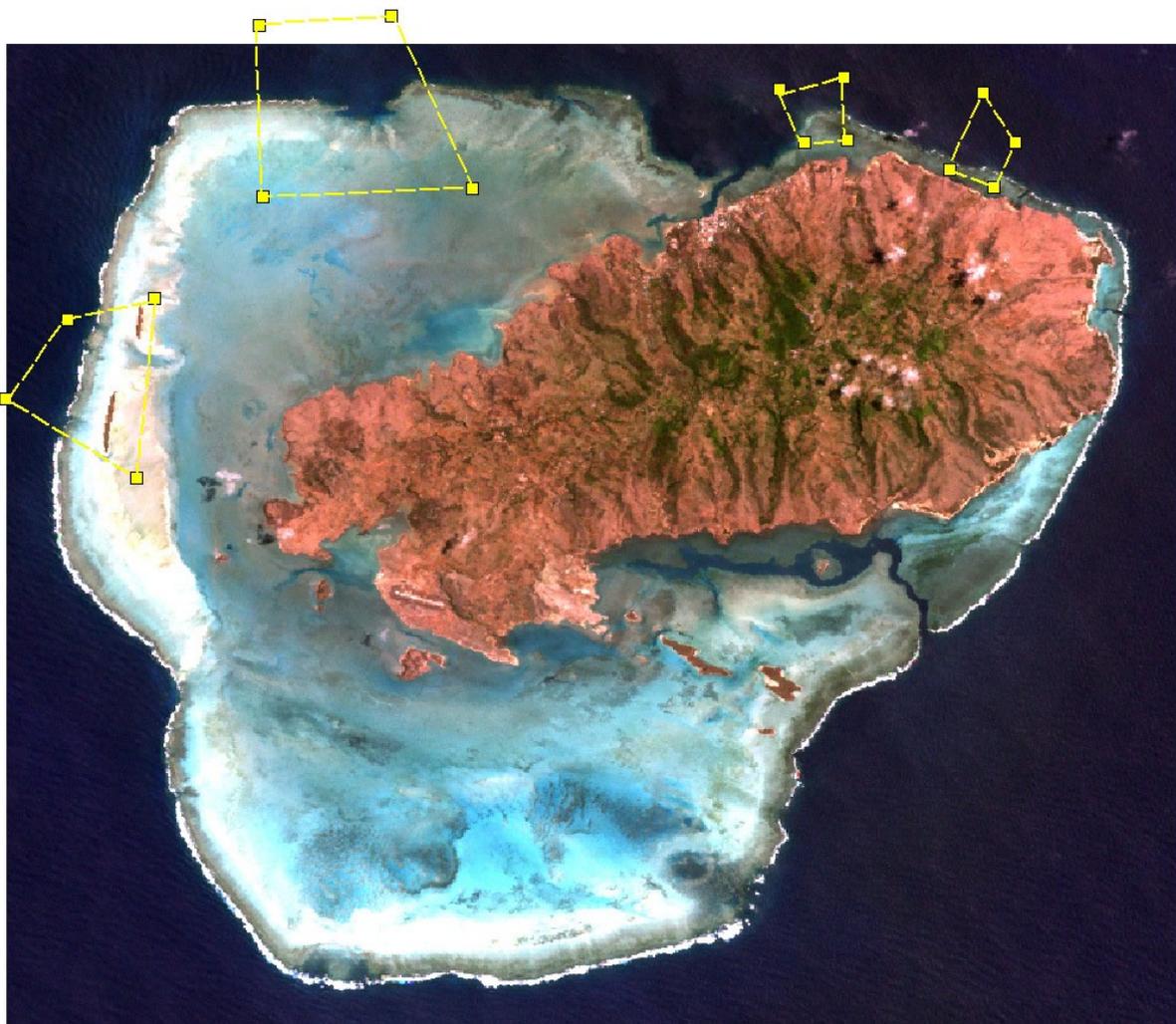
Rodrigues is surrounded by 90km of fringing reef which has created a lagoon of over 240 square kilometres in area, extending from between 20 metres to over seven kilometres from the shore. The island supports a population of 37,000 people, and the artisanal seine net, basket trap, line and octopus fisheries are extremely important to the local community. Fishing is one of the largest employment sectors on Rodrigues, as there is a lack of industrial development and tourism is in its infancy. There are some 2,000 full-time, registered fishers (nearly 20% of the total workforce) with a further 2,000 people fishing on a casual basis (FRTU, unpublished data). The limited area of productive offshore waters combined with the strong prevailing winds and lack of large boats severely restricts opportunities for fishing outside the protective fringing reef. Dependence on the sheltered water therefore concentrates large numbers of people in the lagoon and reef areas, and this intensive fishing causes damage to the ecosystem and disruption to the life cycles of many fish species, resulting in a serious decline in populations.

Due to the absence of alternative employment opportunities and a lack of management of the fishery, too many fishers exploit octopus. Furthermore, there are no size restrictions, and a large percentage of the animals landed are juveniles (Lynch *et al.*, 2001). Octopus are particularly vulnerable to this type of over-fishing, as they breed only once in their lifetime. As a result, octopus landings have decreased from 774 in 1994 to 324 tonnes in 2004 (FRTU, unpublished data). A similar pattern is also found in finfish catches, with seine net catches declining from 264 tonnes in 1994 to 189 tonnes in 2005 and the regular landing of immature individuals. Surveys suggest that growth and recruitment overfishing may be occurring for the most important fish in the seine net fishery (Rabbitfish, Trevally, Surgeonfish, Emperor and Unicornfish) (Hardman *et al.*, 2006; Lynch *et al.*, 2005). There have also been changes in the composition of fish catches with small, herbivorous fish dominating the catches, as the population of the slower-growing, larger predators have already been fished out. To take one example, the emperor *Lethrinus harak* accounted for 40% of the landed catch in the seine net fishery in 1980 (Pearson, 1980), but this proportion was reduced to less than 1% of the total catch in 2005 (Hardman *et al.*, 2006). The decline in lagoon catches continues despite greater fishing effort and the introduction of management and enforcement measures, and many fishers exist at subsistence and low-income levels. 39% of the registered fishers are women, of whom the majority are involved in the octopus fishery and must manage on an average wage of less than Rs 820 per month from their fishing activities (Lynch *et al.*, 2001).

The techniques used by the fishers create further problems. Octopus and large net fishers work on foot and this trampling destroys the delicate coral structures and the algal matting which form both a habitat and primary food source for many marine animals. Basket trap fishing also results in a significant amount of damage to coral, either through accidental breakage as the boat anchor or weighted trap is dropped on coral colonies, or through deliberate destruction by fishers who place coral inside their traps for bait or anchorage. Furthermore, despite regulations to the contrary, seine net fishers often use illegally small mesh sizes, and so collect juvenile animals. This habitat damage is of particular concern as Rodrigues is part of the Mascarene biodiversity hotspot, rated the fourth most important reef ecosystem in the world (Roberts *et al.*, 2002). The unique nature of the island's reefs is highlighted by the presence of endemic coral and fish species, and Rodrigues' upstream location suggests that it may have an important role in seeding the reefs of the other Mascarene Islands.

Management methods so far introduced have included the prohibition of spear fishing, reducing large net license numbers, enforcing a minimum mesh size of 9cm and closing the

large net fishing season between March and October. These measures begin to address problems in the lagoon fisheries, but further effort is needed to reduce the current downward trend. In response to the decline in fish stocks, the Rodrigues Regional Assembly, in collaboration with *Shoals Rodrigues*, has now approved the creation of 4 marine reserves in the northern lagoon at Rivière Banane, Anse aux Anglais/Passé Cabri, Grand Bassin and Passé Demi (Figure 1). The location of the reserves was decided in collaboration with the major stakeholders through meetings at fisher communities held during 2002 and meetings of the Coordinating Committee for Fisheries and Marine Resources. Meetings with the fishing communities showed that 80% of fishers acknowledged that fish stocks had declined in recent years, with 86% in support of marine reserves (Gell *et al.*, 2003). The areas were chosen based on fishers' suggestions, due to them being potential spawning grounds (Grand Bassin), having large numbers of fish (Grand Bassin, Passé Demi and Anse aux Anglais), being good diving/snorkelling sites (Passé Demi, Anse aux Anglais and Rivière Banane) and containing degraded areas that require protection in order to recover (Rivière Banane and Anse aux Anglais).



**Figure 1.** The 4 marine reserves in the northern lagoon.

The draft regulations for management of the reserves have now been prepared and it is hoped that the first reserve at Rivière Banane will be proclaimed during the latter part of 2006. In response to this, further fisher meetings were held during February and March 2006 in order to provide a progress report for fishers and to ensure their on-going support for the project as well as to gain an insight into their views and concerns.

## 2 Results from Stakeholder Meetings

Meetings were held at 6 fishing villages during February and March 2006, with a meeting also held at the *Shoals Rodrigues* Centre for tour operators and pleasure craft owners. A summary of attendance at these meetings is shown in Table 1. The fishing villages were targeted to include those that will be affected by the proclamation of the 4 marine reserves. Sessions were carried out as informal discussions, with stakeholders being asked their views on the location of the reserves, enforcement and alternative livelihoods.

**Table 1.** Summary of stakeholder meetings February-March 2006.

Village	Number of Fishers		Total
	Women	Men	
Rivière Banane	14	8	22
Anse aux Anglais	33	1	34
Baie aux Huitres	0	2	2
Baie du Nord	0	23	23
Baie Malgache	0	5	5
Anse Goeland	0	11	1
Tour Operators	0	6	6
Total	47	56	103

The key observations and comments of the stakeholders are given below with a full transcript of the meetings provided in Appendix 1.

### **Rivière Banane (8<sup>th</sup> February)**

In general, the fishers supported the development of marine reserves as their catches had declined, however most were shocked at the size of the reserve, stating that the area is where they catch the most fish and octopus. They asked for 3,000Rs compensation per month as well as their Bad Weather Allowance, however would consider alternative livelihoods. They agreed that some of them could farm; the women would also consider beach-cleaning, whilst the men would consider off-lagoon fishing, as long as they were provided with a boat. They felt that the reserves should be policed by the National Coastguard (NCG) and the Fisheries Protection Service (FPS) and that controls should also be carried out at night. They were also concerned about the number of un-registered fishers, particularly young people, who fish in the area and how these would be regulated.

### **Anse aux Anglais (14<sup>th</sup> February)**

In general, the fishers supported the development of marine reserves as their catches had declined, however they were concerned by the location of the reserve as this is where the coral is still healthy and where they catch the most fish and octopus. They asked for 5,000Rs compensation per month, however would consider alternative livelihoods with most keen to clean beaches. They felt that staff from *Shoals Rodrigues* should police the reserves and asked for representatives from the Rodrigues Regional Assembly and FPS to attend future meetings.

### **Baie aux Huitres (21<sup>st</sup> February)**

The fishers supported the development of marine reserves and thought that the location of the reserve at Grand Bassin was good; one fisher even felt that the area should be larger. They were very concerned about enforcement of the reserve area and thought that a group of fishers should police the reserve in collaboration with the NCG and FPS. They were interested in off-lagoon fishing as an alternative livelihood, however stated that they would need proper equipment and training.

### **Baie du Nord (24<sup>th</sup> February)**

In general, the fishers supported the development of marine reserves, however they were concerned by the location of the reserves as they catch most fish and octopus at Passe Demi and Grand Bassin. They asked for 8,000Rs compensation per month however would consider off-lagoon fishing as an alternative as long as they were provided with boats, proper equipment and training. They felt that the reserves should be policed by a group of fishers in collaboration with the NCG and FPS. They were also concerned about the number of un-registered fishers and how these would be regulated.

### **Baie Malgache (21<sup>st</sup> March)**

The fishers supported the development of marine reserves as their catches of fish and octopus had decreased and they thought that the location of the reserve at Grand Bassin was good. They wouldn't consider any alternative livelihood, however would respect the reserves and would find another location to fish in. They felt that a group of fishers should police the reserves in collaboration with the NCG and FPS.

### **Anse Goeland (28<sup>th</sup> March)**

In general, the fishers supported the development of marine reserves, however one fisher said that he would not respect the reserve and would continue to fish at Grand Bassin. All fishers were concerned by the location of this reserve as this is where they catch the most fish. They asked for 8,000Rs compensation per month, however would consider alternative livelihoods such as beach cleaning or re-forestation. They felt that the reserves should be policed by a group of fishers.

### **Pleasure Craft Operators (25<sup>th</sup> February)**

The boat operators all supported the development of marine reserves and agreed that they would respect them. They were concerned that they would still be able to take tourists snorkeling and diving in the reserve areas and that they would still have access to Ile aux Cocos. They would be willing to pay extra money for a permit to visit the reserve areas, however asked for a proper access channel to Ile aux Cocos as well as access to Ile aux Sables; they also asked for permanent mooring buoys within the reserves. They felt that the reserves should be policed by staff from *Shoals Rodrigues* in collaboration with the NCG and FPS.

In addition to these comments, fishers at many of the villages were also concerned that they would still be able to pass through the reserve areas to go outside of the lagoon or to other fishing grounds outside of the reserve. Fishers at Baie Malgache and Anse Goeland also asked for the areas to be marked by beacon lights so that they could locate them when they were returning to the lagoon at night.

## **3 General Conclusions**

The results of the 7 stakeholder meetings show that:

- Most fishers agreed that marine reserves are a good idea in order to protect the fish stocks in Rodrigues.
- Fishers were very concerned about how they would earn a livelihood when the reserve areas are closed as they catch the most fish/octopus in these areas.
- Most fishers would be happy to do other jobs such as beach cleaning or re-planting, however for off-lagoon fishing they would require boats, equipment and proper training.

- Most fishers asked for compensation for loss of earning, ranging from 3,000 – 8,000 Rs per month. If they do not receive compensation, they say that they will have to fish illegally in order to feed their families.
- All fishers were very concerned about enforcement of the reserve areas and who would police them. Many thought that it would be good for a group of fishers to police the reserves in collaboration with the FPS and NCG.
- Fishers were concerned about unregistered fishers catching too many fish and how they would be regulated as they wouldn't be entitled to any compensation.

These results suggest that in order for the marine reserves to work successfully there needs to be a proper investigation into alternative livelihoods on a site-by-site basis, allowing fishers to diversify their incomes, supported by the provision of adequate training. Enforcement of the reserve areas is also key, with greater man-power of Fisheries Protection Service personnel needed, possibly in combination with rangers from the fishing community. Finally, the regulation of un-registered fishers needs to be taken into consideration.

#### **4 Management Recommendations**

The development of alternative income schemes for fishers affected by the marine reserves is essential to the success of the reserves. If fishers are not provided with a long-term income it is highly likely that they will undertake illegal fishing activities within the reserve areas; indeed many fishers interviewed, suggested that this would be the case. The initial stakeholder meetings suggest that fishers would be happy to undertake beach cleaning, off-lagoon fishing and agriculture. Other possible alternatives include new artisanal trades using local products, shellfish/pearl oyster aquaculture, seaweed farming, specialist agriculture (e.g. fungi), reforestation and working in the tourism industry (marine, terrestrial and cultural tours). Furthermore, a number of fishers expressed a wish to be employed as rangers for the marine reserves. In addition to providing alternative incomes this would also ensure effective enforcement of the reserve regulations; involving local stakeholders promotes a sense of local ownership and a sharing of responsibility and has been shown to be very effective in many marine protected areas around the world.

The creation of other marine protected areas highlights a number of key considerations when developing an alternative livelihood strategy:

##### **1. Economic assessment of current economic situation and likely economic impact of marine reserves.**

At an early stage in alternative livelihoods projects it is important that some assessment is made of the current economic situation in the area in question. A simple socio-economic assessment that gives some idea of the current sources of income and which can identify which sources of income will be impacted by the implementation of the marine reserve will give managers an idea of the scale of the issue and of the people they need to target with alternative livelihoods programmes.

##### **2. Identify the most vulnerable groups**

During this initial process of identifying who will be affected and the economic impact, it is also important to identify the most vulnerable groups. In other projects for example, this has been older fishers who do not feel able to retrain or are not physically able to move into more energetic and demanding employment. Other disadvantages may come from a lack of access to bank loans for retraining, family commitments which limit times when they can work (could apply to women with families). A potential vulnerable group in Rodrigues would be unregistered fishers who will not be eligible for certain state benefits and may be reluctant to give economic information.

### **3. Ask the community what alternative livelihoods would work for them and what they need to take these ideas forward**

The collection of this initial economic information is also an opportunity to collect ideas from the community for alternative incomes. If there is the will to take a local idea forward, a small amount of support in the form of loans, training opportunities etc could make these projects happen.

### **4. Aim for diversifying incomes rather than giving a single full-time alternative**

Many alternative income projects in similar situations to that in Rodrigues have found that the best approach is to give people an opportunity to diversify their sources of income rather than change from one type of employment to another. By giving the communities access to a wide range of training possibilities, loan opportunities and alternative livelihood project, people are not left relying on just one source of income which could fail.

### **5. Develop projects which produce for the local market – don't rely on tourism or export**

The CORDIO alternative livelihoods programme found that a wide variety of alternative livelihoods schemes worked in different situations. They emphasised the value of developing projects which produce for the local market rather than relying on tourism or export. They found that food processing projects and other projects producing new products for local people were particularly good because they had a stable market and were not reliant on changeable tourist or export demand.

### **6. Ensure that new projects for alternative incomes are environmentally sustainable – don't displace the problem**

The alternative livelihoods need to be developed with environmental sustainability in mind so that retraining or redeploying people isn't just displacing the problem to another sector. In other places, training people to contribute to habitat restoration projects, larval rearing or restocking of depleted species has been successful.

### **7. Maximise employment possibilities through the marine reserves – employing local fishers in the marine reserve will have diverse benefits**

A proportion of alternative income opportunities will come from the marine reserve itself and the more fishers from the reserve area that can be employed part- or full-time in marine reserve related work the better. In other marine reserves, jobs for local fishers (male and female) have included rangers, community liaison officers, souvenir production and sale, data collection and other scientific work, sign production and other artwork, tourist guides, education officers etc.

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## Appendix 1

**8<sup>th</sup> February 2006 12:20 – 13:25 Riviere Banane**

Attended by 22 fishers from Riviere Banane (8 men and 14 women).

Sabrina Desiré (SD) opened the meeting, welcomed everyone and explained the reason for our visit. She talked about the progress of the reserves and showed them a map of the reserve boundaries as well as the *Shoals Rodrigues* marine reserves poster.

SD asked if the fishers had seen the buoys. They replied that they'd seen 1 buoy inside the lagoon at Passe Grenade and thought it was OK.

A fisherman asked if they'd be able to walk through the reserve or if boats could cross it? SD replied that no fishing or catching octopus would be allowed in the reserve, however that boats could pass through it and that diving and snorkelling would be allowed with a permit.

One of the fisherwomen wanted to confirm the size of the reserve – she was shocked that the reserve stretched so far north and was annoyed as she said that's where she catches most fish, so what would she do if she couldn't fish there? SD reminded them that they'd suggested the area as a reserve.

One of the fishermen asked how long it would be a reserve. SD replied forever.

The fishers said that they would need compensation as fishing is their livelihood.

SD asked about policing the reserve and what they thought about them being paid to police the reserve themselves. They didn't think it was a good idea and said that it should be the National Coastguard (NCG) or the Fisheries Protection Service (FPS). They also said that the reserve should be policed during the night as well as in the day.

SD asked how much compensation they'd want. All the fishers agreed 3,000 Rs per month plus their bad weather allowance.

SD asked how many of them also farm. The fishers replied that not all of them farmed and farming and fishing depended on the tides.

SD asked whether they thought that fish and octopus catches had declined. The fishers replied that they hadn't caught any octopus since January. They also said that tourists broke their basket traps and release the fish in "Aquarium" and that young people also visit the area to fish and earn a living (non-registered fishers).

SD asked what they'd consider doing if they couldn't fish. Some said there's nothing else as fishing is what they've done all of their life; they also said that they couldn't all farm. The men said that they would consider off-lagoon fishing, but they didn't have the money to buy the boats and where would they moor them? SD asked about using octopus pots, but they didn't like the idea as they said it would be dangerous in bad weather and they also thought that other people would take the octopus from the pots. One fisherwoman suggested beach cleaning and the other women said they would be happy to do this. The fishers also said that the Rodrigues Regional Assembly (RRA) should start up an enterprise so that they can find employment as well as being paid some form of allowance.

SD asked where most of the fishers who fish in the reserve area come from. They replied that some come from Grand Montagne, Trefles, Brulé and Roche Bon Dieu, but that approx 75% come from Riviere Banane itself. They said that there are around 80 fishers in total [NB. FPS has a list of 100 fishers].

SD closed the meeting, thanked everyone for coming and suggested that they come snorkelling with us, so that they could see the "Aquarium" for themselves – all seemed keen.

**14<sup>th</sup> February 2006 8:30 – 9:10**

**Anse aux Anglais**

Attended by 34 fishers from Terre Rouge, Roseaux and Creve Coeur (33 women and 1 man).

Jovani Raffin (JR) opened the meeting, welcomed everyone and explained the reason for our visit. He talked about the progress of the reserves and showed them a map of the reserve boundaries.

JR asked if the fishers thought the reserve at Anse aux Anglais was a good idea and if it's in a good place. He got no response, although one woman nodded that it was a good idea. JR explained that the reserve will be a "No-Take Zone" i.e. they won't be able to catch any fish or octopus within the area and he showed the *Shoals Rodrigues* marine reserves, explaining the benefit of reserves.

The fisherman asked if the reserve would block him from going to the area north of Grand Baie and how far offshore it would start. JR explained that the reserve starts approx 500m offshore, so they would still be able to walk in the inshore area.

JR asked again if they thought the reserve was a good idea. One fisherwoman said that she hadn't caught anything that day and so yes, the reserve would be a good thing.

The fishers asked who would police the reserve. JR asked who they thought should police it and what they thought about them being paid to police it. The fishers laughed and said that them policing it themselves wasn't a good idea as they would fish illegally. One fisherwoman suggested that *Shoals* police the reserve.

A fisherwoman asked what they would do, as that area is where they catch the most fish and octopus. She said to the west of the reserve area (just offshore from Anse aux Anglais) the coral's broken and there's nothing, whereas it's much healthier within the reserve area. She asked how she would earn her livelihood and support her children and said that there'd be 150 fishers all fishing on top of each other in a very small area.

JR asked if they'd consider doing anything else other than fishing. They were all keen to clean beaches, but laughed at the idea of taking tourists out in the lagoon. The fishers said that it's the tourists who take things from the reef when they go diving and snorkelling. JR said that if that's the case then it would be their job to report this to the authorities when the reserves were in place, but the fishers laughed and said that the FPS officers also fish illegally, so what was the point.

The fishers said that they would want compensation and all agreed on 5,000 Rs per month.

JR asked if they did anything else other than fish. The fishers replied that they fish every day except for Sunday. When it's low tide they look for octopus, when it's high tide they line fish. Some fishers reared pigs, however the RRA has now stopped sending livestock to Mauritius – they used to get a good price for pigs but now they get nothing. They also said that they don't have enough land to rear goats or to grow crops.

JR asked if there were anymore questions. One fisherwoman asked what would happen if the reserves were set-up, but the RRA didn't give them any compensation for 1-3 months, what would they do then? She said that next time there was a meeting we should bring someone from the RRA and FPS with us to answer these sorts of questions.

JR closed the meeting and thanked everyone for coming.

**21<sup>st</sup> February 2006 12:00 – 13:00**

**Baie aux Huitres**

Attended by 2 fishers (both men).

Eric Blais (EB) talked to Peter (a seine net fisher). Peter thought the reserves were a good idea, but he thought that *Shoals* should manage and look after the reserves and not FPS as he said there's too much corruption. He also thought that the fishers should police the reserves in collaboration with *Shoals* as they know the area well, know the people and when they'll go

out fishing., he was very concerned about security of the reserve and said it needed fencing of some sort, not just marker buoys and suggested that the enforcers had cameras to obtain proof of illegal fishing.

EB asked him if he thought the reserve at Grand Bassin was in a good place. He replied yes, even though that's where he fishes the most, but he said that it should be larger, stretching from the coast offshore.

EB asked if he'd consider doing anything else and he was interested in off-lagoon fishing, however he said that fishers would need to be given more facilities and training.

SD talked to Z'ecoute (line and trap fisher). SD asked him what he thought about the reserve at Grand Bassin. He thought that the reserve was a good idea and in a good place. He said that there used to be lots of fish in the bay, but that there weren't anymore and that this was due to sedimentation, so the bay should be dredged. He thought that the fishers should police the reserve themselves in collaboration with FPS.

EB and SD asked how we could encourage more fishers to attend a meeting. They replied, only if we offered money, food or alcohol!

**24<sup>th</sup> February 2006 15:00 – 16:00 Baie du Nord**  
Attended by 23 fishers (all men)

Eric Blais (EB) opened the meeting, welcomed everyone and explained the reason for our visit. The fishers agreed that they caught very small fish and so the reserve would be a good idea.

SD talked about the progress of the reserves and showed them a map of the reserve boundaries. She asked if they thought that the reserves were in a good place. The fishers said that they catch most of their fish and octopus within the Grand Bassin and Passe Demi reserves, so if those areas were closed, where would all the fishers go to earn their livelihoods? EB and SD explained the purpose of marine reserves and showed them the *Shoals Rodrigues* marine reserves poster.

The fishers pointed out that the reserves would need to be policed and said that they could act as enforcers in collaboration with the NCG and FPS.

SD asked them if they'd consider doing anything else if they couldn't fish. They were all interested in off-lagoon fishing, however none of them have fished off-lagoon before, so they would need proper training. They would like a big boat with a GPS and other equipment and would prefer to fish the Banks for periods of 1-2 months. SD asked if they would consider taking out tourists, however they said that there aren't enough tourists (hotels are closing down) and so they wouldn't make enough profit.

The fishers said that they would need compensation and asked for 8,000 Rs per month. They said that there'd be no solution without this compensation. If they were given this money then they would respect the reserves and not fish within them, however if they weren't given any compensation then the RRA would have to provide for their families and they would have to fish illegally.

EB stressed again the need for the reserves and the fishers said that fish stocks are declining because more people are going out fishing and there are lots of unregistered fishers who should be made to stop fishing. They said that when young people leave school there are no jobs for them, so many go out fishing to earn some pocket money. The fishers stressed that this would get worse and worse each year.

EB closed the meeting and thanked everyone for coming.

**25<sup>th</sup> February 2006 12:20 – 13:05**

***Shoals Rodrigues Centre***

Attended by 6 pleasure craft boat owners

Eric Blais (EB) opened the meeting, welcomed everyone and explained the reason for our visit. He talked about the progress of the reserves and showed them a map of the 4 reserve boundaries.

The boat owners were concerned that they wouldn't be able to take tourists out snorkelling and said that they wanted snorkelling to be permitted in all 4 reserves. They were also concerned about access to Ile aux Cocos and EB reassured them that this would not be affected.

The boat owners asked who would police the reserves and laughed when EB said that it would be FPS and NCG as they felt it was a waste of time due to too much corruption. They thought that *Shoals* should police the reserves with FPS and NCG as back-up.

EB asked whether they thought that permits were a good idea and whether they'd be willing to pay extra (e.g. 400 Rs per day). They said yes, but for that they'd want a proper channel to Ile aux Cocos, so that they'd have access at all states of the tide. They also asked for access to Ile aux Sables – they said that although Ile aux Sables is closed to tourists, there's lots of litter on the beach (empty wine bottles etc), implying that people go there, so the island should be opened up to tourists as well. They also said that there's a problem getting permits from the Central Administration as it's closed on Saturdays and Sundays, so there would need to be a solution to that.

The boat owners asked if there'd be permanent mooring buoys for boats and said that these would have to be very secure as people would steal them.

EB asked if they thought the reserves were a good idea and they all agreed that they were a good idea and said that they would respect them.

EB closed the meeting and thanked everyone for coming.

**21<sup>st</sup> March 2006 17:15 – 17:35**

***Baie Malgache***

Attended by 5 fishers (all men)

Eric Blais (EB) opened the meeting, explained the purpose of marine reserves, the need for reserves in Rodrigues and a bit about the history of the marine reserves project. He showed the fishers a map of the 4 reserves boundaries and explained that they would be "No Take Zones".

EB asked if the fishers thought the reserves were a good idea. All fishers thought that the reserves were a good idea and in a good location. Eric cited the example of how well marine reserves had worked in St Lucia.

One fisher asked if they would still have the right to go through the pass at Grand Bassin to get out of the lagoon? EB explained that our role was working in collaboration with the RRA and that we'd pass on the fishers wishes and views to the Coordinating Committee, so this would be highlighted.

EB asked if they caught more fish inside the reserve area or outside. All 5 fishers said that they fished within the Grand Bassin reserve and caught most fish in this area.

EB asked if the fishers had noticed any change in fish/octopus catches in recent times. All fishers said that fish and octopus had decreased and that they'd only catch 1-3 octopus each day if they were lucky.

EB asked if they'd consider doing anything else other than fishing when the reserve areas were closed. The fishers replied that they have to fish – they don't know anything else. They

all agreed that they would respect the reserves however and would just have to find somewhere else to fish.

EB asked if they have any other means of income. They all replied, No, they only fish.

EB asked who should police the reserves. The fishers thought it would be a good idea if a group of fishers were paid to police the reserves with back-up from FPS and NCG.

The fishers all agreed that we need reserves and that they're a good idea and said that if all the fishers respect them, then they will work. EB explained how successful reserves had been in Australia and they all hoped that the same could happen in Rodrigues.

EB asked if there were any more questions. One fisher asked that beacon lights be placed at the entrance to passes to allow them to return back into the lagoon safely.

EB closed the meeting and thanked everyone for coming.

**28<sup>th</sup> March 2006**

**Anse Goeland**

Attended by 11 fishers (all men)

Eric Blais (EB) opened the meeting, explained the purpose of marine reserves, the need for reserves in Rodrigues and a bit about the history of the marine reserves project. He also showed the fishers a map of the 4 reserves boundaries.

The fishers pointed out that there are approximately 60 registered fishers who fish in the Grand Bassin reserve area.

All of the fishers thought that reserves were a good idea, however they were concerned that they would still be able to use the pass at Grand Bassin to get out of the lagoon. EB explained that they would be able to pass through the reserve area, but that they wouldn't be able to catch anything.

One fisher said that he had been fishing at Grand Bassin for years and that there has been no change in his catch. He said that he will continue to fish there, even if it is a marine reserve and that the authorities would have to shoot him before he stopped.

Another fisher said that they needed compensation if they wouldn't be able to fish there and asked for 8,000 Rs per month, only then the reserves would be able to be put in place. All of the fishers agreed that it would be very difficult for them if Grand Bassin was a marine reserve as they all fish there and always catch something within that area. One fisher pointed out that he wouldn't get any compensation as he isn't registered and so asked what would happen to him.

Another fisher said that the seine net fishery should be closed during the season when Mulet lay their eggs as catches of this fish are declining. The other fishers all suggested closing the seine net fishery forever. Eric explained that it would be very difficult to close the fishery forever, however the fishers argued that the seine net fishers are able to survive during the 5 month closed season, so should still be able to gain some livelihood if the fishery is completely closed.

The fisher who asked for 8,000 Rs compensation volunteered himself to police the reserve. Another fisher said that they are keen to do other jobs inland such as beach cleaning or re-forestation.

The fishers were concerned that their propellers could become caught on the marker buoy lines when they were returning to the lagoon at night and suggested that there also be beacon lights to mark the reserve area.

EB closed the meeting, thanked everyone for coming and said that he would pass their concerns onto the Rodrigues Regional Assembly. The fishers asked him to come back to them with feedback.