



Cripps, G. and Harris, A.

Community creation and management of the Velondriake marine protected area

blue ventures
discovery through research

2D Aberdeen Studios,
22-24 Highbury Grove,
London N5 2EA, UK.
research@blueventures.org

Tel: +44 (0)20 3176 0548
Fax: +44 (0)800 066 4032

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Abbreviations

BV – Blue Ventures

CBO – community-based organisation

CBNRM - community-based natural resource management

CMPA - community-managed protected area

FAV – Farita Arovana Velondriake, the executive committee of the Velondriake community-managed protected area

Foibe - the central committee of the Velondriake Association

Velondriake – the Velondriake community-managed protected area

NTZ – not-take-zone, an area closed to all extractive activities

VA – the Velondriake Association

Vondrona – regional management committee; these are Vezo Milagnoriake (North), Milasoa (Center) and Fanemotra (South).

WCS – Wildlife Conservation Society

Summary

The Velondriake community-managed protected area evolved from the establishment of a successful temporary octopus no-take-zone by the village of Andavadoaka in November 2004 to a fully-fledged marine protected area officially inceptioned in October 2006. Presently it encompasses 25 villages and is a vehicle through which 6,500 people are effectively husbanding their natural resources, developing alternative livelihoods and tackling the social challenges they face.

“Community capacity building for Velondriake” narrates the steps taken to achieve this and details the support Blue Ventures has given to the Velondriake community to enable them to realise their vision.

In November 2004 the village of Andavadoaka established a temporary octopus NTZ with the support of BV, WCS and Copefrito – an octopus collection company. This enhanced villages’ octopus catch and inspired neighbouring communities to replicate it. By October 2006, 22 villages neighbouring Andavadoaka had established temporary octopus and mangrove NTZs. It also motivated these villages to implement other natural resource management measures, such as permanent NTZs and the outlawing of destructive fishing methods. Ultimately it led the community to create a community-managed MPA, consolidating these efforts into an overall management structure.

Villagers discussed and debated these from October 2005 until October 2006. Here they established:

- The Velondriake Association – a democratic, community-based organisation to manage the project.
- An MPA management and action plan that laid down the community’s vision of Velondriake.
- The Velondriake Dina – a set of laws founded in traditional law - to govern the MPA.
- A preliminary zoning plan dividing the CMPA into temporary and permanent NTZs within a larger village user zone.

Together these formed the foundation of the Velondriake CMPA.

To establish a functioning CMPA from this basis the community had essentially three tasks: to finalise the zoning and implement the NTZs; to enforce the CMPA laws and to monitor and evaluate the effectiveness of their management. Crucially, they also had to create alternative livelihoods to resource extraction.

Through extensive scientific surveying of Velondriake, BV provided the Velondriake management with a scientific MPA design that built in coral reef resilience to climate change. The Velondriake management presented this to the community and through long community awareness raising and negotiation, finalised the placement of the permanent NTZs in December 2008. Throughout 2007 and 2008, the villages of Velondriake continued to implement effective temporary NTZs.

Community-derivation of the Velondriake Dina, combined with its wide communication and repeated awareness raising by the Velondriake management, achieved broad-based respect for it. Collaboration between the Velondriake management and the local neighbourhood watches led to a more effective enforcement of the Dina.

Villagers recorded simple ecological, fishery and management indicators in “Village Record Books”. Teams of villagers carry out ecological monitoring of key habitats using straightforward methods that measure the state of resources important to villagers’ livelihoods. This village-based monitoring is reinforced by BV scientific monitoring of coral reef, seagrass and mangroves habitats, key fisheries and socio-economic conditions. This data is collected by BV scientists with trained community members.

BV has helped the Velondriake management to establish the basis for ecotourism and sea cucumber and seaweed aquaculture. BV has also established other projects within Velondriake that are an investment in the social capital of the community: a carbon offsetting project, based on fuel efficient stoves; a family planning clinic; two women’s associations; three active children’s environmental clubs; English teaching and a scholarship programme to enable children to study to final year level.

Introduction

Velondriake is a community-managed protected area that presently encompasses 25 villages and approximately 6,500 people. Figure 1 presents the geographical extent of Velondriake. Within it there is a high diversity of coral reef, seagrass and mangrove habitats as well as extensive salt pans, marshlands, euphorbia scrub and baobab and spiny forest.

How did the people of these 25 villages come to create a MPA? How are they managing it?

This report summarises how BV has worked to guide and build the capacity of the Velondriake community to realise its vision. It presents firstly how the people of 25 villages created Velondriake with the guidance of BV and WCS. Velondriake enshrines the community's vision of how they want to manage their natural resources and improve their livelihoods. Secondly, the report summarises how Velondriake has become a functioning, community-managed MPA since its conception and so has begun to realise this vision. The report focuses on the community process and does not describe the administrative steps taken to gazette the protected area.

Approach

The approach taken to establish Velondriake has not been one of an NGO raising awareness of the natural resource problems and teaching local communities what must be done to solve these. Rather it has been facilitating and enabling villagers themselves to assess the state of their natural resources, to identify and analyse the problems and to understand the root causes of these. Confronted with the concrete realities they have developed solutions that are within their capabilities. Carrying out these has brought a tangible improvement to their daily lives, establishing and reinforcing the link between the management of their natural resources and their own well-being.

As important as the community developing and implementing the management measures themselves, these measures were well aligned with local economic realities. They accommodated the necessity of villagers making a living from fishing; and the potential for fishers to improve their earnings through these measures ensured broad support.

The effectiveness of the creation and management relied strongly on the leadership and vision of a few key community leaders, in particular, Roger Samba. They possessed the insight to understand the natural resource problems faced by the community and a quick grasp of how a MPA could be used to overcome these. They were active in leading the project at a village-level from the outset. As such this has been a community-driven process, the community taking action themselves only after, sometimes long, assimilation of the steps necessary for sustainable resource use and according to their own agenda.

In putting into place the building blocks of the CMPA, the local leaders did not use text-book participative appraisal techniques, but traditional village meetings that embody a tradition of open dialogue and consensus building. The Velondriake leaders held such meetings in all villages before taking any management decisions; committee members also consistently reported back to their respective villages after committee meetings. These frequent meetings ensured a constant dialogue between the committee and villagers and the essential village-level consensus as a basis for action. The Velondriake committee essentially formed a platform for communication and

coordination of activities, with the villages themselves taking the actual decisions. Velondriake committee members communicated the decisions of their respective village to the Velondriake committee; they took initiatives of the committee back to the village for them to discuss, legitimise and enact.

For Velondriake to be a successful community-managed marine protected area several building blocks must be put in place through wide stakeholder participation: (i) a common goal that the community wants to achieve; (ii) a social contract as well as rules and regulations defined and agreed upon by the community that enables the attainment of this goal; (iii) a strategy or management plan to make it a reality; (iv) a legitimate and democratic community-based organisation that forms the management structure; (v) execution of the management plan through an adaptive management framework; and (vi) technical guidance to ensure success.

BV capacity building has aimed to facilitate the community's creation of the framework necessary for community-based management to become a reality, and has worked to help the community successfully enact it. In addition, BV has provided the scientific guidance essential for Velondriake to succeed. Blue Ventures and Velondriake use lessons drawn from successful CBNRM in the South Pacific and Southern Africa,^{1,2} but have also taken a pragmatic and innovative approach based on local realities.

1. Creation of Velondriake

Nosy Fasy - the first temporary octopus NTZ

Velondriake has its roots in a temporary octopus no-take-zone that the village of Andavadoaka established to tackle their diminishing octopus catch.³ It was developed from August 2003 to October 2004 with the guidance of BV and WCS, and supported by Copefrito, a commercial octopus collection company. The villagers of Andavadoaka drew up a Dina – a traditional local law – to govern the temporary octopus NTZ. It stated the period of closure, the employment of a village guard to enforce the closure, and the punishment for fishing in the NTZ.

The closure of the 200 ha Nosy Fasy reef flat from 4 November 2004 to 6 June 2005 doubled the mean weight of octopus caught⁴. It is from this success that community-based natural resource management grew organically, culminating in the official inception of a fully-fledged MPA in October 2006.

Successful temporary NTZs were the initial building blocks of the CMPA: fishers were prepared to temporarily close fishing grounds; the temporary NTZs brought tangible benefits and galvanized broad community support for forming a MPA.

¹ “Locally-Managed Marine Areas: A guide for practitioners”, Govan, H., Aalbersberg, W., Tawake, A., and Parks, J. (2008). The Locally-Managed Marine Area Network, www.LMMAnetwork.org

² “Creating and managing marine protected areas in the Phillipines”, Alan.T. White, Porfirio.M. Alino, Anna.B.T. Meneses, 2006.

³ The formation of Velondriake is described in detail in “To live with the sea”: development of Southern Madagascar’s first network of marine and coastal protected areas”, Alasdair Harris, 2007. Madagascar Conservation and Development. Vol. 2 (1): pp. 43-49

⁴ “Seasonal closures of no-take zones to promote a sustainable fishery for *Octopus cyanea* (Gray) in Southwest Madagascar”, Humber, F, Harris, A, Raberinary, D. & Nadon, M. (2006).

The opening of the Nosy Fasy reserve attracted a large number of fishers from as far as Bevohitse (40 km to the South) and Morombe (35 km to the North). The enormous fishing effort on the opening day meant that the fishers of Andavadoaka did not benefit from their sacrifice. They demanded that other villages created their own octopus NTZs.

Ampisorogna, Nosy Fasy and Nosy Masay - creation of further temporary NTZs

From July to October 2005, BV and WCS presented the results of the Nosy Fasy temporary NTZ to Andavadoaka and the neighbouring villages. During these village meetings BV and WCS explained how the NTZ worked and catalysed village discussion of replicating the Nosy Fasy NTZ.

Following such a meeting, Lamboara village decided to establish a temporary NTZ at fishing site called Ampisorogna on the 1 September 2005. Subsequently four villages (Lamboara, Ampasilava, Befandefa, and Ankilimalinike) that fished this site met to discuss and agree on its temporary closure. They drew up a Dina that stated the period of closure to be between the 1st December 2005 and the first spring tide of May 2006; that a guard, paid by Lamboara (1/3) and BV-WCS (2/3), would enforce the closure; and the fine for breaking it. In contrast to the first Nosy Fasy closure, the fishing or gleaning of all species was forbidden in Ampisorogna. Later other neighbouring villages that fished at Ampisorogna – Ankilimalinike, Ampasilava – as well as Tampolove and Befandefa, joined the initial four villages in supporting the NTZ.

Between July and November 2005 the village of Andavadoaka met frequently to discuss the establishment of a second NTZ as well as other actions they could take to enhance their fisheries. During September these meetings were held in each quartier of Andavadoaka grouping together distinct family clans. On the 24th November 2005 Andavadoaka and Nosy Hao agreed to close Nosy Fasy again from the 15th December 2005 to the 28th April 2006. They decided not to employ a guard but that all the villagers of Andavadoaka and Nosy Hao would enforce the closure.

Likewise BV and WCS held meetings in the villages of Nosy Ve, Nosy Andambatihy, Nosy Mitata, Andragombala, Antsatsamoroy and Belavenoke. After reflection and discussion amongst themselves these villages later grouped together to establish a third temporary NTZ on Nosy Masay. The Dina they drew up closed the NTZ from the 15th December until the second spring tide of April 2006. Two guards, paid by Nosy Mitata and Andragombala (1/3) and BV-WCS (2/3) would enforce the closure.

Further replication of the temporary NTZs and MPA planning

Over this same period BV and WCS held a number of workshops with these communities on natural resource management, using examples from Sahamalaza MPA to illustrate the management options open to them. During these meetings the community expressed a desire to take their natural resource management further, building on the successful establishment of the three temporary NTZs to form the nucleus of a MPA. On the 6th December 2005 they presented this and the community's vision to expand the MPA to include 23 villages to the sous-prefect of Morombe. WCS also held a training workshop in the formation of a democratic CBO; further workshops on natural resource management were held with villages at the beginning of 2006.

In October 2005 BV, WCS and Roger Samba (the future Velondriake President) began helping villages to map their natural resource distribution and use. These exercises were carried out in each village and were also used to discuss problems villagers faced with their fishing resources and what they could do to enhance their fisheries.

In each village the villagers examined how they interacted with their marine resources – what villagers got from them and how the way villagers used them influenced resource health and subsequently the continued flow of benefits. In this way villagers established the link between themselves and their resources – the key to them then being able to improve resource productivity by changing the way they used and managed habitats. The experience of the first octopus NTZ was a concrete demonstration of this to the villagers. BV and WCS explained how temporary and permanent NTZs, as well as how the prevention of destructive fishing practices, would improve villagers' fishing.

The individual villages' participative resource mapping, appraisal of their resource state and discussion of the resource management steps they each needed to take took place in five stages:

- firstly with a number of individual fishers;
- secondly the maps and information from these face-to-face meetings was presented to the entire village;
- they confirmed or altered the maps and added further information; as a group they discussed management options;
- the village was then left by themselves for one to two months to discuss and debate what they wanted to do;
- when they were ready a final meeting was held for the village to present their plans to BV and WCS, who guided and helped them to refine these.

The individual village meetings led onto further meetings that brought neighbouring villages together. Four such groups were formed, their composition reflecting their use of common fishing sites:

- Tampolove, Lamboara, Agnolignoly, Tsimivolo and Ankitambagna (1 May 2006);
- Befandefa, Ankindranoke, Ampasimara and Vatoavo (31 May 2006);
- Nosy Ve, Andragombala, Nosy Mitata, Antsatsamoroy, Ambolimoky, Belavenoke and Bevato (3 June 2006);
- Andavadoake, Nosy Hao, Ampasilava, Ankilimalinike, Ampisorogna and Antsanagnanangy (14 June 2006).

Here the villagers melded together their individual village maps to reach a consensus on the location of temporary and permanent NTZs. They also agreed on the details of Dina that would govern each groups individual NTZs.

Villagers used a nomenclature for the NTZs that reflected the resource which they were to manage through them; it recognised their principal use of that habitat type and how they saw it.

- 'Octopus reserves': temporary NTZs established on known octopus gleaning sites - typically reef flats. In virtually all of the 'octopus' NTZs all fishing or gleaning, not just of octopus, was prohibited. Within certain village groupings the villages agreed to establish rotating octopus NTZs.
- 'Fish reserves': permanent NTZs on recognised fin fishing sites, typically lagoonal patch reefs.
- 'Mangrove reserves': permanent and temporary NTZs in mangrove sites where villages fished crab, shrimp and

fish.

All propositions were recognised fishing sites. As such, and through the use of their own nomenclature, villages knew their location, extent and purpose.

By June 2006 villages, such as Tapolove and Lamboara, closed their temporary NTZs on their own initiative, in the absence of BV and WCS. Later in 2006 other villages similarly closed and opened their temporary NTZs without the impetus of BV or WCS. The closures were well respected, with only one recorded infraction of four fishermen fishing in Ampisorogna.

MPA formation

On the 21st July 2006 nearly 100 leaders of 23 villages met together to begin developing a common vision of the MPA and to plan the actions they would need to take to fulfil this. Each of the four village groupings presented their map showing their temporary and permanent NTZs and the contents of each regional Dina that defined the governance of the individual NTZs. The four maps were combined into one single map that defined the NTZs and reflected the villages' unanimous support for each one.

In total, the villages proposed 8 permanent NTZs ('fish reserves') encompassing mostly lagoonal patch reefs; 16 reef flats for temporary NTZs ('octopus reserves'); 3 mangrove NTZs ('mangrove reserves') - one permanent and two temporary; and 3 terrestrial areas for protection of baobab forest habitat. This preliminary zoning is presented in Figure 2.

At the end of this meeting the Velondriake leaders officially incepted the MPA by presenting a document summarising their initiative to the local government authorities. They in turn officially vouched their support.

On the 23rd August and the 16th to 18th October 2006 further such meetings were held with the guidance of BV and WCS to define the MPA. The community leaders:

- Defined the CBO management structure and its objectives;
- Elected members to the management committees;
- Created a global Velondriake Dina by combining the individual NTZ Dinas; in addition to defining the NTZs the Velondriake Dina also outlawed destructive fishing practices and the fishing of turtles and other endangered species;
- Defined the objectives of the MPA and developed an action plan to fulfil these.

The village leaders then returned to their villages to present these plans and the Velondriake Dina to the larger community. The villagers discussed these and validated them with some minor changes, giving their express support.

On the 31st October 2006 the village leaders came together once again to finalise the Velondriake Dina and management plan with the full support and consent of their respective villages.

At this point Velondriake had put into place through wide stakeholder participation several building blocks prerequisite to it becoming a successful community-managed marine protected:

- (i) a common vision that the community wants to achieve;

- (ii) a social contract, rules and regulations defined and agreed upon by the community that embodies it;
- (iii) a strategy or management plan that aims to make it a reality;
- (iv) a legitimate and democratic community-based organisation that forms the management structure.

These were the product of a process that had begun with the first octopus NTZ and that culminated in the meeting on the 31st October 2006. They are presented in more detail below.

A legitimate and democratic CBO

Community representatives from 23 villages formed the Velondriake Association (VA) in October 2006 with the principal goal of managing and conserving the region's natural resources through the formation a CMPA. All permanent residents of the villages in Velondriake are *de jure* members, having the right to participate in the association and benefit from its actions. The management structure of Velondriake comprises three components:

- (i) The general assembly, which elects the members of the management committees, reviews the financial accounts of the VA, and defines the overall management plan and budget.
- (ii) The central committee, the Foibe, sets the work plans, oversees the work of the regional committees and manages Velondriake as a whole. It links together the three regional sub-committees and partners.
- (iii) Three regional sub-committees for each of the sub-divisions of Velondriake: Vezo Milagnoriake (North), Milasoa (Centre) and Fanemotra (South). The regional committees are responsible for carrying out the work in their respective areas defined by the Foibe and general assembly.

In addition there is an executive committee, the Farita Arovana Velondriake (FAV), which translates to "Velondriake Protected Area". It comprises two representatives from each of the NGOs (BV and WCS), three from the Foibe and three from the local government. FAV ensures timely decision making and execution of management actions. It includes local government authorities in the CMPA implementation, thereby strengthening institutional support for Velondriake.

A common vision that the community wants to achieve

This is set out in the statutes of the Velondriake Association (see [Appendix 1](#)). The overall aim of Velondriake is the effective and sustainable management of its marine and coastal natural resources. Its specific objectives are: fisheries development; nature conservation; economic development; solidarity between local communities; education; sustainable biodiversity use and preservation for future generations; and ecotourism.

A management plan that articulates the community vision

The Velondriake management plan and the action plan derived from it describe the community vision of the PA and define the steps necessary to achieve it (see [Appendix 2](#)). The Velondriake management plan describes the different zones of the CMPA and the Velondriake regulations governing natural resource use.

The objectives of the Velondriake action plan are: fisheries development; building solidarity between fishing communities; enabling long term management for future generations; promoting responsible tourism development; and achieving nature conservation.

A responsibilities handbook delineates the roles and responsibilities in the project of the different management entities, partners, communal authorities and technical service providers.

A social contract

The Velondriake Dina is a set of rules that forms the foundation for managing the CMPA and the natural resources in it. It is founded on a tradition of local law – Dina, which the community define and enforce, and which the Malagasy judiciary system recognises. The Velondriake Dina evolved from the individual Dina used by the villages to govern their own NTZs. These individual Dina were combined to form the global Velondriake dina during the general meeting on the 16 to 18 October 2006. During this meeting clauses were added to it on the input of BV and WCS to protect endangered marine species. It was then explained to each village to gain their acceptance before being finalised on the 31 October 2006. As such it elaborated a process of discussion and consensus that began at each individual village in Velondriake. It enshrines the CMPA regulations the constituent villages thus defined and agreed on. The Velondriake Dina is presented in [Appendix 3](#).

Lessons learnt

- The temporary NTZs reflected the local economic realities; by implementing them fishers had the potential to earn more money from octopus fishing and so had an incentive to do so.
- The temporary NTZ closures were fully supported by the principal commercial octopus buyer in the area - Copefrito
- The temporary closures were feasible for local fishers; they did not represent a definitive loss of fishing resources and were therefore a feasible “sell” for the local leadership.
- The temporary NTZ closures were founded on fishers own recognition of declining resources and the community desire to address this.
- The governance of the temporary NTZs was founded on a traditional governance mechanism – the Dina. The temporary NTZ Dinas were derived at a village level in the traditional manner.
- The success of the temporary NTZs constituted a conservation action that brought a tangible benefit to the community and was what made them buy into further actions.
- Local leadership was strong and convinced of the utility of the conservation actions.
- The success of the temporary octopus NTZs and subsequent community buy-in showed that further management measures needed to be ones of fisheries management, with biodiversity conservation as an implicit consequence of these.

2. Velondriake management

Introduction

Management execution

Through undertaking the steps described above the Velondriake community formed a legitimate management body, assessed and identified the problems with its natural resources, defined a vision articulating the community's objectives for the CMPA, and decided on the management plan, actions and local legislation needed to attain this.

To enact the Velondriake action plan the Vondrona and Foibe met on a quarterly basis from October 2006, to define work plans and calculate the corresponding budgets. BV and WCS facilitated the committee members' establishment of effective quarterly work plans through a three-step process:

- analyse the situation and identify problems/objectives to attain;
- evolve solutions through open discussion;
- and define the actions needed to achieve solutions.

From this the committee would draw up a planning matrix, stating the problem or objective, the proposed solution and the activities necessary to achieve the solution. The matrix would also state clearly who was responsible, the date by which work should be done and how responsible parties should report back to the committee.

BV and participants used simple participative techniques and exercises during these meetings to facilitate the process of analysing and understanding the situation, developing community-based solutions to it and planning the necessary actions.

From the planning matrix the management committees defined calendars of activities and budgets. The Foibe chiefly took responsibility for calculating detailed budgets in separate meetings soon after the main Vondrona and Foibe meetings, though on occasion the Vondrona also participated in the calculation of budgets.

These budgets largely comprised the cost of fuel, transport and a per diem indemnity allocated to VA representatives to cover food and lodging during missions. Prior to beginning the work of each quarter a written contract, which clearly defined the responsibilities, work plans and budgets of the VA, was signed. The supporting NGOs then provided the money budgeted to the VA to manage themselves. BV provided the budget for fuel, transport and material goods at the beginning of the work period, while the per diems were paid at the end on the delivery of the reports and the verified accounts. In this way the VA itself paid committee and community members for their work and managed the provision of materials independently. At the end of each quarter progress was reviewed. The disbursement of further funds to the VA was conditional on the submission of adequate reports and accounts from the previous work plan. These reports are filed in the Velondriake office.

The Velondriake President set the agenda for the meetings and chaired them. BV and latterly a member of Velondriake recorded the minutes of these meetings; these are kept in the Velondriake office.

The VA is actively implementing and managing the CMPA in practicable, logical steps that build towards the overall management plan. At each stage local managers are gaining in knowledge and leadership skills. The important

steps taken by the VA to date are detailed below and include the application of the Dina, zoning of the CMPA and establishing a monitoring program.

Inclusion of monitoring and evaluation into the management process builds a learning-by-doing or adaptive management framework for Velondriake. This enables a rational evolution of the management strategy based on real outcomes.

The management process used by the VA attempts to ensure maximum participation of its members by including them in decision-making, implementation of the action plan, and in monitoring and evaluation. In the future the VA will also have to ensure the equitable distribution of benefits from the CMPA.

Velondriake's management plans are presented in Appendix 2.

Scientific guidance

Certain aspects of the creation and management of the CMPA require technical expertise. In particular, zoning and monitoring must be based on sound scientific understanding for management to be effective. In addition to guiding the VA in forming and managing the CMPA, BV and WCS provide this service where the VA does not yet have the capability. Examples include the scientific habitat mapping of the CMPA, fulfilling the requirements for national legislation of the CMPA, and writing applications for external funding of Velondriake.

Management steps taken

The Velondriake management committees recognise three key goals as a prerequisite to the establishment of Velondriake as a successful, functioning CMPA: enforcement of the Dina, zoning the PA and monitoring the PA.

While doing so they must ensure continued community participation and understanding of the MPA to form the foundation for these actions.

The diversity of BV's capacity building support is reported under these three themes. Actions to build the capacity of the Velondriake community to achieve these key goals have blended different approaches:

- Learning by doing, where the committee and community members tackled problems and carried out tasks with the hands-on support and guidance of BV. In doing so they gained practical skills and the confidence to act by themselves. Examples of this included: preparation of work plans and budgets with the management committees; village-based support of committee members by BV to explain Velondriake and the Dina to villagers, and village-based training of community members to carry out ecological, fishery and socio-economic monitoring.
- Formal training workshops, where BV taught knowledge and concepts essential to understanding natural resource management through real-life examples and practical exercises. BV reinforced these workshops by producing supporting material in Vezo (booklets, posters), and with village-based follow-ups by BV scientists.
- Awareness-raising and educational outreach, through plays, children's environmental clubs, the showing of films, and the distribution of educational materials such as posters, developed and translated by BV.

Management experiences

There are practical limitations to implementing timely management actions: the management committees should meet at least once a month and BV initially scheduled monthly meetings for the committees. However, the committee members found this too frequent and were only able to meet every six to eight weeks.

Regardless of the frequency of meetings, creating and managing a MPA is a full-time job. Yet the Velondriake leaders, being community leaders, have many existing commitments and responsibilities. It is not always possible for them to spend longer than two days in a training workshop or meeting. Committee members from more remote villages must sail for at least one day to attend meetings; bad weather or unfavourable winds often prevent their attendance.

The formation of a full-time management team would overcome these problems but risks losing some of the legitimacy the current committee, representative of all villages, give the project. Experience has shown that the formation of such a core, full-time management team comprised of local community members is necessary to the effective management of the CMPA. It also allows for the long-term capacity building and investment in the skills of individual people vital to the committee functioning as an independent body.

The large population of the MPA and the difficulty in communicating and travelling pose logistical challenges to running the MPA. There is no radio or telephone coverage in most of Velondriake and a number of villages can only be reached by sea. To arrange meetings invitations had to be hand-delivered at least a week before the proposed meetings. Arranging changes to the opening dates of reserves, for example, required a member of the management committee to travel to the village by pirogue. In late 2008 mobile network covered some of the Northern villages, greatly facilitating communication; but for the rest of the Velondriake villages messages must be delivered in person.

Straightforward tasks, such as collecting money from the nearest bank, require considerable planning and preparation; in this case a minimum of three days travelling by local transport to and from the district capital Morombe.

Experience was to show that committee members were not necessarily effective or legitimate leaders in the eyes of local communities. There was a tendency for literate outsiders, who better understood the opportunities the creation of the MPA presented, to put themselves forward to work with the Velondriake committee. However, because they were both outsiders and often not fishers, they were not able to strongly influence village decisions nor lend legitimacy to the Velondriake committee in that village. For the committee to be effective it had to include the *de facto* decision makers of each village. Though this made for a quasi-democratic CBO, it would at least be an effective one. For this reason the VA has also sought to include all recognised village leaders in meetings and workshops. The VA President considered it essential that the CBO and CMPA institutions remained closely aligned with existing traditional governance and decision-making structures. The local communities would not wholly accept the CMPA without the explicit support of their true leaders.

Lessons learnt

- Key to the legitimacy of the VA as a CBO was its slow evolution from villages taking management measures in their own right and then the leaders of these actions coming together to form the management association.
- It is essential to actively engage all the *de facto* decision makers of each village in the management of the

CMPA; they may not necessarily become part of the process without being sought out and engaged. Though this may make for a quasi-democratic CBO, it will at least be an effective one.

- The development of Velondriake management committee into a competent management body with the capacity to plan, budget and implement projects is one of the most important benefits of creation of the CMA. They are now a focal point around which other projects can be established and represent a viable partner for future outside investors.
- Creation and management of a CMA is essentially a full-time job and is demanding on community leaders; they need to be fairly compensated for their efforts and effectively employed full-time.
- A core full-time management team, comprised of local community members, needs to be formed and its capacity built over the long term.
- Clear work contracts (defining roles, responsibilities, deliverables and accountability) and accounting procedures must be defined and agreed upon by the CBO and supporting NGOs.

Monitoring

The BV has worked with the VA to monitor the PA and so enable its adaptive management. Monitoring needs to be community-based, simple and low-cost for it to succeed in the long-term. Community-based monitoring and evaluation are key to community adaptive management. Not only do they provide the data necessary to rationally evolve management, they provide a concrete demonstration to communities of the social and ecological effects of their management interventions. To this end the monitoring and evaluation must demonstrate to communities a tangible improvement in their fishing.

Monitoring took place at two levels:

- Scientifically rigorous monitoring led by BV scientists that aimed to collect publishable data; community assistants, trained and supervised by BV, helped to collect this data.
- Monitoring carried out by villagers themselves with the guidance of BV that aimed to demonstrate clear changes in natural resources to them.

Involving the community in monitoring makes an important contribution to capacity building: by collecting data, community members learn to analyse and understand it, then to take management steps based on fact. This builds up a body of local monitoring practitioners who are aware of the reality of the status of their natural resources and are able to dispel potential misperceptions in the community.

Using our existing knowledge of resource use in Velondriake, BV and the VA have evolved a monitoring system that the VA can implement independently. It should demonstrate clear changes to the villagers, be it in coral reef health or fisheries landings. Indicators are chosen that show a clear link with the management interventions or objectives that the committees have set. The surveying and monitoring carried out in Velondriake are presented in the following sections:

- “[Scientific monitoring and surveying](#)” of Velondriake’s marine habitats and socio-economic conditions by BV scientists and trained community assistants;
- “[Fisheries monitoring](#)” of the octopus, fish, shark and turtle fisheries led by BV and carried out by trained

community assistants;

- “[Village-based monitoring](#)” of key indicators using village record books and simple ecological surveying methods adapted to each village.

Scientific monitoring and surveying

The objectives of this were three-fold: to establish the baseline state of the coral reef, seagrass and mangrove habitats of Velondriake and the socio-economic attributes of its people; to enable the long term scientific monitoring of how these evolved; and to provide the information necessary for the scientific design of the MPA.

Coral reef health

Blue Ventures has monitored the coral reefs of Velondriake using standard scientific methods since 2003. Since October 2006 this research has focussed on identifying, recommending and monitoring the coral reefs that Velondriake should protect as permanent NTZs. BV presented and explained the results and findings of this research to the community during three workshops with the Velondriake Association attended by all village representatives and two village tours. Frequently BV scientists also presented and discussed the results of reef surveying informally with villagers during trips to those villages to survey their reefs.

The majority of Velondriake healthy reefs are at a depth that requires the use of SCUBA to survey them. This is an obstacle to cost-effective community monitoring. SCUBA monitoring is expensive, potentially dangerous and very few people within Velondriake speak French well enough to undertake SCUBA training.

BV has made significant investment since 2003 in training five Andavadoaka villagers, who speak French or English, to SCUBA dive and to competently survey coral reefs using scientific methods. They include the President of the VA, and four permanent BV employees from the local community, two of whom have gained professional PADI certification. This has given BV the capacity to train other members of Velondriake who do not have the language skills to be trained by a foreign dive instructor or scientist.

Given the long-term logistical support BV’s permanent presence in the region guarantees, in August 2008 the VA formed a coral reef monitoring team comprising Velondriake members. The VA elected eight people from Velondriake, two from each Vondrona, to receive training in SCUBA and scientific monitoring of coral reefs.

The Foibe chose the trainees in recognition of their strong voice and standing in their respective communities, as well as being active supporters of Velondriake. Candidates also sat a written exam and an interview with the Velondriake President and BV scientists so as to impartially select the most promising candidates.

After selecting candidates, the VA drew up contracts with the trainees that stated their future roles and responsibilities. BV will train them to scuba dive and perform standard reef monitoring (surveys to include LITs, FBs, fish biomass, coral recruits and coral bleaching - see BV Methods Manual). BV has produced training material on these methods in Malagasy. BV trained the team of six in Andavadoaka during February and March 2009. The team will monitor the key reefs of Velondriake biannually at permanent fixed transects.

Mangrove and seagrass

In the first four months of 2008 BV and the VA surveyed selected mangrove forests and seagrass beds in Velondriake. The objectives of this monitoring were: to provide the information necessary for design of the CMPA; to establish the baseline state of these habitats; and to train the community in monitoring methods. BV trained village assistants from the villages neighbouring the habitat to be surveyed using Malagasy explanations of standard scientific methods (AIMS and SeagrassNet) and species identification sheets. As with coral reef surveying, BV scientists and the village assistants carried out the surveying hand-in-hand.

Thanks to the training and practical experience BV provided, the village assistants became competent surveyors - a nucleus of villagers capable of continuing long-term community monitoring of these habitats. Seagrass monitoring takes place biannually; mangrove monitoring once every three years.

BV scientists, together with the committee representative for each village, disseminated the results of this surveying to the community in a series of village meetings over June and July 2008. During these meetings BV and the committee members also discussed the importance of these habitats and their role in supporting fisheries. BV and the committee representative facilitated discussions on the need to protect representative areas of these habitats using permanent NTZs. The villagers debated this and Tampilove, Agnolynoly, Lamboara, Nosy Ve, Nosy Andambatihy and Nosy Mitata tentatively proposed sites for permanent NTZs to protect both of these habitats.

Socio-economic

Baseline surveying

Between April and July 2006 BV carried out socio-economic surveying in three villages of Velondriake. A further nine villages within Velondriake were surveyed from August 2006 to January 2008. This research had four aims:

- to establish the baseline socio-economic conditions of villagers;
- to investigate village use of and dependence on marine resources;
- to understand community attitudes and perceptions towards the CMPA and the state of marine resources; and
- to build community capacity to carry out socio-economic surveying.

BV's socio-economic research coordinator recruited and trained village assistants in each of the villages surveyed. Where the methodology permitted it, these trainees supported the BV team in the surveying.

Evolution of socio-economic research

BV held a workshop with the Velondriake management committee on the 16 December 2008 to develop the socio-economic monitoring program together with them so that the research would be pertinent to their needs. A number of short-fallings were identified with the previous surveying:

Length of surveying: trying to achieve a number of surveying objectives through a single surveying effort in nine large villages was a substantial effort. The time taken to collect, enter and analyse these data meant that for some villages it was only after two years that BV disseminated the research outcomes to the Velondriake management committee and wider community.

Research questions: previous research established a socio-economic baseline for Velondriake, increased community understanding of natural resource management and the MPA and revealed some important management issues. However, the Velondriake management committee felt that the research, a tax on the time of villagers being interviewed, had not fully addressed problems of immediate importance to the community and management. They expressed a strong wish that future socio-economic research should be of immediate relevance to the local community.

Adaptable approach: The previous research, with the preponderance of a quantitative household survey undertaken on a broad-scale, made for an inflexible approach where the research focus could not be adapted to local realities - these only became manifest on the final analysis of all data.

In light of this, BV endeavoured to design the present socio-economic surveying to give pertinent and timely outcomes for the Velondriake management and community. During the workshop on the 16 December 2008 BV, with the contribution of the Velondriake committee, evolved this research approach.

The tasks that the Velondriake community must fulfil if their MPA is to be successful can be grouped under four themes: establishment of adequate temporary and permanent NTZs; respect of the MPA laws governing the NTZs and outlawing destructive fishing; monitoring and evaluation of their management actions; and creation of alternative livelihoods to fishing. Since the official inception of the MPA just over two years ago BV and the Velondriake management have been working to put in place these building blocks; the steps necessary to this are detailed in annual and quarterly MPA management plans.

It is under these four themes and in keeping with the MPA management plan that BV designed the socio-economic research. Using these as a guide to defining the objectives of the socio-economic research, at the very least, guarantees that the research provides information management can act on.

Rather than a 'single surveying' approach smaller, multiple surveys, corresponding to the management plan calendar and so the actual information needs of management, are being carried out. This approach corrects the shortcomings of previous research efforts; it also makes the socio-economic research a more effective tool for enhancing community understanding and involvement in the MPA management:

- It allows a quicker completion of surveying, the provision of information when it is needed and tightens the management cycle. In doing so it better serves the adaptive management framework Velondriake is using to manage the MPA.
- It compliments the objectives of the MPA management plan and calendar of actions planned to fulfil these.
- Using multiple, focussed surveys is a flexible approach that can be readily evolved according to the body of knowledge accruing with each survey (and to the mistakes made).
- Carrying out multiple surveys necessitates a more constant presence in the villages, ensuring that the results of previous surveying are disseminated back to villagers and lessening the gap between villagers and the Velondriake management.
- The use of focussed surveying makes villagers think about and tackle well defined issues. These are issues that the Velondriake management committee plan to tackle in the MPA action plan using information from the surveying. As such there is a continuum between villagers appraising challenges during the socio-economic

research and then confronting them and reaching a consensus on solutions with the Velondriake committee. There is an impetus for villagers to effectively implement their decisions.

- The community assistants and Velondriake members go through repetitive cycles of data collection, analysis, dissemination and making informed management decisions with the villagers. This gives them repeated opportunities to build their skills in all of these areas under the guidance of BV scientists.
- Brought together at the end of the project the separate research areas will make up a comprehensive body of socio-economic research on Velondriake.

In essence BV sees the socio-economic surveying as a powerful tool for community-based natural resource management through enabling villagers to:

- analyse and appraise the situation and identification of problems / objectives to attain;
- evolution of solutions through open discussion and broad consensus;
- and definition of the actions needed to achieve the solutions.

BV planned for monitoring to take place at two levels:

- Scientifically rigorous monitoring led by BV scientists that aims to collect publishable data; community assistants, trained and closely supervised by BV scientists, help to collect this data;
- and village-based monitoring carried out by village members themselves with the guidance of BV.

Starting in early 2009, BV and the VA began to repeat the surveying of key socio-economic indicators annually or biannually as appropriate. The community assistants continued field-based training during future monitoring so as to be capable of independently conducting socio-economic monitoring of Velondriake's villages in future. The onus of this surveying will not be on conducting research *per se*; but more on using it as an opportunity and tool to promote effective community management and full participation in this.

Building of local capacity for socio-economic monitoring

In addition to recruiting and training two Malagasy scientists, graduates of the local marine science institute the IHSM, BV has trained three Velondriake management committee members and four young community members in socio-economic monitoring. They are now integral members of the socio-economic research team. The three Velondriake Supervisors – local leaders who have been active in creating and managing Velondriake - will assist BV in carrying out the monitoring, but in particular to disseminate the results to the community. Through the Velondriake committees' active involvement in the research they are building their know-how and gaining a full understanding of the outcomes. As such they are better equipped to assimilate and act on them. The four young Community Assistants, who are members of the local community but are not part of the Velondriake management committee, will be more active than the Velondriake Supervisors in the actual surveying so as not to introduce any bias.

BV taught the Velondriake Supervisors and Community Assistants the skills necessary to them doing their job competently during a five day workshop. The training program was aimed at students without extensive formal education and covered the following topics:

- Presentation and facilitation skills
- Introduction to socio-economic monitoring
- The concept of monitoring (perceiving versus knowing) and the utility of monitoring
- The concept of sampling and practical exercises in sampling households
- Selection of indicators
- Surveying methods: direct observation, household questionnaires (quantitative), focus groups and key informant interviews (qualitative)
- Practical surveying exercises with role playing
- Data entry and analysis
- Group facilitation and public presentation skills
- Techniques for presenting and discussing the results; practical exercises
- Developing a monitoring program; review of the Velondriake MPA management plan to define research objectives and indicators
- Presentation and discussion of the objectives and the annual work plan of the present project

Within each village the socio-economic research team (BV scientists, Velondriake Supervisors and Community Assistants) work with the village leader and Velondriake representative to implement the monitoring. The full details of the monitoring are explained to the village leaders before any activities are carried out in their village. They are then able to facilitate introductory village meetings and ensure a better understanding of the socio-economic monitoring.

The formal training workshops have taught participants the concepts essential to understanding socio-economic monitoring through real-life examples and practical exercises. BV's capacity building for socio-economic monitoring also emphasised a "learning by doing" approach, where members of the monitoring team tackle problems and carry out tasks with the hands-on support and guidance of BV. In doing so, they gain practical skills and the confidence to act by themselves.

Development and expansion of socio-economic research program within Velondriake

Establishment of temporary NTZs: In keeping with the MPA management plan for the first quarter of 2009 the socio-economic surveying concentrated on the establishment and management of temporary NTZs. Despite the successful community-implementation of temporary NTZs since the first trial in 2004 – 2005, no socio-economic research had concentrated on investigating how the NTZs could be better implemented and managed.

In 2008 Velondriake established twelve temporary octopus NTZs (closed from the 1st November 2008 to the 25th February 2009) and two temporary mangrove NTZs (closed from the 15th December 2008 to the 30th April 2009). BV carried out surveying from the 27th February to 21st March 2009 to establish the successes and failures of the previous temporary NTZs and how the fishers thought they should be done to improve the management (period and length of closure, NTZ governance). The monitoring used quantitative surveying of fishers using a pre-defined

questionnaire together with key informant interviews. The surveying was timed to prelude the Velondriake management tour and village meetings to establish the temporary NTZ regime for 2009.

The surveying highlighted a number of issues useful to management, including:

- The majority of fishers support the repetition of temporary NTZs, with 60% of respondents favouring their continuation.
- For 70% of fishers, theft, particularly diving at night with torches within the reserves, is the major problem of the NTZs.
- 78% of respondents thought that guards should be employed to actively protect the reserves rather than relying on the community as a whole to enforce the closure, as had been done in 2007 and 2008.
- The majority of fishers favoured a two month closure (in addition to the national closure) timed to fall over the winter months.
- Only 4% of respondents would be prepared to implement two NTZs in a single year.

The Velondriake management will disseminate these results and use them as a basis for establishing the 2009 temporary NTZs. These village meetings are planned for March and April 2009.

Establishment of adequate permanent NTZs: In December 2009 the villagers of Velondriake finalised the number and location of nine permanent NTZs; these will protect mangrove, seagrass and coral habitats. In May and June 2009 villagers will demarcate the permanent NTZs, at the same time the Velondriake committee will tour all villages to hold ceremonies to establish the NTZs and reinforce support for them. In addition to supporting the full respect of these closures the socio-economic research also needs to help address the inadequacy in NTZ coverage of the shallow intertidal and fringing reef habitats within Velondriake. These habitats are the most exploited and damaged, yet the Velondriake community are until now unable to implement effective management of them. Research will have to establish patterns of resource use from these habitats and what management measures would be practicable for the community. The research will have to help Velondriake evolve to an adequate protection of these habitats by permanent NTZs. This research is planned for May to December 2009.

Respect of the MPA laws: In addition to establishing adequate temporary and permanent NTZs the main objective of the MPA management plan for 2009 is the effective enforcement of the Dina. To this end the Velondriake committee plan a tour of all of the villages beginning in July to reinforce the importance of the Dina and work with the community to find ways of better enforcing it. Migrant fishers consistently ignore the Dina. While certain villages respect the Dina and quickly enforce it other villages have a long record of using outlawed fishing methods and stealing from NTZs. While the former villages have taken full ownership of the Dina, in the latter villages it is not seen as a traditional law and there is often deep conflict between villagers over its application. Socio-economic research needs to reveal why the Dina has succeeded so well in some instances while failing in others; it needs to establish how all villagers can take full ownership of the Velondriake Dina and enforce it as they do with other traditional Dina; finally the research needs to establish why there is such conflict over it in some villages and so form a basis for resolving these. BV plans to begin this research after the demarcation of the permanent NTZs and before the Velondriake management tour about the Dina – from July to September 2009.

Fisheries monitoring

Octopus

Octopus is a vital commodity for the villagers of Velondriake, with the exception of those of the inland villages and those situated in the interior of the Baie des Assassins. The percentage of households fishing octopus in Velondriake coastal villages range from 75%, for Tampolove, to 100% for Ankintabagna and Antsatsamoroy; 80% of households in Ambalorao, a village five kilometres inland, fish for octopus.⁵ Velondriake manages the fishery through the use of temporary NTZs.

In 2007 teams comprised of villagers and Velondriake committee members monitored ten octopus NTZ openings with BV's support. BV disseminated the analysis of these data, along with that of the 2006 NTZs, back to the community in January to February 2008, firstly to the Velondriake committees in a workshop dedicated to the management of the octopus fisheries, and secondly in individual village meetings held in all villages. Here the village's Velondriake representative presented the results to the village with the help of a BV scientist. The VA used the results as a basis for deciding on the 2008 octopus fishery management regime.

In 2008 the VA established a more rigorous monitoring programme for the octopus fishery, building on BV's experience of monitoring this fishery since 2004. BV designed a scientifically robust monitoring programme; the Foibe, then established how best to implement it and calculated a budget. The Foibe selected 18 community technicians and a supervisor for each Vondrona to collect and manage the data. BV trained the supervisors to establish the monitoring programme and to competently collect data during a two-day workshop from 24-25th July 2008.

BV fisheries scientists reinforced this training immediately after the workshop by visiting each technician on-the-ground to verify that they were collecting the data competently. BV continuously worked with the technicians and supervisors throughout the monitoring to guarantee the monitoring was rigorous.

The trained technicians collect biological and socio-economic data on the fishery in each of the 18 villages of Velondriake in which octopus fishing is an important livelihood. The supervisors oversee the collection of the raw data, collate it and enter it into a database held in Andavadoaka. BV fisheries scientists control the quality of the data collection and entry, and analyse it.

The VA is responsible for the monitoring programme: a contract between BV and VA states the responsibilities of each party (Appendix X), the equipment required to carry out the monitoring, the budget, and what data the VA must deliver. Each month BV reviews the data collected and the accounts; if these are satisfactory funds for the next month are versed to the VA.

The community technicians not only collect data on octopus landings but have other responsibilities: they report on Dina infractions and problems with the closures and they raise awareness with fishers as to why the NTZs and Dina are important to improving the sustainability of the octopus fishery. For example, when a fisher sells an under-size octopus the technician explains to the fisher why this is not acceptable.

⁵ "Baseline socio-economic assessment of the Velondriake community protected area", Gildas Andriamalala, 2008, Blue Ventures Conservation report

Fish

For two years prior to October 2007 a group of trained women monitored the fish landings in Andavadoaka village. BV presented and explained the analysis of this monitoring to Andavadoaka in a village meeting on the 10 November 2008, and to the VA on the 17 November 2007.

Fish fishery monitoring in Andavadoaka ended in October 2007, in order that BV and the VA could collaborate to establish new fish monitoring programmes in Lamboara and Andranombala, two villages with very different local fisheries on account of their different coastal settings. Andranombala is located on the island furthest offshore within Velondriake, close to the continental shelf dropoff, whereas Lamboara is located on the shallow mouth of a large mangrove-dominated bay, the Baie de Fanemotra (Figure 1).

BV and Velondriake envisage expanding the monitoring to Vataova, which is situated in the heart of the Baie des Assassins mangroves. Fish monitoring in these three villages complements that carried out in Andavadoaka; together they will provide data on four distinct fisheries in Velondriake. This sampling of the Velondriake fin fishery will give the VA a reliable measure of the state of the fisheries while avoiding the cost and management challenges of a larger monitoring programme.

The VA manages the fish fishery monitoring in the same way as they do the octopus monitoring. In August and October 2007 BV fisheries scientists trained ten women in Andranombala and Lamboara to identify fish and collect data using the methodology developed over the previous year in Andavadoaka. These women monitor the fin fish landings in their villages twice a month. BV scientists provide them with monthly on-site support, quality-control the data and will analyse it for presentation to the VA.

Shark and turtle

BV and the community have monitored Velondriake's shark and turtle fisheries in nine villages since November 2006. Trained villagers collect biological and fisheries data on all turtle and shark their village catches. A BV scientist collects these data every two months and verifies that the village collectors are recording it correctly. The scientist also educates the villagers about turtle conservation and disseminates the results of the monitoring to them.

Through awareness raising BV and VA have worked with villages to identify turtle nests and to protect those discovered. BV scientists support community members in the gathering of hatchling data once a matured nest has been excavated.

Notably, BV supported the village of Lamboara in protecting and monitoring a turtle nesting beach near the village. Here the first hatchings of green turtles witnessed in South West Madagascar in recent memory took place on 26 June 2008, as a direct result of awareness-raising by BV and VA. The Vondrona of this region has since established this beach as a permanently protected nesting area.

Village-based monitoring

The scientific monitoring described above is driven by BV and is reliant on BVs' technical and financial support, as well as the continued presence of trained scientists. The village-based monitoring aims to establish a simple, sustainable monitoring programme that the community can carry-out independently.

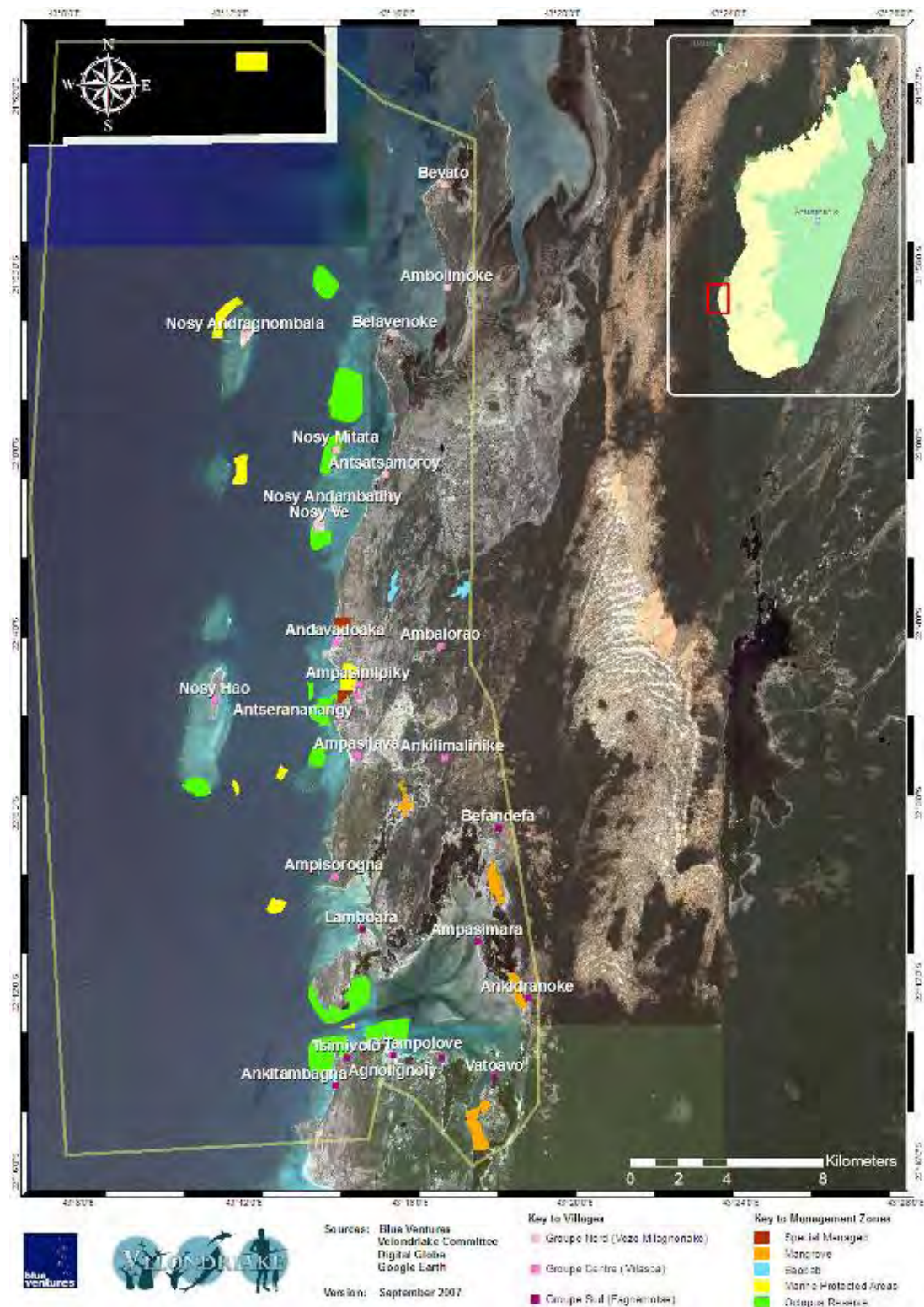


Figure 1 Map of the Velondriake community marine protected area, showing locations of Lamboara and Andranombala

Village record book

In each Velondriake village the Velondriake committee representative and village President maintain a village record book. It is kept together with laminated copies of the Velondriake Dina, zoning map, management plan, action plan and VA statutes in a protective case.

Villagers record the following details in the book:

- Dina infractions;
- Application of the Dina;
- Gross landings for key fisheries (octopus, crab, lobster and squid);
- Selling price for each fishery (information collated from collectors in the village during each tide);
- Opening and closure dates of NTZs, and details of which fishing sites were closed;
- Data gathered by villagers during the participative ecological monitoring (described in below);
- Minutes of meetings or important events affecting Velondriake;
- Problems or suggestions that villagers want discussed in the next committee meeting.

Dried fish, sea cucumber and shark fin are important commodities for fishers in Velondriake and initially Velondriake endeavoured to record the total weights of these in the VRB. However, in contrast to the octopus, crab, lobster and squid fisheries, where data could be readily collected from the commercial collectors, a large number of grey-market collectors, both from within the community and itinerant outsiders, buy dried fish, sea cucumber and shark fin. This made collecting total weights both onerous and unreliable. For these reasons BV and the VA are monitoring these fisheries with village-based data-collectors using a more scientifically rigorous approach.

A supervisor of each Vondrona collates the information from each village record book and records these details in monthly summaries in a second Vondrona record book. In turn a Foibe supervisor transfers these into an overall Velondriake record book. This contains annual summaries of all important data and events in the CMPA.

More than just verifying and collating data from the village record books, the Vondrona supervisor fulfils an overall leadership role while visiting each village. He verifies that the village's Velondriake representative has presented information from committee meetings to the village, follows-up on management decisions and actions and, as a village outsider, can help the village to discuss problems.

In monthly meetings the supervisors of each Vondrona present to the committees the summaries of the village record books, particularly Dina infractions and enforcements, and items that need to be discussed.

The record books form a simple, cost-effective and practical monitoring system for Velondriake. They record data on readily available indicators of management effectiveness and the state of fisheries, providing committees with a measure of progress towards long-term management goals. The books are also an important management tool for enforcing the Dina and management goals, since each village is required to report to the full committee meeting on the contents of its book. This process of open discussion and accountability helps to define villager roles and

responsibilities and provides village representatives with a means of showcasing their achievements and discussing problems within a supportive forum.

The concept of the VRB was first introduced and discussed at a village level by BV scientists in a tour of all of the villages in June 2008. The committees agreed on the use and contents of the record book system during a workshop on CMPA monitoring held in Andavadoaka on the 21 and 22 August 2008. Laminated instructions on what must be recorded in a simple, standard format are kept with each record book. In addition BV staff visit each village to support and verify data recording. BV reinforced its use by accompanying the supervisors of each Vondrona from September until December 2008.

The low literacy rate within Velondriake villages limits the number of villagers able to participate in this monitoring approach. BV and the VA are evolving the data recording and analysis to visual methods that will be more accessible to people who are partially literate. However, the only sure way of making the monitoring data and results widely available is through regular village meetings and face-to-face explanations.

Ecological monitoring

Participative monitoring has gained wide currency in CBNRM in the Philippines and Indonesia⁶ and to state the reasons Velondriake undertook it is perhaps obvious. However, BV believed that the significant expense and effort necessary to setup ecological monitoring in each village was necessary:

- Comparison of socio-economic data on villager perceptions of the condition of marine resources with the actual condition of these resources from scientific surveying showed a large gap between the reality and villagers' perceptions.⁷ This is particularly true of their perceptions of the condition of seagrass and coral reefs.
- It is ten years since the 1998 major bleaching events and the widespread coral mortality they inflicted; a generation of resource users have probably never seen a healthy fringing reef. In carrying out participative resource mapping and ecological surveying it became evident to BV scientists that a "shifting baseline" in what the community perceived to be a healthy coral reef or seagrass bed existed.
- When BV disseminated the results of scientific surveying back to the villages it became clear that community members put far greater trust in this if members of their own community had participated in the surveying and furthermore were explaining the results. In disseminating the results of scientific reef surveying to the community the Velondriake committee asked that only two Vezo members of BV Malagasy staff, who were from the community, were to present the results.
- Trial surveying using teams of villagers showed the villagers to be highly enthusiastic to learn and carry out ecological monitoring.

BV introduced the idea of village-based ecological monitoring in number of committee meetings and gained their support for it.

⁶ See for example: "Creating and managing marine protected areas in the Philippines", Alan.T. White, Porfirio.M. Alino, Anna.B.T. Meneses, 2006.

⁷ "Évaluation socio-économique de base de l'Aire Protégée communautaire Velondriake, sud-ouest de Madagascar", G. Andriamalala, 2008.

The methods that BV helped Velondriake to develop for the monitoring are based on those described in LMMA Guide.⁸ They were tested and evolved in two trials in Lamboara (26 – 28th November 2008) and Belavenoke (12 – 14th December 2008). Here teams of 15 villagers surveyed their reef flats, seagrass and mangrove habitats. The surveying methods that BV developed were straightforward enough for villagers to do themselves and adaptable to the village's resource uses.⁹

BV trained three supervisors (one for each Vondrona) on how to carry out the monitoring during a two day workshop (7 – 8th February 2008). These supervisors were responsible for carrying out the monitoring in each village. Working with the villages' Velondriake representatives, they recruited about 15 people - a team of five for each habitat.

In carry out the surveying the supervisors followed a step-by-step approach:

- Holding village meeting to present the surveying and the objectives of doing it;
- In the meeting villagers would make a list of their most important resources and where they are, using a previous participative habitat map each village had developed;
- The supervisors would help the villagers decide what habitats and indicators they wanted to survey according to the list of resources and where best to place the transects according to the participative habitat map;
- In doing the monitoring the onus was on measuring indicators that would show clear trends to the villagers. For example, in a seagrass transect the number of juvenile holothuria or edible urchins would be recorded; the number of octopus dens in a reef flat transect;
- After completing the transects the teams would come together and each in turn would present their results, writing them down on a flipchart;
- On the final day of surveying the supervisor would assist the village teams in presenting their results to the village. The results were also recorded in the Village Record Book.
- The monitoring had to be carried out during spring tide; as this is a prime gleaning period for women the surveyors were paid a small per diem (3000 Ar) to compensate them for lost fishing.

Expansion of the monitoring program

As has been described above Velondriake has a substantial monitoring program that is built on the experience and legacy of previous BV monitoring efforts. The on-going monitoring program strongly implicates villagers and includes fisheries important to livelihoods and conservation (shark, turtle, octopus and fish). Despite the breadth of this programme, there remains a need to monitor certain additional fisheries, in particular sea cucumber, squid and lobster, about which very little is known. In the workshop on monitoring (21st – 22nd August 2008) the Vondrona and Foibe identified and ranked their key natural resources and habitats. These results confirmed the shortcomings of the present monitoring.

⁸ “Locally-Managed Marine Areas: A guide for practitioners”, Govan, H., Aalbersberg, W., Tawake, A., and Parks, J. (2008). The Locally-Managed Marine Area Network, www.LMMAnetwork.org

⁹ See “Village-based ecological monitoring in a community-managed MPA”, Lalao Aigrette, 2009, for a description of the methods used.

However, BV's present focus is not to support the VA in expanding the programme, but is to firstly to make sure that the monitoring and significant body of research translates to concrete conservation actions. Secondly, it is to consolidate and rationalise it so as to transfer more responsibility to the VA. In doing so, BV must make sure that the data collection is rigorous and sustainable in the long-term, that the data is analysed properly and disseminated back to the communities, and that the results inform management actions.

Applied research

A key role of BV is to provide scientific support to the management of Velondriake. To this end BV has undertaken ecological, fisheries and socio-economic research to address management issues. Much of this research is derived from the monitoring described above, but more specific research projects have also been undertaken. Recent research reports and scientific publications are listed in [Appendix 5](#).

BV's field research centre in Andavadoaka has provided scientific supervision and financial support to three IHSM students since Velondriake's inception, supporting Masters degree level research projects relevant to Velondriake.

Independent foreign researchers visiting the BV research centre have also examined problems relevant to the management of Velondriake ([Appendix 5](#)). BV worked to ensure that these researchers worked with the VA and employed community assistants. In this way BV and VA ensured that research done within Velondriake brought benefits (new skills and a small income) to the community.

Lessons learnt

- Clearly robust scientific monitoring is vital in determining the effectiveness of management measures and in measuring the enhancement in ecosystems outputs that they bring about. For example, to quantify the increased productivity of the octopus fishery as a result of communities implementing NTZs.
- Participative monitoring cannot replace scientific monitoring; but is of far greater utility (and cost effectiveness) in catalysing CBNRM.
- Scientific monitoring is not superfluous to CBNRM; but without rapid data analysis and effective, timely dissemination to the community it is an expensive waste.
- BV's ecotourism program has made a massive contribution to the monitoring of the CMPA in terms of coral reef monitoring and training of local people to scuba dive to competently carry out ecological surveys of coral habitats.
- Scientific monitoring is expensive and initially beyond the community, both in being able to participate in its collection and in using it. However, in the long term it is necessary to invest in the community's capacity to carry out such monitoring.
- Experience has shown that with the necessary training and close supervision community members can competently collect scientifically robust data on fisheries and habitat health.
- These community members are the most effective communicators of the scientific results; they are legitimate in the eyes of the community.
- Community-based monitoring needs to be carried out using appropriately developed methods that are not simply adaptations of scientific ones.

- Involvement of community members at all levels of monitoring is of great utility/value in communities coming to recognise the state of important resources, to understanding the problems and motivating them to act.

Protected area design

Permanent NTZs are a vital pillar of Velondriake's principal objective: to sustainably manage and enhance the local fisheries. Given the broad-scale negative impact of climate change in the region, increasingly their role will also be to mitigate the effects of climate change on the coral reef ecosystems. In doing so, permanent NTZs will help to assure the continued flow of ecosystem services to the Velondriake communities despite the pressures of climate change and sedimentation.

However, it is only through the selection of permanent NTZs and the design of MPAs that are inherently resilient to climate change can these objectives hope to be achieved. It is arguable that the zoning of a MPA is the most crucial step in its creation. On the one hand for conservation and fishery management goals to be achieved permanent NTZs must be of sufficient size, number, must exhibit bleaching resilience and protect a diversity of habitats. This initially exacts on the community a heavy loss of resources; yet community support through their understanding of why certain sites must be protected determines the success of the zoning.

Approach

The judicious siting of permanent NTZs in Velondriake presented two challenges: BV had to reliably select resilient reefs for permanent NTZs often from a large area. Secondly the communities had to collectively agree on the closure of important fishing grounds, all the while assimilating the expediciencies of scientifically selected sites and MPA design.

The full details of the scientific selection of permanent NTZs and MPA design for resilience and how the communities of Velondriake evolved a MPA design through a participative, fisher driven process that married in the scientific selection of permanent NTZs is presented in a separate report "Building coral reef resilience to climate change into the design of the Velondriake community-managed MPA". Here we summaries the steps taken with the community to evolve a biologically-sound MPA design that has broad community support.

Effective zoning of a coastal protected area requires a detailed understanding of the habitats contained within the management area, the stresses on these habitats, as well as a strong emphasis on community participation to ensure a socially viable zoning plan. Velondriake managers piloted the use of three complementary methods in the CMPA design:

- three-dimensional habitat mapping using acoustic and remote sensing techniques;
- detailed participative habitat and resource-use mapping, combined with participative analysis of the pressures on these resources, carried out by community members;
- and scientific surveying and monitoring of fisheries and habitat status by marine scientists together with trained community members.

This tripartite 'learning by doing' approach to zoning has enabled villagers to assess the state of their natural resources, to identify the problems and to understand their root causes. It has also resulted in the development of realistic CMPA zoning solutions that are within the communities' capabilities.

In addition to enhancing resource sustainability, the community is also protecting certain areas to build the basis for ecotourism. Examples of these include coral reefs, turtle nesting beaches, sea bird nesting sites and baobab forests.

The Velondriake Dina and management plan define four management regimes within Velondriake:

- the village user zone, where traditional fishing is permitted but destructive techniques are outlawed;
- temporary NTZs, sites that are temporarily closed to fishing for a minimum of two months and included reef flats and mangroves;
- permanent NTZs, which are permanently closed to any extractive activity and included patch reefs, and mangrove and baobab forests;
- and special use areas, for aquaculture and to protect areas for their natural beauty and landscape value.

Villagers chose a nomenclature for the different management areas that reflected the resource or habitat being managed, or the principal use of that habitat, as follows:

- ‘octopus reserves’: temporary NTZs established on known octopus gleaning sites - typically reef flats. During the closure of an octopus NTZ all fishing, not just fishing for octopus, is prohibited.
- ‘fish reserves’: permanent NTZs on recognised fish fishing sites, typically lagoonal patch reefs.
- ‘mangrove reserves’: permanent and temporary NTZs in mangrove sites where villages fish crab, shrimp and fish.

Temporary NTZs are well defined reef flats or mangrove fishing areas and as such are delimited fishing areas recognised by all fishers. This enabled villagers to readily select them and to implement the closures. Participative monitoring and evaluation of the fishing gains by the community and BV, coupled with the short turnaround of the temporary NTZs, allowed an evolution of NTZ location to suitable sites.

Participative maps defined by the VA and each village in the CMPA laid the foundation for the community to move from simple temporary NTZs to a zoning of the CMPA that also included permanent NTZs. In the maps they defined key habitats, determined where they were and their species diversity, what key resources they provided, their condition, and uses and problems with them. The participative maps were also used to identify key conservation priorities, such as fish spawning aggregations, turtle nesting sites and cultural/spiritual sites.

BV geo-referenced the results of this participative process by printing large maps showing the outlines of the coastline, reef flats and mangroves. Elders from each village then transferred onto this map the areas defined on the village participative map. These maps formed the basis for the eventual definition and community negotiation of the zoning plan.

The participative maps agreed well with the habitat map derived from remote-sensing in that they represented well the location and distribution of key habitats. On the basis of these maps and the information they provided on habitat quality and resource use, BV chose the coral reefs, seagrass and mangrove areas for ecological surveying.

Ecological surveying was carried using standard scientific methods with trained community members, who also helped to disseminate the results back to the community.

The results of the scientific surveying of mangroves and seagrass beds agreed well with the communities' knowledge of the diversity of these habitats and their perceptions of their health. In contrary, while the community had a good knowledge of the distribution of coral reefs, few reefs of any health or diversity were pinpointed in the participative process. It is almost a generation since the major bleaching event of 1998 and a shifting baseline of what the community perceives as a healthy reef exists in the community. The majority of reefs of conservation value were pinpointed only through extensive manta towing and exploratory diving, guided by the remote-sensing habitat map.

In addition the recovery trajectories from previous bleaching events of a number of representative reefs had been monitored over time. Combining this with a global knowledge of the health of Velondriake's reefs enabled us to pinpoint those reefs exhibiting resilience to bleaching.

From these data BV designed an MPA based purely on scientific necessities. This design was presented to the VA, who evolved it further with all community members to gain broad-base support and ownership of the final design through a series of village tours and meetings.

Lessons learnt

A number of lessons can be drawn from the experience of zoning Velondriake, including:

- In some instances the majority of the community wanted to set aside certain resources as permanent NTZs; however, a vociferous minority prevented them from doing this. The end result of trying to reach a consensus was not democratic; mechanisms that ensure that the majority's interest is protected need to be developed.
- The disjuncture between what scientists know what will succeed as a MPA design and what the community is prepared to do.
- The community's decisions as to where NTZs will be placed is not taken on the basis of what scientists know to be right; it is taken on what the community is willing to do and scientific expediencies are not at all a priority. The significant time and expense spent zoning an MPA scientifically would be much better spent on getting the community to establishing NTZs that meet basic requirements in terms of habitat health without delay. The community and supporting NGO could then evolve the MPA design as community support builds.
- The short-fallings of participative appraisal and traditional ecological knowledge; and that these must be complimented by hard science.
- Mostly this experience highlights the vital importance of community participation in monitoring of their coastal resources, for a number of reasons:
 - to bridge the gap between scientists and the community;
 - to enable the community to accurately access changes in the state of their resources;
 - and crucially to enable them to evolve their management regime in face of the realities they will thus see.
- It is only through this process that reef-dependent communities will consider closing reefs, inevitably the most productive fishing sites left, that are resilient to climate.

Dina enforcement

Communication

If the people of Velondriake are to respect the Dina they first must understand and support it. The process the community used to draw up the Dina was widely inclusive, beginning with the establishment of the individual octopus NTZ Dinas at a village level and culminating in the formation of a single Velondriake Dina in October 2006. BV and the VA have built on this base by continually working to raise awareness and educate people about the Dina. BV and the VA have done this through a number of village tours, committee meetings, meetings with local government authorities and workshops.

In early 2007 BV distributed laminated copies of the signed, legalised Dina to all village Presidents and Velondriake committee members. In addition BV put together a Velondriake pack, containing the Velondriake Dina, management plan, action plan, and the VA statutes and procedures manual. A map of Velondriake's zoning plan will be added once the VA has finalised it. Each village President and Velondriake member possess these documents in a protective case.

The aim of such activities and documents is to institutionalise Velondriake, the Dina, and its enforcement in each village. The village record book makes the leaders of the village accountable to the larger management committees for transgressions and application of the Dina in their villages.

BV and the VA have also distributed copies of the Dina to all outside stakeholders and partners.

The VA and BV have held regular meetings with local government authorities from the inception of Velondriake to ensure they are aware of the Dina and that they support its application. Roger Samba (the VA President) and Marcel Urbaine (VA Vice-President) have also met with government authorities on three occasions in Morombe – the mayor of Morombe, the Chef de Gendarme and the department of fisheries – to explain the Velondriake Dina to them and gain their support for enforcing it.

Marcel, Roger and BV scientist, Daniel Raberinary, have also explained Velondriake on Morombe radio on three separate occasions.

The Velondriake President and BV met the Morombe mayor, Chef de Gendarme and the fisheries department director in January 2009. The government authorities agreed to send a senior member of the gendarme and fisheries department to accompany the Velondriake committee in a village tour to raise awareness of the Velondriake Dina and publicly vouch their support in its application. Whether this should be done or not was strongly debated in a Velondriake committee meeting on the 21 February 2009. It was argued that the presence of a gendarme in a meeting would be a form of threat. On the other hand the Velondriake committee had done a tremendous amount to explain and raise awareness of the Dina, yet certain villagers were still breaking it. It was time to show that the local authorities could be called upon if the villagers could not resolve the problems themselves. And so it was agreed that the tour would go ahead in March 2009.

Evaluation

In a series of three tours between January and May 2008 the VA investigated the stresses and threats to Velondriake's habitats and natural resources. They appraised the actual state of habitats, identified degraded resources, their location, what activities were the cause of degradation and who was responsible for these. From

this information they tried to identify ways to better apply the Dina and so prevent further degradation. This began by members of the Vondrona carrying out investigations in their own villages at a household level. The Vondrona then held meetings at a Vondrona level to present and compile the individual village results. Finally members of the central committee visited each village to verify and complete the data, concentrating particularly on those households known to practise destructive methods.

The investigation listed the destructive methods practised in each village and the number of men and women responsible. The main causes of habitat degradation linked to direct local resource use practices were identified as:

- turning over corals to find octopus and sea cucumbers (*baly vato*);
- the use of laro poison for fishing;
- fishing with beach seines (*tarakake*);
- cutting of mangroves for construction and lime fabrication;
- cutting of baobab branches for zebu fodder and the removal of bark for hut walls and rope.

The data showed that there has been a significant diminution in the use of destructive techniques since the introduction of the Dina at the end of 2006. For example, the use of laro poison was common in all Velondriake villages pre-2006. The Velondriake management investigation showed that only two villages continued the practice – Befandefa (3 men of 640 persons in the village) and Belavenoke (2 men of 460 persons). Likewise only four villages continued to use beach seine nets compared to 21 before the establishment of the Dina. These villages were Ampasimara (2 users), Belavenoke (4), Andavadoaka (1) and Bevato (5).

Having identified those practicing the destructive activities, the Foibe held meetings with the culprits in each village to understand why they persisted in breaking the Dina. They also discussed how the VA could help them find alternatives to using destructive techniques.

These meetings showed that most people breaking the Dina did so because they have few alternatives. The families who cut mangroves have no other source of income: if they had nets or farming implements they would not be forced to rely on mangroves. It is chiefly women who break coral: given alternatives based on aquaculture they would not be forced to fish for sea cucumbers. Many villagers who use laro do so as they are not able to afford nets. People from the inland villages in particular are known to be the main source and users of laro – also known locally as ‘Masikoro fishing net’, a name denoting the inland origin of the practice. If the VA provided nets, those practising laro fishing accepted that they would stop the practice. Likewise other villagers who use beach seines would stop using them if the VA were to swap these for less destructive nets. The VA is currently examining the feasibility of net-swaps and supplying non-destructive nets. If the underlying causes of why people are breaking the law can be addressed then better respect of the Dina could be achieved.

Kalaony support

The VA and BV held a two-day workshop in Andavadoaka (21st – 22nd August 2008) to discuss how to better apply the Dina. The workshop was attended by all committee members, village Presidents and leaders, as well as a number of villagers known to be guilty of breaking the Dina.

The meeting reiterated the content of the Dina and how it was a vital pillar of the sustainable management of the region's fisheries. The VA President explained the procedure to follow in applying it. The villagers identified problems with their current resource use practices and showed how the Dina addressed these problems. They assessed weaknesses in the application of the Dina and identified how to better enforce it. From these discussions the committee and village leaders came up with an action plan for more effective Dina enforcement. Actions included:

- Holding additional village meetings to explain and educate villagers about the Dina. The Foibe and Vondrona undertook to further educate and raise awareness of the Dina amongst all the population of Velondriake. It is the responsibility of each member of Velondriake to apply the Dina.
- Collaborating with the Kalaony (the local militia formed by the villagers to defend themselves against bandits and cattle rustlers) to enforce the Dina, particularly with outsiders. This collaboration was proposed to overcome the problems caused by law-breakers, particularly those from outside of Velondriake, who threaten villagers when they try to enforce the Dina. On occasion villagers do not apply the Dina because the culprits threaten them; it was hoped that the Kalaony would help in these cases.
- Often the law-breakers do not belong to Velondriake communities, but are itinerant fishermen from the larger villages closer to Toliara or Morombe. In addition to collaborating with the Kalaony, the VA agreed on a number of the measures that aimed to reinforce the dina to these visitors:
 - new arrivals must always meet the village President, who will describe the Dina to them and sign their passbook (new arrivals in a village must have their passbooks signed by the village President);
 - families hosting outsiders are also responsible for informing them of the Dina and ensuring that they respect it (migrants normally have a relative or family they stay with);
 - when outsiders do not respect the wishes of the village President the Foibe will enforce the Dina.
- The Foibe and President will lodge a formal complaint with the Mayor of Morombe and the Morombe court when there is chronic disregard of the Dina. For example, in Bevato and Belavenoke fishers from Morombe persist in using beach seines despite repeated requests from villagers, the village Presidents and VA President to stop.
- The VA also believed that some of the fines in the Dina were inappropriate, being too high a price for most villagers to realistically pay and therefore be a realistic deterrent. The VA decided that punishments should firstly be decided at a village level; each village being better placed to set a fine that would penalise the culprit but would be a realistic amount that is applicable.
- The village President and committee member resolved to record Dina infractions and application in the village record book. Supervisors for each Vondrona will verify this and use it as a tool to apply and monitor adherence to the Dina.

As with all other Velondriake meetings, the village Presidents and Velondriake management committee members present undertook to explain the decisions taken during the meeting to their respective villages. This ensured a full consultation with the villagers, as well as their consensus and support.

Fisheries department workshop

BV and the VA invited technicians from the government fisheries department to give a two-day workshop on Malagasy fishing regulations. All members of the Velondriake management committees, village Presidents and leaders and communal government authorities attended the workshop. The fisheries department explained all of the Malagasy fishing regulations that pertained to Velondriake fishers, explained the biological reasoning behind these laws and how the Velondriake Dina complimented the national regulations. The committee members discussed with the technicians how the fisheries department could help them enforce the Dina and national law.

Weaknesses

The overall Velondriake Dina was chiefly a result of bringing together the individual village Dinas into one overall Dina. The village Dina's contained details on the governance of NTZs, for example, and so some articles of the Velondriake had been truly derived and practised by each village. However, others were only added during the meeting of the village leaders in Andavadoaka in October 2006 to plan and create the MPA. Ostensibly the village leaders related them to their respective villages, who in turn validated them. However, many of these articles have found less recognition than those that had been truly formalised at a village level.

Turtle hunting

The out-right prohibition of turtle hunting is the prime example of this. It was a particularly controversial addition to the Velondriake Dina made in the general assembly of local leaders in Andavadoaka in October 2006 and was only accepted under the tacit understanding that it was essentially a "paper measure". It doesn't reflect that hunting turtles is one of the defining characteristics of the Vezo people and that turtle meat is a highly prized food. Many villagers looked askance at this article of the Dina, some with incredulosity, open condescension. Though the complete banning of turtle hunting is in keeping with national regulations and had the virtue of being unambiguous, a more pragmatic approach from the beginning may have brought quicker results.

Through the efforts of the Velondriake committee the flagrant sale of turtle meat in the large villages diminished in Velondriake from the establishment of the CMPA through to the beginning of 2008, but catching turtles was probably still a widely practised tradition. In 2008 BV and the Velondriake committee developed a number of management measures that had a better chance of being respected:

- No catching of hawksbill turtles, the most endangered species of turtle. (The Vezo say that they dislike this meat.)
- No catching of turtles that are nesting/approaching/leaving a beach.
- No catching of turtles larger than 60 - 70 cm. (The majority of turtle fisheries laws (including those of Madagascar) prohibit taking turtles smaller than a certain size (50 cm in Madagascar). However this regulation is counter-productive and other countries are starting to change the legislation.)
- No "commercial" fishing specifically to supply turtle meat traders or for the sale of meat. If a fisherman found a turtle in his fishing net he could keep it but strictly for personal consumption.

The official Velondriake Dina was not altered so as not to dilute it or create ambiguity. However, the Velondriake committee members began working in the villages to implement the above measures.

Internal divisions

The application of the Dina has become particularly difficult in four villages - Ankindranoke, Ampasilava, Bevato and Belavenoke. The greatest barrier to effective enforcement of the Dina is that villagers cannot realistically apply it to members of their own family lineage. Within traditional Vezo villages the social hierarchy is established on the basis of family lineages, particularly their anteriority or precedence of occupation. New arrivals must establish a formal relationship, often through marriage, with the founders of the village and it is this that invests their social standing. Alliances and ties are built between lineages over time and so determine the power structure within the community. Villagers are unwilling to apply the Dina for fear of causing offence to their family lineage.

Furthermore in larger villages the influx of outsiders is challenging and breaking down the social cohesion brought about by the dominance of certain lineages and the adherence to these. Firstly, the effectiveness of the Dina as a natural resource governance measure rests almost entirely on this strong social cohesion (though the Dina is legally binding under Malagasy law, this has practical limitations as is explained below). Secondly, the application of the Dina, membership of the Velondriake management committee and flagrant disregard of the Dina, are all being used as instruments of these political struggles.

This is largely the case in Ankindranoke and Ampasilava, where divisions between clans or lineages within the village have meant that the Dina has been well respected and supported by one faction and disregarded by the other. The temporary mangrove NTZ of Ankindranoke has also been repeatedly trespassed by people from the large neighbouring village of Befandefa; the culprits seem to have little respect for Ankindranoke's wishes.

It is hoped that, by having a higher central Velondriake committee, made up of diverse village members, that an impartial, legitimate body can be formed that can enforce the Dina. These problems also emphasize the importance of engaging all of the *de facto* leaders of villages in the management of Velondriake.

Outsiders law-breakers

The villagers of Velondriake are also hesitant in enforcing the Dina with more belligerent outsiders from Morombe and migrant fishers from the Tulear area. By working with the communal authorities, fisheries department and gendarme, the Velondriake management hope to establish that there is an impartial, outside authority that will ultimately take responsibility for punishing wrong-doers.

However, there is no precedent for the government authorities applying a Dina, such as that of Velondriake, neither within the commune nor between communes. Trying to apply the Dina to the Sara migrants from Morombe who repeatedly beach seine in Bevato has exposed this weakness. Furthermore its application to individuals from outside of the commune has proven to be a protracted and political process: It first requires meeting the other communal authorities, negotiating with them so that they can first try to address the problem within their own jurisdiction; when this fails the two communal authorities must meet, come to a solution and then enforce this. The solution is likely to be a compromise as the exterior communal authorities must “look after” the electorate. All of this is subject to local politics and costs a lot of money and time, and to date has brought no resolution to the problem of the migrants using beach seine nets around Bevato.

Local politics

Experience in Velondriake has also shown just how vulnerable the effective application of the MPA Dina is to local politics. When Velondriake was created it had the strong support of the communal Mayor and a number of

communal political leaders close to him were active in its creation; two of them took on important roles in the Velondriake management committee. In early 2008 a new Mayor won the communal elections. The President and one of the Vice-Presidents of Velondriake now became part of the political opposition; the new Mayor saw Velondriake as a means for them to try and undermine his political strength and so frequently sought to weaken the authority of Velondriake in the villages. The villages where the Dina was often disregarded in 2008, such as Ampasilava and Belavenoke, were ones where the Mayor or people close to him, came from. Only through much diplomacy did the President of Velondriake win over the new Mayor.

Lessons learnt

- The strength of the overall Velondriake Dina is derived from it being based on Dinas elaborated and practised at a village level; it is the consensus at this level that makes the Dina legitimate. Elements of the Dina added at a higher level were not widely respected.
- The Dina has its strengths in that it was mostly developed at an individual village level by the fishers. It reflects their livelihood needs, is founded in traditional governance and so has broad support.
- However, where there are divisions within the village this has weakened its effectiveness; it also does seem to hold true between villages.
- The effectiveness of the Dina is founded on the traditional power structure of the community; this is quickly being eroded in some villages by the influx of outsiders. For example, in Andavadoaka, which has become the economic centre for the commune; and Bevato, which because of its proximity to Morombe and the fact that its fisheries are less exploited than those of Morombe, is a favoured, transitory fishing ground for itinerant fishers.
- While the threat of the court in Morombe and the use of gendarme in applying the Velondriake Dina would probably be very counter-productive if the law-breakers come from within the Velondriake community it certainly has a role when they are from outside the commune. However, the application of the Dina to such people has proven to be lengthy and political. Velondriake needs to set a precedent where the Dina is applied efficiently with the force of the authorities behind it.
- The effectiveness of the Dina, as well as the CMPA itself, is subject to local politics.
- Continued education and awareness raising of the Dina is needed through the years.

Alternative Livelihoods

The provision of alternative livelihoods is crucial to the success of Velondriake. It will allow the communities of Velondriake to break their complete dependence on marine resources and so give them the margin of manoeuvre to rationally manage them. A key objective of the VA is to develop aquaculture and tourism as alternative livelihoods for its members.

Aquaculture

There are two realistic possibilities for aquaculture in Velondriake: seaweed (*Eucheuma*) and sea cucumber (*Holothuria*) farming.

Sea cucumber farming

A successful partnership has been built between Madagascar Holothurie (at that time Copefrito and Aqualab), BV and the VA to implement sea cucumber farming using hatchery-reared juveniles produced in Tulear. The foundations were laid for this in early 2007 when BV and the Andavadoaka Women's Association constructed two enclosures and grew juveniles to adult size. Unfortunately a large number were stolen at the beginning of 2008; however those remaining were bought back by Madagascar Holothurie to the profit of the Women's Association.

BV and the VA have expanded the project to two other villages: Belavenoke and Ambolimoke. These villages constructed enclosures with BVs' support and Madagascar Holothurie supplied further juveniles. Powerful currents made the location of Belavenoke's enclosure unsuitable for grow-out. That of Ambolimoke was successful, with the villagers guarding and maintaining the enclosure until over 80% of the sea cucumbers were harvested and sold to Madagascar Holothurie in December 2008.

The VA has assisted BVs' aquaculture specialist to identify other suitable sites for holothurian grow-out in Velondriake. Through consultation with the leaders of these areas and subsequently with the management committees, BV and the VA designed a large-scale expansion of village-based holothurian grow-out in Velondriake. This formed the basis for a successful funding application written by BV for a joint BV, Madagascar Holothurie and VA holothurian project.

In September 2008, BV received funding from ReCoMaP to expand the initiative to other villages in Velondriake. The project, implemented by VA with the support of BV is currently working with the Women's Association of Andavadoaka, families in Ambolimoke, Belavenoke, Nosy Be and Tampolove. The project will finance the materials for four pens for each family or clan over the first year of the project. It will extend credit to the families to purchase juveniles from MH (300 per pen), which they will reimburse on sale of commercial size sea cucumbers. The juveniles for the first cycle of pens are due to be delivered by Madagascar Holothurie at the end of February 2009. The project aims to: build the capacity of the Velondriake Association to implement and manage projects; provide families with a profitable and sustainable sea cucumber farm that if successful will bring them significant earnings.

Seaweed farming

BV has established experimental growing lines using local seaweed strains in Tampolove, Lamboara and near Ampasilava. In addition an IHSM student carried out a research project on the feasibility of farming of *Eucheuma denticulatum* in Velondriake with BV support. This work has shown that *Eucheuma* can be successfully grown in Velondriake. However, the growth rate is not sufficient to make it commercially viable. The key to the success of seaweed farming in Velondriake will be to exploit strains from the Philippines and introduced to Madagascar in 1998 and 2007. In January 2009, BV's Aquaculture specialist visited Madagascar's only commercial seaweed farming operation, IBIS Madagascar on Nosy Ankao, which currently cultivates these species. Later in the year, it is hoped that these strains can be trans-located to the SW to create a seed stock nursery. Copefrito is also interested in diversifying and improving the cost efficiency of their fishery collection network through buying dried seaweed for export. They already have licenses to purchase wild seaweed and have recently formed a new partnership with IBIS, who will help them with the commercialisation process. Blue Ventures will be one of the NGO's that will work in this new partnership to transfer the technology for seaweed farming to fishing communities in SW Madagascar. The project is due to start in September 2009.

Tourism

Publicity and communication

To increase tourist recognition of Velondriake the VA has constructed stone sign posts at all the major entrance points to Velondriake (Ambalorao, Bevato, Ankitambagne, the turn-off to Tampolove) and on the turn-off to the coastal road in Morombe.

The VA is constructing large information boards showing a map and explanation of Velondriake, as well as information on activities and the entrance fee. These boards also serve as an information point for the community. The VA has completed one in Andavadoaka; they are finalising two more in Bevato and Tampolove. If they are successful the VA would like to construct one in each village.

With the support of BV the VA is also constructing an information centre in Andavadoaka. This will have several uses: a VA office; a display at which villagers can sell arts and crafts; an information centre for Velondriake where a tourist can learn about Velondriake, pay the entrance fee, book an eco-guide or arrange a stay with a villager; a point for tourists to pay entrance fees; it will also be a place where local students can learn about Velondriake. Finally it will be a sleeping place for committee members who come from more remote villages for meetings in Andavadoaka.

BV has written a tourist information brochure for Velondriake in English, French and Malagasy, with contributions from the VA. Once this is printed the VA will distribute it to all hotels in Velondriake, as well as Tulear and Morombe.

BV has also created a Velondriake website that aims to raise the profile of Velondriake as a superb ecotourism destination. It will also serve as an information point on the science and community-based management Velondriake has achieved.

Entrance fees

Until the Malagasy government awards Velondriake the status of a protected area the VA cannot legally demand entrance fees from tourists. Blue Ventures volunteers have been paying a voluntary entrance fee. BV and the VA have approached local hotel owners and they have agreed to begin asking an entrance fee from their guests.

Eco-guides

BV has been training a group of 16 trainee eco-guides for 1 to 1.5 hours twice a week since January 2008. Most of this has to date been English and French lessons. In addition, the trainees have been invited to accompany BV scientists when they lead volunteers on bird walks and visits to the mangrove and Baobab forests. The objective is to teach the guides foreign names for bird and tree species and to build up their confidence in dealing with foreign tourists. The eco-guides already offer tourist activities, such as day trips in a traditional sailing pirogue to the islands of Velondriake with snorkelling, whale watching and trips to the baobab forests. BV has produced a poster publicising the activities the guides offer and these are displayed in the local hotels. To date most of the guides clients have been BV volunteers.

Village stays

BV has initiated village stays with the villagers of Velondriake. Here a tourist (chiefly BV volunteers) is fed and lodged in the home of a Velondriake villager. The villager fetches the tourist from Andavadoaka, takes him/her back to his/her village and guides the tourist for the duration of his/her stay. The cost of this is 40 000 Ar. This idea has proved to be very successful with BV volunteers. In the future it is planned to take it one step further helping interested villagers to learn basic hospitality skills and provide better quality, village-based accommodation.

Women's Associations

BV has actively supported the Women's Association of Andavadoaka and Lamboara, particularly to help them find new ways of earning money. These have included: preparing a traditional Malagasy lunch for BV volunteers; creating embroidery, clothes and accessories for sale to tourists, these are also displayed and sold in the local hotels; holding a dance in the village for BV volunteers; and preparing the food for BV, Velondriake meetings and the PACP village exchanges. The clothes and accessories have proved particularly successful with BV volunteers.

Blue Ventures Carbon Offsetting

BVCO is establishing a carbon offsetting project with the community of Velondriake based on fuel efficient and solar stoves. The sale of offsets on the voluntary market finances the project. This project employs three villagers fulltime and ten local stove sellers, who earn income a sales commission. It brings money savings on fuel to the households and contributes to a reduction in local deforestation. It is particularly well supported by the island villagers, who previously depended on cutting trees on their islands for fuel. This has caused significant deforestation on certain islands, such as Andranombala.

Community needs

Two meetings between the VA and BV took place to establish what the community needs in terms of capacity building. The first took place on the 23rd April 2007, the second on 15th January 2008. The community want to be helped in the following areas: English and French language training for the committee members; training on how to use a computer; improvements in public health; assistance in paying for the food and lodging of school children who are attending the Catholic mission school in Andavadoaka on BV scholarships.

BV has tried to answer these requests where possible but clearly there are many community needs that are beyond BVs' capacity and remit. To address this BV has helped Bevato and Befandefa to formulate applications to the Peace Corps for community volunteers. BV has written and submitted these applications on behalf of the villages. If they are successful then BV will likewise assist Lamboara to apply.

The Velondriake office is now equipped with a set of truck batteries connected to a charger. These power two small computers that are used to capture the data collected in the Velondriake monitoring program. BV is teaching the committee members responsible for the monitoring to enter data and analyse it.

BV has increased the scholarships for children from outside of Andavadoaka to cover their food and lodging while at school.

Additional capacity building

PACP and WWF village exchanges

BV and WCS are helping to create 50 new NTZs based on the Velondriake model under the 'Projet d'Appui aux Communautés des Pecheurs de Toliara'. The PACP's objective is the sustainable development of the traditional marine fisheries in South West Madagascar. The project covers 310 km of coastline between Morombe and Soalary; it is financed by the African Bank of Development.

The project envisages villages establishing their own NTZs as a fishery management tool based on what the Velondriake community achieved. BV and WCS's first step towards this was to arrange a number of visits for the new villages to Velondriake. The groups comprised a cross section from each village – fishermen and women, young and old, and village leaders. To date 122 people from 14 villages have undertaken a 'voyage of initiation' to Velondriake, each for three days.

Together with BV and WCS, members of the Velondriake management committees held training workshops for the visitors. BV and WCS helped them to facilitate these. The Velondriake members first related the history and experiences of Velondriake. They then facilitated the visitors' appraisal of their own natural resources and what problems they faced. From this the Velondriake members described the practical steps they had taken to overcome the same problems: how they had established NTZs and the success of these; how they had created the management structure of Velondriake and how this functioned; how Velondriake had created Dina to manage their natural resources and how they were enforcing the Dina.

The Velondriake members took the visitors on practical exercises: They visited actual NTZs to see what quality of site needed to be chosen. They went from door-to-door in different Velondriake villages to question and learn from the experiences of other fishermen and women.

What they learnt in Velondriake inspired them to establish their own NTZs on return to their villages. They are now creating nine new NTZs.

Prior to the village exchanges BV and WCS spent three days training and preparing the VA members to competently facilitate the workshops and train the visitors in how to establish a NTZ. This training included the fishing benefits of NTZs, the choice of site, the participative process needed to set them up, how to establish and legalise a Dina, and how to work with local government authorities.

This training and their leading of the workshops gave them a deeper understanding of CBNRM and confidence as leaders of Velondriake. The meetings also gave the VA an opportunity to learn from the visitors, some of whom had different ideas and approaches to CBNRM that had worked well. The visits gave a real sense of pride to Velondriake for what they had achieved.

In addition to the village exchanges, WWF arranged a fact-finding mission for eight WWF members their staff to Velondriake. They held meetings with BV scientists and key members of the VA to learn from our experiences here.

BV Scholarships

To date, seven Malagasy science graduates have benefited from BV Scholarships. BV scientists trained them to scuba dive, competently survey coral reefs using scientific methods, the fundamentals of coral reef ecology and conservation. The scholars also gained hands-on experience in CBNRM through their involvement in Velondriake

activities and their attendance at Velondriake meetings. Their participation in BV expeditions also enabled them to strengthen their English.

Children's environmental clubs

Club Alo Alo, the environmental club of the children of Andavadoaka, created an educational play on marine conservation and Velondriake. They acted this in the seven largest villages of Velondriake with great success and appreciation of audiences. The Velondriake President accompanied the tour and gave extra explanations after each performance. It catalysed the formation of new environmental clubs in Tampolove and Lamboara, called Club Calmar and Club Apombo respectively. BV has supported these clubs in their formation and activities. In addition, BV and the VA President are helping Bevato to form a fourth children's environmental club.

BV has regularly shown marine conservation films, such as Blue Planet, to the community of Velondriake. In Andavadoaka this is done bimonthly.

Funding Applications

WCS assisted the VA to develop a detailed application and management plan for the establishment of biogas in Velondriake. This application to the Small Grants Programme was successful and brought the community 35 000 USD for a biogas / renewable energy project, which the VA will manage.

With the VA and Madagascar Holothurie, BV developed a proposal to expand sea cucumber farming to all the families of four villages within Velondriake. RECOMAP-PROGECO will finance this project for two years from October 2008.

BV helped the VA to develop an ecotourism action plan based on that of an independent specialist (see Koopman, M. 2008, Velondriake Ecotourism Plan). From this BV assisted the VA to write a funding proposal for village-based ecotourism in Velondriake, submitted to the Small Grants Programme in March 2009.

BV and the VA have also taken the first step towards the Marine Stewardship Council sustainable fishery certification of the octopus fishery by making an application for funding of the MSC pre-assessment of the fishery. BV made this application to the Sustainable Fisheries Fund (SFF), established with initial funding from the David and Lucile Packard Foundation.

Workshops: General meeting, Andavadoaka, 16th – 17th November 2007; General meeting, Andavadoaka, 15 January 2008; General meeting, Ampasilava, 10 May 2008.

Participation in external meetings and workshops

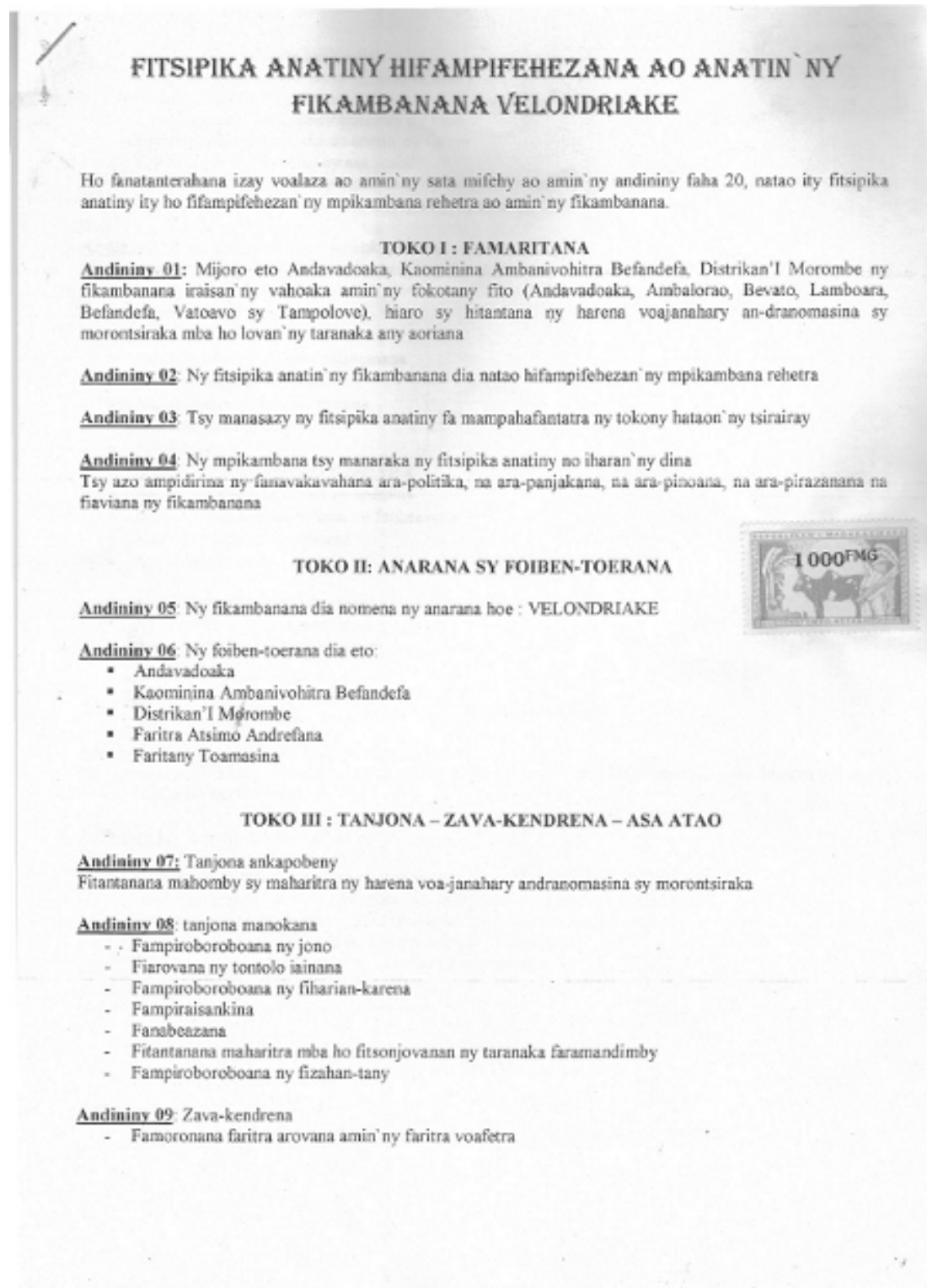
The Velondriake president and BV Malagasy staff attended a number of meetings that enabled them to gain new skills and experience:

- Exchange forum on co-managed protected areas, ANGAP, 26th – 28th May 2007, Mangily-Ifaty. Roger Samba (VA President), Daniel Raberinary, Gildas Andriamalala.
- Catalysing community conservation, ANGAP and Community Conservation Inc., 10th – 15th September 2007, Ankilibe, Roger Samba.
- Science, Policy and Management: pressures and responses in the Western Indian Ocean region, Fifth WIOMSA Scientific Symposium, 22 – 26 October 2007, Durban, South Africa, Alasdair Harris, Gildas Andriamalala.

- Mechanisms and procedures for the creation and management of MPAs in Madagascar, WCS and CEP, December 2007, Antananarivo, Gildas Andriamalala, Garth Cripps.
- Developing project management plans and funding proposals, Progeco-Recomap, 21st – 25th April 2008, Antananarivo, Roger Samba.
- 9th Conference of parties of the Convention of Biological Diversity, 14th – 29th May 2008, Bonn, Germany, Gildas Andriamalala represented Velondriake at the Equator Initiative.
- COREMO - Coral reef monitoring workshop, COI/RECOMAP, 26th – 28th May 2008, Mauritius, Bic Manahira.
- Financing MPAs, meeting of MPA managers of the Western Indian Ocean, Antsiranana, 26th – 30th May 2008, Garth Cripps.
- Western Indian Ocean – Certification of Marine Protected Areas Professionals, Level 2 certification assessment, WIOMSA and CRC, 14th – 22nd August, Malindi, Kenya, Daniel Raberinary.

3. Appendices

Appendix 1: Velondriake Association Statutes



- Fanatsarana ny fomba fanjonoana
- Fampiraisana ny olona amin' ny zava-boahary
- Fitandrovana ny fahadiovana
- Fitadiavana asa fanampiny ankoatry ny jono
- Fampiraisana ny vahoaka ao anatin' ny faritra
- Fandraisana anjara amin' ny asa sosialy
- Fampitomboana ny isan' ny mpitsidika ny faritra arovana
- Fampitomboana ny vokatra azo atolotra ny mpitsidika



Andininy 10: Ny soritr'asa amin' ny ankapobeny

Makasika ny lafi-piainana rehetra amin' ny ankapobeny dia ireo asa fanajariana rehetra:

- Asa fanajariana
- Miaro ny tontolo iainana
- Mitantana
- Mampihantra ny paikady fitantanana
- Manara-maso ny fanajariana
- Mampirindra ny tontolo iainana
- Asa fanentanana
- Fikolokoloana
- Mampihantra ny paik'ady fitantanana
- Asa fampandaisana anjara ny tsirairay
- Manao laharam-pahamehana ny fanbezana
- Mandresy lahatra ny vahoaka
- Asa fanasoavana

Andininy 11: Ny mpahazo tombotsoan'ny asa

- Ny vahoaka monina manodidina ny faritra arovana
- Ireo mpiara-miombonantoka sy ny mpanohana

TOKO IV : MPIKAMBANA-ZO

Andininy 12: Fepetra takiana amin' ny mpikambana

Ny mponina rehetra izay voasocatra anarana ao amin' ny lisitry ny fokontany fito voalaza ka nitoetra mihoatra ny telo volana no mpikambana.

Andininy 13: Zon'ny mpikambana

Mitovy zo ny vahoaka manoloana ny:

- ✓ Firotsahana ho fidiana ho komity mpitantana
- ✓ Fandraisana anjara amin' ny fivoriam-be, fanapahan-kevitra, fandatsahambato,...
- ✓ Fananan-jo hampiantso na hitarika fivoriana raha ohatra ka misy liana izany,
- ✓ Famoahana hevitra mahaso sy mampirindra ny fikambanana
- ✓ Fahazoana tombon-tsoa amin' ny asan' ny fikambanana

Izay feno 18 taona dia manana zo ho fidina birao.

TOKO V : FIVORIAM-BE

Andininy 14:

- Mivory in-dray mandeha isan-taona ka ny volana aprily ny fivoriana ara-potoana

- Azo atao ny manao fivoriam-be tsy ara-potoana rehefa misy zava-dehibe maika tsy maintsy ho tapahina
- Ny fivoriam-be no rafitra faratampony mifehy ny faikambanana ary mana-pakevitra farany.

Andininy 15: Andraikitra ny fivoriam-be ny

- Mifidy ny birao amin'ny alalan'ny fifidianana mifafina
- Mandray ny tatitra ara-bola
- Mandany ny soritr'asa sy teti-bola amin'ny ho avy
- Manapaka ny asa araka ny laharam-pahamehana
- Manova ny sata mifehy raha toa ka ilaina izany
- Mandrava ny fikambanana



Tsy afaka manapa-kevitra ny fivoriam-be raha tsy ny roa ampahatelon'ny mpikambana farafaharatsiny, no tonga mandray anjara amin'ny fivoriana. Raha tsy feno io fetr'asa io dia manao fiantsoana faharoa, ka izay tonga no mandany.

Andininy 17: Ny fifidianana

Ny fivoriambe no mifidy ireo mambra ny birao foiben'ny fikambanana. Ny mambra ny birao voafidy dia miasa mandritra ny roa fotoana. Fifidianana antsasa-manila no atao, ka raha mitovy ny vato azon'ny kandida roa na maromaro dia averina ny fifidianana

TOKO VI : BIRAO FOIBE

Andininy 18

- Mivory in-dray mandeha isaky ny roa volana ny komity foibe
- Mivory isaky ny roa volana mialohan'ny fivoriam'ny komity foibe ny komity vondrona. Azony atao ny mivory ankoatran'io raha misy liana izany na arakaraky ny fangatahan'ny ampahaefatry ny mpikambana
- Afaka mampiatra avy hatrany ny zavatra tapaka ao amin'ny komitin'ny vondrona na komity foibe ny tanana voakasika
- Afaka manapaka manokana koa ny komity raha liana izany ka tsy mifanipaka amin'ny fitsipika ankapobeny.
- Ny roa ampahatelon'ny mpikambana ao amin'ny birao no mandray anjara amin'ny fivoriana vao manankery ny fanapahan-kevitra raisina.

Andininy 19: Andraikitra ny Komity foibe

- Mpanelanelana ny vondrona sy ny mpiara-miombon'antoka
- Manara-maso sy mitondra tsotra ary manolotra vahaolana
- Mivory sy midinika ary mamolavola asa tokony hataon'ny fikambanana
- Manolo-tsaina ny birao mpanatanteraka any amin'ny vondrona

TOKO VII : BIRAO ANY AMIN'NY VONDRONA

Andininy 20: Misy vondrona telo ao amin'ny faritra arovana dia ny faritra avaratra, faritra afovoany ary ny faritra atsimo. Izy no mpanelanelana ny birao foibe any amin'ny vahoaka.

Andininy 21: Andraikitra ny birao mpanatanteraka any amin'ny vondrona

- Tompon'andraikitra amin'ny fitantanana sy fampandehanan-draharaha ao anatin'ny fikambanana
- Mamolavola ny zavatra rehetra ho entina ankatoavin'ny fivoriambe
- Manatanteraka ny asan'ny fivoriambe eo anelanelan'ny fotoana tsy isian'ny fivoriambe

TOKO VIII : ANDRAIKITRY NY MAMBRA TSIRAIRAY AO AMIN'NY BIRAO

Andininy 22: Andraikitra ny Filoha

- Misolo toerana ny fikambanana amin' ny sehatra rehetra samihafa.
- Manara-maso ny fanatanterahana ny fanapahan-kevitra raisina teo anivon' ny fivoriambe
- Mitarika fivoriana
- Manetsiketsika sy mandresy labatra ny olona amin' ny fiarovana ny tontolo iainana
- Mandamina ny asan' ny birao tsirairay
- Manao sonia ny (cheque) sy ny taratasim-bola any amin' ny banky, ireo fitehirizana-bola hafa

Andininy 23: andraikitra ny filoha lefitra

- Misolo toerana ny filoha amin' ny fotoana tsy maha eo azy
- Manentana fivoriana
- Manampy ny filoha amin' ny lafiny rehetra
- Manolo-tsaina ny filoha amin' ny sehatra rehetra



Andininy 24 : Andraikitra ny mpitantsoatra

- Mandray an-tsoratra ny dinika sy ny fanapahan-kevitra rehetra amin' ny fivoriana
- Manao tatitra ny momba ny asa rehetra eo anivon' ny fivoriana
- Tompon' andraikitra amin' ny fitaovana ny fikambanana

Andininy 25 : Andraikitra ny mpitantsoatra mpanampy

- Manolo ny mpitantsoatra amin' ny fotoana tsy maha eo azy
- Manampy ny mpitantsoatra amin' ny lafiny rehetra

Andininy 26: Andraikitra ny mpitam-bola

- Mitahiry ny volan' ny fikambanana
- Mamoka ny volan' ny fikambanana rehefa nahazoana alalana avy amin' ny birao foibe
- Mandray an-tsoratra ny vola miditra sy mivoaka rehetra
- Mitahiry ny bokim-bola sy ny antontan-taratasim-bola rehetra
- Miara-manao sonia amin' ny filoha ny (cheque) sy ny taratasim-bola rehetra

Andininy 27 : Andraikitra ny mpanolo-tsaina

- Mihaina sy mandray ny fitarainan' ny mpikambana
- Manolo-tsaina ny mpikambana ao amin' ny komity foibe na komitin' ny vondrona
- Manome tolo-kevitra amin' izay mety hampandroso ny fikambanana

Andininy 28 : Raha misy tompon' andraikitra ao amin' ny komity tratra manodikodimbola na fitaovana dia aato amin' ny asany mandra-pahatongan' ny fivoriambe izay anapahan-kevitra mikasika izay ho atao aminy

Andininy 29 :

Metỳ manana vola, fananana, fitaovana ny fikambanana vokatra ny :

- Ezaky ny fikambanana
- Asan-pamokarana atao ny fikambanana
- Fanampiana sy fanomezana avy aty an-toerana na avy any ivelany

Ny vola miditra sy mivoaka dia tsy maintsy soratana mazava tsara ao amin' ny kahe voatokana amin' izany

Andininy 30: Vola

Ny mpitahiry vola no mamoka ny vola. Mpanatanteraka izy amin' izany fa ny fivorianbe no manapaka ny famoaham-bola eo amin' ny fikambanana ka tsy maintsy misy tapakila fanamarihana voasonian' ny filoha sy ny mpitahiry vola ny fandanianana rehetra vao manan-kery

Andininy 30a: Ny 25% ny vola miditra amin' ny vondrona dia arotsaka ao amin' ny komity foibe VELONDRIAKE ary ny 75% kosa dia mijanona ho an' ny vondrona.

Andininy 30b: raha misy asa iombonana atao amin' ny faritra arovana dia miara-mandray anjara avokoa ny vondrona tsirairay ary ampian' ny foibe. Tapahina ao anatin' ny fivorianbe ny anjara birikiny

Andininy 30d: Tapakila iray ihany no miasa ao amin' ny faritra mba hanamorana ny fivivezizena sy fanaraha-maso

Andininy 30e: Ny vola dia tsy maintsy arotsaka any amin' ny Banky ka iray ihany ny nimeran' ny kaonty ho an' ny faritra VELONDRIAKE, ary ny Filoha sy ny Mpitamolan' ny foibe no miaraka manao sonia amin' ny fampiasam-bola.

Andininy 30f: voafetra ho 500000 Ar (dimy hetsy ariary) no azon' ny foibe tazomina ao amin' ny kitapombola ary 100000 Ar (iray hetsy ariary) ny any amin' ny vondrona.

Andininy 31: Lamandy sy vonodina

Izay rehetra mandika ny fepetra sy lalana mifehy ny faritra arovana dia mandoa lamandy sy vonodina voasoratra ao amin' ny "dina"

Andininy 32 : faritra arovan' ny fikambanana "VELONDRIAKE"

Faritra azo trandrahana manaraka fepetra

- Tsy azo atao ny mampiasa laro amin' ny faritra rehetra an-dranomasina sy ny morontsiraka
- Tsy azo ampiasaina ny makarakara raha tsy amin' ny fotoana vokatana izay fandaminana ataon' ny foibe hakana ny tovy sy ny varilava
- Tsy azo atao ny mampiasa fitaovana mamono zana-pia
- Tsy azo ampiasaina ny mason' arato tondro raiky raha tsy amin' ny fotoana hakana ambasisy sy tampininy ary geba
- Tsy azo atao ny mamadika vatohara
- Tsy azo atao ny maka hazan-dranomasina arovana araka ny lalana (fano, fesotse,...)

Faritra arovana amin' ny fotoana voafetra

- **HORITA**
 - Akatona indray mandeha isan-taona avy mandritra ny roa volana raha kely indrindra ny faritra arovana araka ny fandaminam-potoana isam-paritra
 - Tsy azo atao ny manao velom-po amin' ny faritra vokatana mandritra ny fotoana fikatonana
 - Ny fokonolona tsirairay avy dia samy mpiambina
 - Tsy azo ijanonana fotoana maharitra amin' ny faritra akatona
- **TSITSIKE SY DRAKAKE**
 - Tsy azo atao ny manapaka honko
 - Tsy azo atao ny mihaza sy manao velom-po amin' ny faritra arovana mandritra ny fotoana fikatonany
 - Tsy maintsy hajaina ny fotoana natokana ho fanakatonana ny honko

Faritra arovana tanteraka

- **VATOHARA**
 - Tsy azo atao ny manao velom-po amin' ny faritra arovana
 - Tsy azo ijanonana mandritra ny fotoana maharitra



- Azo atao ny manao asa fikarohana sy fizahan-tany efa nahazoana alalana mialoha
- **ORLAGNA**
- Tsy azo atao ny manao velom-po amin'ny faritra arovana
- Tsy azo ijanonana manditra ny fotoana maharitra
- Azo atao ny manao asa fikarohana sy fizahan-tany efa nahazoana alalana mialoha
- **HONKO (Antseranasoa)**
- Tsy azo atao ny manao velom-po amin'ny faritra arovana
- Azo atao ny manao asa fikarohana sy fizahan-tany efa nahazoana alalana mialoha



Faritra natokana ho arovana tanteraka mba fitehirizana ny hakanton'ny zava-boary ary natao ho fakan-drivotra sy fiamboly.

- **ALA MISY RENIALA**
- Tsy azo atao ny maka ravina sy manapaka ny reniala nefa azo alaina ny voany raha milatsaka
- Tsy azo atao ny mitrandraka ala sy manao tetik'ala
- Azo atao ny manao asa fikarohana sy fizahan-tany efa nahazoana alalana mialoha
- **Morondranomasina voatokana (plage) avaraty Andavadoaka**
- Tsy azo anaovana maloto sy tsy azo anariana fako
- Tsy azo simbana ny endriky ny zavaboahary

Faritra ampiasaina manokana

Misy toerana natokana hiompiana zanga sy hambolena lomotra

Sazy na vonodina ampiharina

| FARITRA | HADISOANA VOAPOROFO | SAZY NA VONODINA AMPIHARINA |
|---|---|--|
| Faritra natokana ho arovana tanteraka | Mangala vokatra | Ar 200,000 isaky ny olona miampy fakana ny vokatra azony |
| | Manao fizahan-tany tsy nahazo alalana | Ar 500,000 isaky ny olona |
| | Manao fikarohana tsy nahazo alalana | Ar 500,000 isaky ny olona |
| | Mitrandraka Tsitsike | Ar 3,000 isaky ny olona miampy fakana ny vokatra azony |
| | Mitrandraka drakake | Ar 1,500 isaky ny olona miampy fakana ny vokatra azony |
| | Manapaka honko | Ar 5,000 isan-kazo miampy fakana ny vokatra azony |
| | Manimba ny reniala | Ar 200,000 |
| Faritra arovana amin'ny fotoana voafetra | Mitrandraka, mihaza, maminta | Ar 100,000 isaky ny olona miampy fakana ny vokatra azony |
| Faritra anaovana jono nentim-paharazana sy artizany | Mampiasa laro | Ar 100,000 |
| | Mampiasana makarakara tsy amin'ny fotoana voatokana ampiasana izany | Ar 50,000 miampy fakana ny vokatra |
| | Mamadika vatohara | Ar 20,000 |
| | Maka hazan-dranomasina voararan'ny lalana (fano, fesotse,...) | Ar 20,000 miampy fakana ny vokatra |
| | Mangala vokatra | Ar 200,000 isaky ny olona miampy fakana ny vokatra azony |

TOKO IX : FANIMBANA FANANANA

Andininy 33: Izay manimba ny fananana iombonana ka tsy nampiasaina tamin' ny asa fanodinana ny fikambanana dia miantoka izany

Andininy 34: Mandalo fizahana matotra sy voamarina ny fahasimban' ny fitaovana iombonana

TOKO X : FANOVANA FITSIPIKA SY FAHARAVANA

Andininy 35: Azo ovana ity fitsipika ity raha ankatoavin' ny roa ampahatelon' ny mpandray anjara ao amin' ny fivoriambe amin' ny alalan' ny latsa-bato mifafina.

Ny fanavozana rehetra amin' ity fitsipika anatin' ity sy amin' ny olona voatendry hitantana dia tsy maintsy hanaovana fampandrenasana amin' ny fitondram-panjakana.

Andininy 36: Tsy azo ravana ny fikambanana raha tsy ankatoavin' ny roa ampahatelon' ny mpikambana rehetra

Andininy 37: Tsy azo amidy na zaraina ny fananan' ny fikambanana. Ny fivoriambe no manendry izay fikambanana afaka hikarakara ny fananany ka tsy maintsy fikambanana mitovitovy tanjona aminy eo antoerana no omena azy amin' ny fotoana handravana ny fikambanana

Andininy 38: Manomboka manan-kery ity sata ity raha vao mahazo ny fankatoava avy amin' ny fivoriam-be sy ny fanomezan-dalan' ny fanjakana.

Natao teto Andavadoaka androany faha 31 Oktobra 2006

NY MPITANTSORATRA

A. Edgard

NY MPITAHIRY VOLA

Rather Thérèse

NY FILOHA



Samba Roger

Vu po le Haie



1^{er} ADJOINT AU MAIRE

ARCHANT Zazisa



SATA FOTOTRA IJOROAN'NY FIKAMBANANA VELONDRIAKE



FIZARANA VOALOHANY : *FANANGANANA-ANARANA-FOIBE-FAHARETANY*

Andininy 01 : Fanaganana

Araka ny didim-panjakana laharana faha 60-133 tamin'ny 03 Oktobra 1960 sy ny hitsivolana laharana faha 75-017 fanovana tamin'ny 13 Aogositra 1975 mifehy ny fananganana fikambanana dia:

- Miorina eto Andavadoaka ny foiben'ny fikambanana
- Fokontany Andavadoaka BP 34
- Kaominina Ambanivohitra Befandefa
- Distrikan'I Morombe
- Fikambanana antsoina hoe: "VELONDRIAKE"
- Faharetany: tsy voafetra ny fe-potoana hiasany (ary afaka miasa ato anatin'ny faritry ny distrikan'ny Morombe)
- Tsy manao politika ny fikambanana, tsy miankina amin'ny antoko politika na antokom-pinoana, ary tsy miasa ho baikon'ny atsy na ny aroa fa manana ny foto-kevitra hijoroany ny fikambanana.

FIZARANA FAHAROA : *TANJONA-ZAVA-KENDRENA*

Andininy 02: Tanjona ankapobeny

Fitantanana mahomby sy maharitra ny harena voa-janahary andranomasina sy morontsiraka

Andininy 03: tanjona manokana

- Fampiroboroboana ny jono
- Fiarovana ny tontolo iainana
- Fampiroboroboana ny fiharian-karena
- Fampiraisankina
- Fanabeazana
- Fitantanana maharitra mba ho fitsonjovanan'ny taranaka faramandimby
- Fampiroboroboana ny fizahan-tany

Andininy 04: Zava-kendrena

- Famoronana faritra arovana amin'ny faritra voafetra
- Fanatsarana ny fomba fanjonoana
- Fampiraisana ny olona amin'ny zava-boahary
- Fitandrovana ny fahadiovana
- Fitadiavana asa fanampiny ankoatry ny jono
- Fampiraisana ny vahoaka ao anatin'ny faritra
- Fandraisana anjara amin'ny asa sosialy
- Fampitomboana ny isan'ny mpitsidika ny faritra arovana
- Fampitomboana ny vokatra azo atolotra ny mpitsidika

FIZARANA FAHA TELO: *ASA*

Andininy 05: Ny soritr'asa amin'ny ankapobeny

Makasika ny lafi-piainana rehetra amin'ny ankapobeny dia ireo asa fanajariana rehetra:

- Asa fanajariana
- Miaro ny tontolo iainana
- Mitantana
- Mampihantra ny paikady fitantanana
- Manara-maso ny fanajariana
- Mampirindra ny tontolo iainana
- Asa fanentanana
- Fikolokoloana
- Mampihantra ny paik'ady fitantanana
- Asa fampandaisana anjara ny tsirairay
- Manao laharam-pahamehana ny fanbeazana
- Mandresy lahatra ny vahoaka
- Asa fanasoavana

Andininy 06: Ny mpahazo tombotsan'ny asa

- Ny vahoaka monina manodidina ny faritra arovana
- Ireo mpiara-miombonantoka sy ny mpanohana

FIZARANA FAHA EFATRA: MPIKAMBANA-ZO

Andininy 07: Fepetra takiana amin'ny mpikambana

Ny mponina rehetra izay voasoratra anarana ao amin'ny lisitry ny fokontany fito vonalaza ka nitoetra mihoatra ny telo volana no mpikambana.

Andininy 08 : Zon'ny mpikambana

Mitovy zo ny vahoaka manoloana ny:

- ✓ Firotahana ho fidiana ho komity mpitantana
- ✓ Fandraisana anjara amin'ny fivoriam-be, fanapahan-kevitra, fandatsahambato,...
- ✓ Fananan-jo hampiantso na hitarika fivoriana raha ohatra ka misy liana izany,
- ✓ Famoahana hevitra mahaso sy mampirindra ny fikambanana
- ✓ Fahazoana tombon-tsoa amin'ny asan'ny fikambanana

Izay fene 18 taona dia manana zo ho fidina birao.

FIZARANA FAHA DIMY: RAFI-PANDAMINANA

Andininy 09: Ny rafi-pandaminana misy ato anatin'ny fikambanana

Misy ambaratonga telo ny rafitra misy

- Ny fivoriam-be
- Ny komity foibe VELONDRIAKE
- Ireo komity ao amin'ny vondrona telo (avaratra: Vezo milanoriake, afovoany: mahaso, atsimo: fanemotra)

Andininy 10: Ny fivoriam-be

- Mivory in-dray mandeha isan-taona ka ny volana aprily ny fivoriana ara-potoana
- Azo atao ny manao fivoriam-be tsy ara-potoana rehefa misy zava-dehibe maika tsy maintsy ho tapahina
- Ny fivoriam-be no rafitra faratampony mifehy ny faikambanana.

- Azo atao ny manao fivoriam-be tsy ara-potoana rehefa misy zava-dehibe maika tsy maintsy ho tapahina
- Ny fivoriam-be no rafitra fanatampiny mifehy ny fikambanana.



Andininy 11: andraikitra ny fivoriam-be ny

- Mifidy ny birao amin'ny alalan'ny fifidianana mialina
- Mandray ny tatitra ara-bola
- Mandany ny soritr'asa sy teti-bola amin'ny ho avy
- Manapaka ny asa araka ny laharam-pahamehana
- Manova ny sata mifehy raha toa ka ilaina izany
- Mandrava ny fikambanana

Andininy 12: Ny birao manatanteraka na komity foibe

Manana birao mpanatanteraka ny fikambanana ka ferana ho roa taona ny fe-potoana hiasany izay ahitana

| | |
|--------------------------------|---|
| Filoha..... | 1 |
| Filoha lefitra..... | 2 |
| Mpitam-tsoratra Jeneraly..... | 1 |
| Mpitam-tsoratra fanampiny..... | 1 |
| Mpitahiry vola..... | 1 |
| Mpanolo-tsaina..... | 6 |

Andininy 13: Andraikitra ny Komity foibe

- Mpanelanelana ny vondrona sy ny mpiara-miombon'antoka
- Manara-maso sy mitondra tatitra ary manolotra vahaolana
- Mivory sy midinika ary mamolavola asa tokony hataon'ny fikambanana

Manolo-tsaina ny birao mpanatanteraka any amin'ny vondrona

Andininy 14: Ny birao mpanatanteraka any amin'ny vondrona

Ao anatin'ny faritra isan'ny Birao mpanatanteraka foibe koa dia misy vondron'olona ifotony telo izay ahitana ireto avy :

| | |
|--------------------------------|---------------|
| Filoha..... | 1 |
| Filoha lefitra..... | 1 |
| Mpitam-tsoratra voalohany..... | 1 |
| Mpitam-tsoratra fanampiny..... | 1 |
| Mpitahiry vola..... | 1 |
| Mpanolo-tsaina..... | 6 na mihoatra |

Ary azo ahato ny mpitarika tsy manao ny asany, ary azo atao ny milatsaka ho fidiana intelo ny filoha

Andraikitra ny birao mpanatanteraka any amin'ny vondrona

- Tompon'andraikitra amin'ny fitantanana sy fampandehanan-draharaha ao anatin'ny fikambanana
- Mamolavola ny zavatra rehetra ho entina ankatoavin'ny fivoriambe
- Manatanteraka ny asan'ny fivoriambe eo anelanelan'ny fotoana tsy isian'ny fivoriambe

Andininy 15:

- Mivory in-dray mandeha isaky ny roa volana ny komity foibe
- Mivory isaky ny roa volana mialohan'ny fivoriambe ny komity foibe ny komity vondrona. Azony atao ny mivory ankoatran'io raha misy lina izany na arakaraky ny fangatahan'ny ampahaefatry ny mpikambana

Andininy 16: Andraikitra ny Filoha

Ny filoha no misolo toerana ny fikambanana amin'ny sehatra rehetra samihafa. Ny filoha lefitra no misahana izany raha tsy eo ny filoha. Ny filoha no manara-maso ny fanatanterahana ny fanapahan-kevitra raisina teo anivon'ny fivorianbe

Andininy 17: benevolat

Tsy andraisam-bola ny raharahan'ny birao mpanatanteraka fa iantohan'ny fikambanana kosa izay lany rehetra amin'ny famitana iraka ivelan'ny faritra

**FIZARANA FAHA ENINA : FEPETRA ARA-BOLA****Andininy 18: Loharanom-bola - Fananana**

Ny fidiram-bolan'ny fikambanana amin'ny ankapobeny dia hita bebe kokoa any amin'ny mpik'ady fitantanana.

Mety manana vola, fananana, fitaovana ny fikambanana vokatry ny :

- Ezaky ny fikambanana
- Asam-pamokarana ataon'ny fikambanana
- Fanampiana sy fanomezana avy aty an-toerana na avy any ivelany

Andininy 19: Famoaham-bola

Ny mpitahiry vola no mamoka ny vola. Mpanatanteraka izy amin'izany fa ny fivorianbe no manapaka ny famoaham-bola eo amin'ny fikambanana ka tsy maintsy misy tapakila fanamarihana voasonian'ny filoha sy ny mpitahiry vola ny fandaniana rehetra vao manna-kery

FIZARANA FAHA FITO: FITSIPIKA ANATINY**Andininy 20: Fitsipika ankoatran'ny sata**

Ankoatran'ity sata ity dia manana fitsipika anatin'ny ifampifehezana ny fikambanana. Ny mpikambana ao amin'ny birao mpanatanteraka no mamolavola fitsipika anaty atolotra hankatoavin'ny fivorianbe ka hameno sy hanampy ity sata ity

FIZARANA FAHA VALO : FIFANDRAISAN'NY FIKAMBANA AMIN'NY ANY IVELANY, FIKAMBANANA Hafa sy MPANOHANA

Andininy 21: Miara-miasa amin'ny fikambanana hafa sy ny mpanohana ivelany izay tsy hanohitohina ny fijoroan'ny fikambanana eo amin'ny famatsiana ara-bola, ny fampiofanana, sns... ny fikambanana

FIZARANA FAHA SIVY: FANOVANA Sata sy FAHARAVANA

Andininy 22: Azo ovana ity sata ity raha ankatoavin'ny roa ampahatelon'ny mpandray anjara ao amin'ny fivorianbe amin'ny alalan'ny latsa-bato mifaina

Andininy 23: Tsy azo ravana ny fikambanana raha tsy ankatoavin'ny roa ampahatelon'ny mpikambana rehetra

Andininy 24: Tsy azo amidy na zaraina ny fananan'ny fikambanana. Ny fivoriambe no manendry izay fikambanana afaka hikarakara ny fananany ka tsy maintsy fikambanana mitovitovy tanjona aminy eo antoerana no omena azy amin'ny fotoana handravana ny fikambanana

Andininy 25: Manomboka manan-kery ity sata ity raha vao mahazo ny fankatoava avy amin'ny fivoriam-be sy ny fanomezan-dalan'ny fanjakana.

Natao teto Andavadoaka androany faha 31 Oktobra 2006

NY MPITANTSORATRA

C. A. Edgard

NY MPITAHIRY VOLA

Rathie
Therese

NY FILOHA



Vu par le Maire
P.O. 1^{er} ADJOINT AU MAIRE

ARCHANT Zanista

Appendix 2: Velondriake Action Plan

| OBJECTIVES | ACTIVITIES | EXPECTED RESULTS | ENTITY RESPONSIBLE | TIME FRAME (every 4 months) | | | | | | MEANS USED | INDICATORS | BUDGET |
|---|---|---|---|-----------------------------|---|---|---|---|---|---|---|--------|
| | | | | | | | | | | | | |
| Fisheries development | Awareness raising | Support from local people | Central and Regional Committees | X | | | | | | - Pirogue - Radio forum | Number of persons aware about Velondriake | |
| | Checking on sites | Productivity increase | Local population | | X | X | X | X | X | - Pirogue - Mask - Fishing companies | Abundance and size of catches | |
| | Enforcement of "dina" | Everybody will abide | Local population | | | X | X | X | X | - Binoculars - Torch - Pirogue - Zebu cart - Radio | Number of persons obeying the dina(or number of offenders) | |
| | Establishing reserves / no take zones | Increase of the size and abundance of products | Local population | X | X | X | X | X | X | Depending on type of reserve | Number of reserves created | |
| | Trade | Increase of products collected / sold | Representatives of local population | | | | X | X | X | - Pirogue - Net - Fishing line - Hook - Mask - Fins - Scales - Radio forum - Megaphone - Pirogue | Weight of products sold | |
| Solidarity between fishing communities | Awareness raising | Local people: - informed - working together - exchanging ideas - helping each other | - Local population - Partners | X | X | X | X | X | X | | Number of persons supporting the Association | |
| Long term management for future generations | Education of local population about the | Everybody in the community feeling responsible | - Regional and Central Committees - Partners | X | X | | | | | - Radio forum - Computer - Interpretation, education and information center | Number of persons convinced of the economic and aesthetic value | |
| | Biodiversity survey | Improvement of biodiversity | - Partners - Researchers - Regional and Central Committees | | | X | X | X | X | - Speed boat - Scuba equipment | Percentage of damage | |
| | Evaluation of management | Finding shortcomings of management program | - Partners - Researchers - Regional and Central Committees | | | X | X | X | X | - Speed boat - Scuba equipment | Percentage of improvement | |
| Tourism development | Awareness raising | Increase of the number of tourists | - Partners - Tourism operators - Ministry of Tourism - Blue Ventures | X | X | X | X | X | X | Brochures, posters, flyers | Number of tourists visiting the area | |
| | Conservation of potential tourist sites | Sites meeting international standards | - IHSM - Regional and Central Committees | | | X | X | X | | Wood, spades | Number of protected areas | |
| | Improving craftsmanship | - Good quality of crafts - Increase of income | - Local population - Specialists and trainers | | | X | X | X | X | - Musical instruments - Art and crafts materials | Developed capacities | |
| | Publicity | Attracting tourists | - Partners - Communication agencies | X | X | X | X | X | X | Radio forum, posters, flyers | Number of people visiting the area | |
| | Tourist guide training | Improving knowledge and income | Partners | X | X | X | X | X | X | Classroom | Number of guides trained | |
| Nature conservation | Awareness raising | Improved knowledge of local people | ANGAP, WCS, WWF, Blue Ventures | X | X | X | | | | Radio, megaphone, pirogue, books, movies | Number of people supporting conservation efforts | |
| | Education | Local people well informed | Regional and Central Committees, partners | X | X | X | | | | Radio, megaphone, pirogue, books, movies | Number of offenders | |
| | Inspection | Protected sites | Local population | X | X | X | X | X | X | | Number of offenders | |
| | Cleaning | Not polluted environment | Local population | X | X | X | X | X | X | - Dump site - Toilet | Cleanliness | |

Appendix 3: Velondriake Dina

DINAM-POKONOLONA ATY AMIN'NY FOKONTANY 7 MANODIDINA AN'ANDAVADOAKA, KAOMININA AMBANIVOHITRA BEFANDEFA, HO FITANTANANA NY HARENA VOA-JANAHARY AMORONTSIRAKA SY ANDRANOMASINA.

Araka ny fivoriana maro nifanesy natao taty amin'ny Tanàna 22 ao anatin'ny faritra ho tantanina na ho atao valanjavaboary, nanomboka ny volana Avrily 2006, ary mbola hamafisin'ny fivoriana ny vondrona telo natao androany Alatsinainy faha 16 Oktobra 2006 teto Andavadoaka, Fokontany Andavadoaka, Kaominina Ambanivohitra Befandefa, izay notarihin'ny filohan'ny fikambanana VELONDRIAKE, ary natrehin'ny:

-Ben'ny Tanana lefitra

-Filohan'ny Fokontany

-Ny Nahoda na Ray aman-dReny ao Andavadoaka

-Ny mpanelanelana momba ny tontolo iainana ao amin'ny BV sy WCS

dia nankatoavin'ny fokonolona ny volavolana DINA naroson'ny vahoaka isan-tanàna rehefa narindran'ny fikambanana VELONDRIAKE nandritra ny fifampidinihina sy ady hevitra. Toy izao izany:

TOKO I : FAMARITANA

ZAVA-KENDREN'NY DINA

Andininy 1: Natsangana ity DINA ity mba ho entina:

1. Hanamarihana ny fankatoavan'ny fokonolona ireo fepetra rehetre voalaza ao amin'ny fifanekem-pitantanana, Bokin'andraikitra,
2. Hampiharana ny Paikadim-pitantanana sy ny Drafitr'asa ka hifehezana ny fitantanana, fampiasana ary fiarovana ny toerana ho tantanina VELONDRIAKE sy ireo harena voa-janahary raiketiny.

VOAKASIKY NY DINA

Andininy faha 2: Natao ifampifehezana ny Fokonolona eto anatin'ny Fokontany Andavadoaka, Ambalorao, Befandefa, Bevato, Lamboara, Tampolove sy Vatoavo ity DINA ity ka azo ampiharina amin'ny tsirairay

Andininy faha 3: Ny olona ivelan'ireo Fokontany ireo na avy lavitra na akaiky ka mandika ny fepetra napetraka dia iharan'ity DINA ity,

FEPETRA MOMBAN'NY FAMPIHARANA NY DINA

Andininy faha 4: Ny DINA dia tsy natao hifanipaka amin'ny lalàna velona , ka noho izany dia tsy misakana ny fampiharana ireo lalàm-panjakana ireo ny fisiany,

Andininy faha 5: Ny fandikana ny DINA dia mitarika ny fampiharana ny sazy atao hoe “ VONODINA”, toy ny fanefana na fandoavana onitra ara-bola mifanaraka amin'ny hadisoana vita.

TOKO II: DINA FAMPIHARANA NY FEPETRA FIAROVANA

➤ FEPETRA ANKAPOBENY

Andininy 6: Voafetra ho fanaovana jono nentim-paharazana sy fanaovana jono artizanal (Pêche artisanale) ny faritra azo trandrahina

Andininy faha 7: Tsy azo atao ny mampiasa laro amin'ny faritra rehetra an-dranomasina sy ny morontsiraka

Andininy faha 8: Tsy azo ampiasaina ny makarakara raha tsy amin'ny fotoana voatokana izay fandaminana ataon'ny foibe hakana ny tovy sy ny varilava

Andininy faha 9:

Tsy azo atao ny mampiasa fitaovana mamono zana-pia

Andininy faha 10: Tsy azo ampiasaina ny mason'arato tondro raiky raha tsy amin'ny fotoana hakana ambasisy sy tampininy ary geba

Andininy faha 11: Tsy azo atao ny mamadika vatohara

Andininy faha 12: Tsy azo atao ny maka hazan-dranomasina arovana araka ny lalana (fano, fesotse,...)

Andininy faha 13: Sazy azo araky ny hadisoana atao

| HADISOANA VOAPOROFO | SAZY NA VONODINA AMPIHARINA |
|---|------------------------------------|
| Mampiasa laro | Ar 100,000 |
| Mampiasana makarakara tsy amin'ny fotoana voatokana ampiasana izany | Ar 50,000 miampy fakana ny vokatra |
| Mamadika vatohara | Ar 20,000 |
| Maka hazan-dranomasina voararan'ny lalana (fano, fesotse,...) | Ar 20,000 miampy fakana ny vokatra |

➤ FEPETRA AMIN'NY FARITRA AROVANA AMIN'NY FOTOANA VOAFETRA

• **HORITA**

Andininy faha 14: Akatona indray mandeha isan-taona avy mandritra ny roa volana raha kely indrindra ny faritra arovana araka ny fandaminam-potoana isam-paritra

Andininy faha 15: Tsy azo atao ny manao velom-po amin`ny faritra voatokana mandritra ny fotoana fikatonana

Andininy faha 16: Ny fokonolona tsirairay avy dia samy mpiambina

Andininy faha 17: Tsy azo ijanonana fotoana maharitra amin`ny faritra akatona

Andininy faha 18: Sazy azo araky ny hadisoana atao

| Hadisoana voaporofa | Sazy na vonodina ampiharina |
|------------------------------|--|
| Mitrandraka, mihaza, maminta | Ar 100,000 isaky ny olona miampy fakana ny vokatra azony |

- ***TSITSIKE SY DRAKAKE***

Andininy faha 19: Tsy azo atao ny manapaka honko

Andininy faha 20: Tsy azo atao ny mihaza sy manao velom-po amin`ny faritra arovana mandritra ny fotoana fikatonany

Andininy faha 21: Tsy maintsy hajaina ny fotoana natokana ho fanakatonana ny honko

Andininy faha 22: Sazy azo araky ny hadisoana atao

| Hadisoana voaporofa | Sazy na vonodina ampiharina |
|--|--|
| Mitrandraka drakake | Ar 3,000 isaky ny olona miampy fakana ny vokatra azony |
| Mitrandraka drakake should be tsitsike ? | Ar 1,500 isaky ny olona miampy fakana ny vokatra azony |
| Manapaka honko | Ar 5,000 isan-kazo miampy fakana ny vokatra azony |

➤ **FEPETRA MIKASIKA NY FARITRA AROVANA TANTERAKA**

- ***VATOHARA***

Andininy faha 23: Tsy azo atao ny manao velom-po amin`ny faritra arovana

Andininy faha 24: Tsy azo ijanonana manditra ny fotoana maharitra

Andininy faha 25: Azo atao ny manao asa fikarohana sy fizahan-tany efa nahazoana alalana mialoha

Andininy faha 26: Sazy azo araky ny hadisoana atao

| Hadisoana voaporofa | Sazy na vonodina ampiharina |
|---------------------------------------|--|
| Mangala vokatra | Ar 200,000 isaky ny olona miampy fakana ny vokatra azony |
| Manao fizahan-tany tsy nahazo alalana | Ar 500,000 isaky ny olona |
| Manao fikarohana tsy nahazo alalana | Ar 500,000 isaky ny olona |

- **ORIAGNA**

Andininy faha 27: Tsy azo atao ny manao velom-po amin'ny faritra arovana

Andininy faha 28: Tsy azo ijanonana manditra ny fotoana maharitra

Andininy faha 29: Azo atao ny manao asa fikarohana sy fizahan-tany efa nahazoana alalana mialoha

Andininy faha 30: Sazy azo araky ny hadisoana atao

| HADISOANA VOAPOROFO | SAZY NA VONODINA AMPIHARINA |
|---------------------------------------|--|
| Mangala vokatra | Ar 200,000 isaky ny olona miampy fakana ny vokatra azony |
| Manao fizahan-tany tsy nahazo alalana | Ar 500,000 isaky ny olona |
| Manao fikarohana tsy nahazo alalana | Ar 500,000 isaky ny olona |

- **HONKO (Antseranasoa)**

Andininy faha 31: Tsy azo atao ny manao velom-po amin'ny faritra arovana

Andininy faha 32: Azo atao ny manao asa fikarohana sy fizahan-tany efa nahazoana alalana mialoha

Andininy faha 33: Sazy azo araky ny hadisoana atao

| HADISOANA VOAPOROFO | SAZY NA VONODINA AMPIHARINA |
|---------------------------------------|--|
| Mangala vokatra | Ar 200,000 isaky ny olona miampy fakana ny vokatra azony |
| Manao fizahan-tany tsy nahazo alalana | Ar 500,000 isaky ny olona |
| Manao fikarohana tsy nahazo alalana | Ar 500,000 isaky ny olona |

- **FEPETRA HO AN'NY FARITRA NATOKANA HO AROVANA TANTERAKA MBA FITEHIRIZANA NY HAKANTON'NY ZAVA-BOARY ARY (HISARIHANA MPIZAHATANY)**

- **ALA MISY RENIALA**

Andininy faha 34: Tsy azo atao ny maka ravina sy manapaka ny reniala nefa azo alaina ny voany raha milatsaka

Andininy faha 35: Tsy azo atao ny mitrandraka ala sy manao tetik`ala

Andininy faha 36: Azo atao ny manao asa fikarohana sy fizahan-tany efa nahazoana alalana mialoha

Andininy faha 37: Sazy azo araky ny hadisoana atao

| HADISOANA VOAPOROFO | SAZY NA VONODINA AMPIHARINA |
|---------------------------------------|-----------------------------|
| Manimba ny reniala | Ar 200,000 |
| Manao fizahan-tany tsy nahazo alalana | Ar 500,000 isaky ny olona |
| Manao fikarohana tsy nahazo alalana | Ar 500,000 isaky ny olona |

- **MORONDRANOMASINA VOATOKANA (PLAGE) AVARATRY ANDAVADOAKA**

Andininy faha 38: Tsy azo anaovana maloto sy tsy azo anariana fako

Andininy faha 39: Tsy azo simbana ny endriky ny zavaboahary

Andininy faha 40: Sazy azo araky ny hadisoana atao

| HADISOANA VOAPOROFO | SAZY NA VONODINA AMPIHARINA |
|---------------------------------------|---|
| Manao maloto sy manary fako | Ar 200,000 using as dumping site or toilet |
| Manimba ny endriky ny zavaboahary | Ar 200,000 modifying or damaging the lanscape |
| Manao fizahan-tany tsy nahazo alalana | Ar 500,000 isaky ny olona |

- **F AMPIASAINA MANOKANA**

Andininy 41: Misy toerana natokana hiompiana zanga sy hambolena lomotra

- **FEPETRA SAMIHAFIA**

Andininy faha 42: Ireo mpikaroka, mpitsidika ka hiditra ny faritra VELONDRIAKE dia tsy maintsy maka fazahoan-dalana ao amin'ny Komity mpitantana ny fikambanana VELONDRIAKE, ny fombafomba fidirana dia faritana ary tsy maintsy ankatoavin'ny fivoriam-be.

Andininy faha 43: Izay mahatratra ny manao hadisoana ka voamarina tsara dia mahazo ny antsasaky ny vonodina

Andininy faha 44: Izay miray tsikombakomba amin'ny mpanao hadisoana ka voamarina tsara dia iharan'ny sazy na vonodina mitovy amin'ny mpanao hadisoana.

Andininy faha 45: Izay manendrikendrika sy manao fiampangana lainga ka voamarina tsara, dia mandoa ny antsasaky ny sazy tokony aloan'ny voaendrikendrika

Andininy 46: Ny famaizana ireo manao hadisoana dia mandalo ireto ambaratonga ireto:

1-Fampilazana ho an'ny nahita

2-Famotorana sy fanamarinana ataon'ny vondrona

3-Fampiharana ny sazy sy vonodina ary fanomezana hatak'andro izay voafaritra ao anatin'ny fitsipika anatin'ny 4-Fampiakarana amin'ny komity foibe 5-Fampiakarana amin'ny ambaratonga mahefa (kaominina,...) ho an'ireo minia manda ny sazy mihatra aminy

Andininy faha 47: Azo ovana na ampiana ity DINA ity ka ny fivoriam-be no mankato azy ary hanaovana tatitra any amin'ny Kaominina sy Distrika izany.

Andininy faha 48: Azo ampiharina avy hatrany ity DINA ity rehefa vita sonian'ny tompon'andraikitra voakasik'izany.

Natao teto Andavadoaka androany faha 16 Oktobra 2006.

Ny solon-tenam-pokonolona

| ANARANA SY FANAMPINY | ASA ATAO | FONENANA | SONIA |
|----------------------|----------|----------|-------|
| | | | |

Ny Filohan'ny Fikambanana VELONDRIAKE

Ny Filohan'ny Fokontany Andavadoaka

Lehiben'ny Tontolo iainana,

Ny Ben'ny Tanana Kaominina

Rano sy Ala Morombe

Ambanivohitra Befandefa

Ny Lehiben'ny Sampandraharahan'ny Fambolena,

Ny Lehiben'ny Distrika Morombe

ny Fiompiana ary ny Jono eto Morombe

NY FITSARANA AMBARATONGA

VOALOHANY ETO MOROMBE

Appendix 4: Velondriake Association Procedures Manual

FARITRA AROVANA AN-DRANOMASINA VELONDRIAKE

BOKY TOROLALANA NY FIKAMBANANA VELONDRIAKE

PROGRAMAM-PITANTANANA NY FARITRA AROVANA AN-DRANOMASINA VELONDRIAKE.

FAMPIDIRANA

a-Torolalana amin'ny fitantanana ireo fitaovana sy vola amin'ny programam-pitantanana ataon'ny fokonolona amin'ny Faritra arovana andranomasina izay hatsangana ato amin'ny faritra Velondriake, Kaominina ambanivohitr'i Befandefa, Distrikan'i Morombe, Faritra Atsimo Andrefana, Faritany Toliara, MADAGASIKARA.

b-Filana torolalana sy lalana mifehy ny fitantanana ny fokonolona ny tetikasa fananganana faritra arovana andranomasina.

b-Fahafaham-po hoan'ireo mpamatsy vola sy mpiara-miombon'antoka

I-FITANTANANA ARA-BOLA

•Ny vola mivoaka isa-taona amin'ny asa fitantanana dia tokony hodinihina mandritra ny fivoriambe amin'ny voalohan'ny taona hanatanterhana ny asa.

•Ny filoha sy ny mpitam-bola ao amin'ny komity mpitantana Velondriake ihany no tompon'andraikitra amin'ny famoaham-bola sy fampidiram-bola ao amin'ny kesin'ny fikambanana ary ny mpitantsoratra kosa no madray antsoratra ny hetsiky ny vola rehetra. Ireo tompon'andraikitra ireo dia tokony hahafehy tsara sy hanara-maso ireo vola nivoaka rehetra ary koa manao ny teti-bola.

•Tokony mampiasa bokim-bola mba ahafahana manara-maso ny fivoaham-bola sy fidiram-bolan'ny fikambanana. Tokony hosoratana mazava tsara amin'io bokim-bola io ny daty, ny antony, ny vola miditra, ny vola mivoaka, sy ny vola sisa ary voasonian'ny filoha sy ny mpitam-bolan'ny komity mpitantana.

•Ireo vola nivoaka rehetra dia ho voamarina sy voaporofa amin'ny taratasy fanamarinana na faktira.

•Ny vola natokana hanatanterahana ireo asam-pitantana rehetra eo anivon'ny Vondrona dia tokony hotantanany ny komitin'ny Vondrona aorian'ny fankatoavana nataon'ny Filohan'ny komity mpitantana Velondriake. Tsy azo atao ny mampiasa ny volan'ny fikambanana amin'ny asa manokana.

•Amin'ny inona no azo ampiasana ny volan'ny fikambanana?

A-Fividianana entana sy kojakoja ilaina amin'ny fanatanteraha asan'ny Velondriake

*Ireo taratasy fangatahana fividianana voaporofa sy voamarin'ny filohan'ny komity mpitantana ihany no dihinin'ny sampandraharaha mikasika ny famatsiana.

*Amin'ny fividianana entana, di a misy fepetra tsy maitsy arahina:

a)Hoan'ireo entana miteti-bidy latsaky ny 20000Ar : tsy mila taratasy fanamarinana.

b) Hoan'ireo entana hafa, izany miteti-bidy mihoatry ny 20000Ar: tokony mila taratasy fanamarinana dika roa mitovy.

B-Mission

-Vola mivoaka amin'ny lasantsy na solika hafa

-Saran-dalana

-Ny solon-tsakafon'ireo olona hanatanteraka asa, izany hoe ireo mambra ao amin'ny komity mpitantana eo anivon'ny Vondrona sy ny komity mpitantana Velondriake ka ambany kokoa ny solon-tsakafo eo anivon'ny Vondrona raha mitaha amin'ny ao amin'ny Foibe. Raha asa tanterahana eo anivon'ny Vondrona dia mitentina **3000 Ar (telo arivo ariary) /isan'olona/isan'andro**, fa raha asa tanterahina eo anivon'ny Foibe kosa dia **6000 Ar (enina arivo ariary)/isan'olona/isan'andro**.

-Ireo olona handeha hanao mission dia tokony mameno taratasy fahazahoan-dalana hanatanteraka asa izay misy ny anarana sy fanampiny, ny daty, ny tanana ary ny antony sy ny tanjona ny asa hatao alohan'ny handehanana. Io taratasy fahazoan-dalana io dia tokony ho soniavin'ny filohan'ny komity mpitantana Velondriake na ny filohan'ny komitin'ny vondrona arakaraky ny asa izay hatao. Ary azo omena mialoha ireo vola hoentina hanatanterahana ny asa raha voaporofa.

-Isaky ny mifarana ny mission dia tokony mamerina ireo taratasy fanamarinana ireo vola nivoaka rehetra any amin'ireo tompon'andraikitra ara-bola eo anivon'ny vondrona na ny komity mpitantana Velondriake.

-Ary isaky ny faran'ny mission izay natao, ny komity mpitantana dia tokony manao tombana ireo vola lany sy manao tatitra hoan'ireo mpamatsy vola.

C-Fivoriana

*Amin'ny fivoriana eo anivon'ny Vondrona na eo anivon'ny Velondriake, ireo mambra amin'ny komitin'ny Vondrona sy ireo komity mpitantana Velondriake dia mahazo solon-tsakafo mitovy amin'ny solon-tsakafo rehefa manao asa mission.

D- Fandraisana anjara amin'ny asa fampandrosoana na asa hafa

Marihina fa ireo vola azo avy amin'ny fizahan-tany na ezaka hafa antaon'ny fikambanana ihany no azo ampiasaina amin'ny :

-Fanamboarana lakilasy na sekoly...

-Asa sosialy(soa sy ratsy)...

II-FITANTANANA FITAOVANA

- Ireo mpitan-tsoratra ao amin'ny komity Velondriake no tompon'andraikitra amin'ny famoahana sy fampidirana ireo entanan'ny fikambanana. Ary izy no miandrakitra ny fanoratana sy fanaraha-maso ireo zavatra rehetra miseho amin'ireo entana ireo ary izany dia tokony ho voamarin'ny filoha. Tokony hahafantatra izay zavatra rehetra miseho avokoa ireo mambra rehetra ao amin'ny birao.

- Misy kahie na boky fandraiketana ireo zavatra rehetra miseho amin'ny fitaovana na fisy ny stoky izay tokony hisy daty, antony, isa, ny entana mivoaka sy miditra, ny stoky misy sy ireo fanamarihana samihafa. Tokony hosarahina ny kahie na boky mirakitra nireo fitaovana miverina sy tsy miverina.

- Ireo fitaovana rehetra dia tokony hisy laharana na nimerao famantarana na nimerao fanisana.

- Ireo fitaovan'ny fikambanana dia tokony hampiasana amin'ny fanantanterahana ny asan'ny Velondriaka ihany, fa raha amin'ny zavatra hafa dia tsy azo atao ny mampiasa ireo raha tsyamin'ny lafiny tsy azo anoharana eo amin'y fiaraha-monina, izany dia tokony hamarinin'ny filoha mialoha.

- Ny fahazoan-dalana amin'ny fampiasana ny fitaovan'ny fikambanana dia arakaraky ny anjara asan'ny tsirairay saingy tsy maintsy hamarinin'ny filoha.

- Ireo tompon'andraikitra ny fitaovana dia tokony manao tatitra momba ny fanaraha-maso ny stoky, isa-telovolana amin'ny komity mpitantana ary isaky ny enim-bolana amin'ireo mpiara-miombon'antoka. Na dia izany aza anefa dia afaka manao tatitra amin'ny fotoana tsy voafetra ihany raha misy ny ilana izany.

- Ny mambra tsirairay ao amin'ny fikambanana dia tompon'andraikitra amin'ny fanaraha-maso sy fikarakarana ireo fitaovan'ny fikambanana.

-

III- FOMBA FANATANTERAHANA IREO ASA

A- Ireo tanjona tratrahin'ny fikambanana Velondriake

- 1- Fananganana faritra arovana an-dranomasina izay hotantanany ny fokonolona
- 2- Fanatsarana ny fomba fanjonoana
- 3- Fampihavanana ny olona sy ny natiora
- 4- Fitandrovana ny fahadiovan'ny tontolo iainana
- 5- Fitadiavana asa fidiram-bola hafa akoatry ny jono
- 6- Fampifandraisana ireo olona ao amin'ny faritra arovana Velondriake.
- 7- Fandraisana anjara amin'ny asa sosialy
- 8- Fampitomboana ny isan'ireo mpizaha tany na torista ao amin'ny faritra arovana
- 9- Fampitomboana ireo vokatra andranomasina sy eo an-toerana mba hanomezana fahafaham-po ireo vahiny mpitsidika.

B- Ny fomba fiasa

- a) Mifantoka amin'ny faritra Velondriaka ary tanterahin'ireo mambra ao amin'y komity mpitantana Velondriaka.
- b) Ady hevitra miaraka amin'ireo solotenan'ny fikambanana sy ireo olobe isa-tanana
- c) Fivoriana sy fifanakalozan-kevitra miaraka amin'ny fokonolona ao an-tanana. Mandritra io no anazavana ny tanjon'ny fivoriana sy anaovana ady hevitra ary anangonana ireo hevitra sy soso-kevitra ny fokonolona.
- d) Mitondra ireo vaovao voahangona amin'ny fivorian'ny Vondrona, manaraka amin'ny komity Foibe Velondriake ary amin'ireo mpiara-miombon'antoka amin'ny tetikasa mba ahafahana mahazo fanampiana ara-tekinika sy ara-bola mba ho fanatsarana sy hampandrosoana ny asa.
- e) Averina any amin'ny fokonolona mba hahazahoana vahaolana ary miroso amin'ireo dingana manaraka izay ambonimbony kokoa. Ka io fomba fiasa io dia averimberina amin'ny fomba mitovy mandrapahatongavana amin'ny tanjona tsirairay.

Andavadoaka, Mars 2007

Ny filohan'ny komity mpitantana Velondriake

Appendix 5: Members of the Velondriake Association

VONDRONA NORD

(Nosy Ve, Nosy Andambatihy, Nosy Mitata, Antsatsamoroy, Nosy Andranombala, Belavenoke, Ambolimoky et Bevato)

1- Appellation **“VONDRONA VEZO MILANORIAKE”**

2-Date d'élection: 12 Octobre 2006 à Andavadoaka

3-Nombre des participants :

4-Les villages participés à l'élection : Nosy Ve(...), Nosy Andambatihy (...), Nosy Mitata (.....), Antsatsamoroy (.....), Nosy Andanomabala (.....), Belavenoke (.....), Ambolimoky (.....) et Bevato (.....).

5-TRUCTURE DU bureau

| NOMS ET PRENOMS | RESPONSABILITE | SEXE | VILLAGE D'ORIGINE |
|----------------------------|-----------------|------|-------------------|
| MARCEL Urbain | Président | M | Bevato |
| VORINGA | Vice Président | M | Nosy Andambatihy |
| RAZAFINDRATSARA Therese | Trésorier | F | Belavenoke |
| PERLINE | Secrétaire n° 1 | F | Nosy Ve |
| RAZAFY Ciel | Secrétaire n° 2 | M | Antsatsamoroy |
| HERY | Conseiller | M | Nosy Ve |
| JOCELYN | Conseiller | M | Ambolimoky |
| Paul MALEMISAY | Conseiller | M | Nosy Andranombala |
| ROBERSON | Conseiller | M | Nosy Mitata |
| ZAFIANANY Julien | Conseiller | M | Belavenoke |
| RIRY | Conseiller | M | Antsatsamoroy |

Mpitantsoratra

Filoha

VONDRONA CENTRAL

(Andavadoaka, Ampasilava, Nosy Hao, Ankilimalinike, Antserananagy)

1- Appellation **“VONDRONA MILASOA”**

2-Date d'élection: 12 Octobre 2006 à Andavadoaka

3-Nombre des participants : 20

4-Les villages participés à l'élection : Andavadoaka(11), Ampasilava(2), Nosy Hao (4), Ankilimalinike (3) et Antserananagy (0).

5-STRUCTURE DU bureau

| NOMS ET PRENOMS | RESPONSABILITE | SEXE | VILLAGE D'ORIGINE |
|--------------------------------|-----------------|------|-------------------|
| Roger SAMBA | Président | M | Andavadoaka |
| NIRINA Jean Baptiste Winock | Vice Président | M | Ampasilava |
| CHRISTINE | Trésorier | F | Andavadoaka |
| DANTESSE Takantera | Secrétaire n° 1 | M | Nosy Hao |
| MANDIMBITOLO Boniface | Secrétaire n° 2 | F | Ampasilava |
| ROBY | Conseiller | M | Nosy Hao |
| RAIVOSOA Bino | Conseiller | M | Ankilimalinike |
| KARANTY | Conseiller | M | Ampasilava |
| ROBY Noël | Conseiller | M | Andavadoaka |
| NESTA Ernestine | Conseiller | F | Andavadoaka |
| ALEX Norbert | Conseiller | M | Andavadoaka |

Mpitantsoratra

Filoha

VONDRONA SUD

(Tampolove, Agnolagnoly, Tsimivolo, Ankitambagna, Lamboara, Vatoavo, Ampasimara, Befandefa et Ankindranoke.)

1- Appellation **“VONDRONA FANEMOTRA”**

2-Date d'élection: 07 Octobre 2006 à Tampolove

3-Nombre des participants : 14

4-Les villages participés à l'élection : Tampolove(4), Agnolagnoly(4), Tsimivolo (1), Lamboara (4) et Ankitambagna (1).

5-STRUCTURE DU bureau

| NOMS ET PRENOMS | RESPONSABILITE | SEXE | VILLAGE D'ORIGINE |
|------------------------|-----------------|------|-------------------|
| Richard BADOURLY | Président | M | Tampolove |
| Joseph RABESOLO | Vice Président | M | Lamboara |
| Bersemin BRUNO | Trésorier | M | Agnolagnoly |
| Jean Baptiste MAZIRIKE | Secrétaire n° 1 | M | Tampolove |
| Hollande GOLY | Secrétaire n° 2 | F | Lamboara |
| Edmond | Conseiller | M | Ankindranoke |
| Edgard ANDRONIC | Conseiller | M | Lamboara |
| FIRMIN | Conseiller | M | Ampasimara |
| TSIMANDOA | Conseiller | M | Befandefa |
| Déclare dit DIKILARY | Conseiller | M | Ankitambagna |
| PROSPERE | conseiller | M | Vatoavo |

Mpitantsoratra

Filoha

Appendix 6: Velondriake Association Contracts

Memorandum of Understanding between:

Blue Ventures and the Velondriake Association

Preamble

Blue Ventures (BV) has worked in the commune of Befandefa since September 2003 to carry out research for sustainable marine resource management.

In April 2005, BV began working with 23 villages of the commune of Befandefa to establish the Velondriake Community Managed Protected Area (Velondriake). This document serves to formalise this long-standing partnership between BV and communities in the region, and to outline BV's responsibilities to the Velondriake Association (VA), the community management committee that oversees Velondriake.

Overall Objective

The VA, chosen by the villages to act on their behalf within Velondriake, will be in charge of the management and stewardship of the protected area. BV will partner with the VA, providing guidance and assistance as needed.

BV will not implement projects directly, but will provide material and technical support to enable the VA to attain its goals. This support will be within the business and resource constraints of BV.

BV will help the VA to achieve the sustainable management of the marine resources upon which the livelihoods of the Velondriake communities depend. To do this BV will help the VA protect the ecosystems that underpin these resources. By partnering with the VA in the development of sustainable fisheries management, eco-tourism and mariculture business, BV will help the VA to increase economic development within Velondriake.

BV will work with the VA to carry out conservation anchored in community development. This will be a holistic endeavour, which balances community needs and conservation. Management plans will treat local communities as conservationists, empower them to manage their own resources and enable them to benefit fully from conservation activities. It will strive for true inclusion of the community at all levels.

Specific Objectives

BV will work with and support the VA to achieve the strategic objectives of the Velondriake Management Plan. These are:

- (i) Promoting sustainable fisheries management
- (ii) Developing strategies for nature conservation
- (iii) Promoting economic development
- (iv) Improving communications and solidarity between local communities
- (v) Developing regional environmental education initiatives

- (vi) Promoting long-term sustainable resource use for future generations
- (vii) Developing regional capacity for eco-tourism.

Within these objectives, BV will specifically assist in the following:

Fisheries management

BV will work with the Central and Regional Committees of the VA to educate local communities about the need for sustainable fisheries management and to broaden their support for such projects.

BV will work with the VA and the local population to establish reserves and no-take Zones (NTZs) to increase the size and abundance of catches. The boundaries of the Velondriake reserves and NTZs will be in accordance with habitat assessments and monitoring studies, will cover sufficient habitat to provide adequate protection of the ecosystem and will be acceptable to all communities. BV and the VA will work to ensure that all Velondriake communities are aware of these boundaries.

BV will help the VA collect baseline data on the condition and health of marine and coastal habitats, as well as fish, octopus, turtle and shark populations. It will help VA to incorporate information from monitoring and evaluation into management interventions.

Nature conservation

BV, together with ANGAP, WCS, and WWF, will work to raise awareness and knowledge of conservation issues among local communities.

BV will help the Regional and Central Committees of the VA to keep local communities informed of ongoing nature conservation activities.

Solidarity between fishing communities

BV will work with the VA to ensure that local people are kept informed of ongoing management activities. Local populations will be encouraged to participate in Velondriake events, workshops and discussions in order to improve communication and cooperation between villages.

Long-term sustainable resource use for future generations

BV will help the Regional and Central Committees of the VA educate the local population about the importance of marine resource conservation and environmental stewardship as well as the need for communities to take responsibility for management of their natural resources.

BV and research partners will provide support to the Regional and Central Committees to conduct biodiversity surveys of Velondriake.

The resource assessment and mapping of Velondriake will be done so that all parties concerned understand the location and condition of resources and the potential boundaries for the reserves and NTZs.

Velondriake Management

Through monitoring and evaluation of the management of Velondriake, BV will help the Regional and Central Committees identify and address any shortcomings in the management plan.

BV will help the VA to put into action management strategies that are simple and straightforward to implement within the context of Velondriake. These management strategies will be reflected in the Dina and laws developed to support Velondriake.

BV will help the VA enforce the Dina, monitor all activities, collect fees and assess changes in the marine environment on a regular basis.

BV will work with the VA to secure local government and community support for Velondriake.

Alternative Livelihoods - Mariculture

BV will help the VA to establish pilot alternative livelihoods based on mariculture. Examples of these are seaweed and sea cucumber farming. This will be done in conjunction with partners such as the IHSM, Aqualab and Copefrito.

Alternative Livelihoods - Eco-tourism

Through BV's own eco-tourism business and the development of a Velondriake website BV will work to raise the profile of Velondriake as an international eco-tourism destination

BV will work with the VA and local government authorities to develop a communal tourism business plan that takes into account the importance of the commune's natural resources.

BV will work to develop a community-owned and community-managed eco-lodge in Andavadoaka, which will also operate as an environmental education and information centre and be the focal point for Velondriake planning meetings and workshops.

BV, with the IHSM, WCS and the Regional and Central Committees, will ensure that potential tourist sites are recognised and properly protected by appropriate regulations and legislation to safeguard their potential to generate income for local communities.

BV will help train local people as eco-guides so that they can improve their environmental knowledge and diversify regional incomes.

Training and Outreach

BV will hold regular training workshops with the VA to build local capacity to manage Velondriake. BV will endeavour to fulfil specific training requirements defined by the VA.

BV will work with the VA to raise awareness of Velondriake not only among local communities, but also at local government and business levels. It will ensure that communities and local government authorities understand the need for and process of implementing Velondriake.

Through ongoing education and awareness-raising activities BV will address the needs of the VA, local communities and other stakeholders so that benefits are highlighted and questions regarding the need for Velondriake are addressed.

Sustainable funding

BV will work with the VA to obtain funding for Velondriake through joint applications to conservation and development donor organisations.

BV will develop systems to promote the long-term financial sustainability of Velondriake, for example through the collection of user fees.

Infrastructure Development

BV will work together with the VA to build a Velondriake headquarters and visitor and education centre. This is likely to be based within the community eco-lodge planned in Andavadoaka.

In attaining the above objectives BV will work with both public and private-sector partners including Copefrito, the IHSM, WCS, ANGAP and local government authorities.

This agreement was drafted and agreed to by BV and the VA on the 18 October 2007.

Velondriake Association

Roger Samba, President VMC

Marcel

Ralesa

Blue Ventures Conservation

Alasdair Harris

Garth H. Cripps

Daniel Raberinery

Appendix 7: Scientific Reports

Ecological

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2. Benbow, S. (2008) An assessment of the migratory flow of *Megaptera novaeangliae* along the southwest coast of Madagascar. Blue Ventures Conservation Report. Blue Ventures, London.
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Appendix 8: Velondriake CMPA timelines to March 2009

Octopus

Mangrove

| | 2003 | | | | | | | | | | | |
|----------------|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|
| | January | February | March | April | May | June | July | August | September | October | November | December |
| Temporary NTZs | | | | | | | | | | | | |
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2004

2005

[illegible]

| 2007 | | | | | | | | | | | |
|--------------------------|---|--|-------|-----|------|--|--|-----------|---------|----------|---------------|
| January | February | March | April | May | June | July | August | September | October | November | December |
| | | | | | | | | | | | |
| | | 01/03/07 - 01/05/07 Agnorondriake Octopus NTZ | | | | | | | | | 15/12 - 31/01 |
| | | ??/04/07 – ??/05/07 Belamera Octopus NTZ | | | | | | | | | |
| | | 01/05/07 - 14/08/07 Ambatotsokolony Octopus NTZ | | | | | | | | | |
| | | ??/05/07 – ??/07/07 Mandeve Octopus NTZ | | | | | | | | | |
| | | 01/06/07 – 31/07/07 ??? 14/08/07 Ankeremo & Antratra | | | | | | | | | |
| | | | | | | 05/06/06 – 05/08/06 Avorea Octopus NTZ | | | | | |
| | | | | | | 01/07/07 – 01/09/07 Magnahitse-Nosinkara Octopus NTZ | | | | | |
| | | | | | | 01/07/07 – 01/09/06 Bekabo Octopus NTZ | | | | | |
| | | | | | | ??/06/07 - ??/07/07 Betsoy Octopus NTZ | | | | | |
| | | | | | | 05/06/07 - 13/08/07 Bevato Octopus NTZ | | | | | |
| | | | | | | 01/08/07 - 01/10/07 Ambatomitsanga- | | | | | |
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| Beholitsazo Mangrove NTZ | | | | | | | | | | | |
| | 09/02/07 - 09/04/07 Andranolava et Belaoka Mangrove NTZ | | | | | | | | | | |
| | 28/02/07 - 28/04/07 Mahavatse Mangrove NTZ | | | | | | | | | | |
| | 05/03/07 - 11/05/07 Bela Mangrove NTZ | | | | | | 01/09/07 - 19/03/08 Isony Mangrove NTZ | | | | |

| 2008 | | | | | | | | | | | |
|---------|----------|-------|-------|-----|--|------|--------|-----------|---------|----------|---|
| January | February | March | April | May | June | July | August | September | October | November | December |
| | | | | | | | | | | | |
| | | | | | | | | | | | 15/12 - 31/01 National Octopus |
| | | | | | | | | | | | 01/11/08 – 25/02/09 Ampisorogna Octopus NTZ |
| | | | | | | | | | | | 01/11/08 – 23/02/06 Avorea Octopus NTZ |
| | | | | | | | | | | | 01/11/08 – 25/02/09 Magnahitse-Nosinkara Octopus NTZ |
| | | | | | | | | | | | 01/11/08 – 25/02/09 Bekabo Octopus NTZ |
| | | | | | | | | | | | 01/11/08 - 25/02/09 Agnorondriake Octopus NTZ |
| | | | | | | | | | | | 01/11/08 - 25/02/09 Lavakabo Octopus NTZ |
| | | | | | | | | | | | 01/11/08 - 23/02/09 Lagniriake Octopus NTZ |
| | | | | | | | | | | | 01/11/08 - 23/02/09 Betsileo Octopus NTZ |
| | | | | | | | | | | | 01/11/08 - 25/02/09 Ondont Antimo – Ambatosatra Octopus NTZ |
| | | | | | | | | | | | 01/11/08 - 25/02/09 Abatosatra - Betako Octopus NTZ |
| | | | | | | | | | | | 01/11/08 - 25/02/09 Nagnavigna-Managnihita Octopus NTZ |
| | | | | | | | | | | | 01/11/08 - 25/02/09 Adalagnakio-Tandeofoty-Tandeobe-Magnetsake-Valava Octopus NTZ |
| | | | | | Belavenoke stop all octopus fishing during neap tides; begin neap tide fishing again after 1 February 2009 | | | | | | |
| | | | | | Bevato stop all octopus fishing during neap tides; ban continues after 1 February 2009; sous-collecteurs are not active during the neap tide on Marcel Urbaine's request | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | 15/02/08 - 18/12/08 Mahavatse Mangrove NTZ |
| | | | | | | | | | | | 15/12/08 - ??/03/09 Beloa Mangrove NTZ |
| | | | | | | | | | | | Beholitsazo ? during rainy season |

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| | 2003 | | | | | | | | | | | |
|-----------------------|--|----------|-------|-------|-----|------|------|---|-----------|---------|----------|----------|
| | January | February | March | April | May | June | July | August | September | October | November | December |
| Conservation planning | Copefrito & Murex in Velondriake area | | | | | | | | | | | |
| | Arrival of BV in Andavadoaka | | | | | | | Community discussions, negotiation and planning for first temporary octopus NTZ | | | | |
| | Creation of the fishing cooperative (CMM22 ^m Parallele), Andavadoaka village, Copefrito, & BV | | | | | | | | | | | |
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2004

| 2005 | | | | | | | | | | | |
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| January | February | March | April | May | June | July | August | September | October | November | December |
| | | | | | | | | | | | |
| | | | 20/04/05 Launch of FSP in Andavadoaka, Fisheries department, BV & WCS | | | | | | | | |
| | | | 21/04/05 FSP partners meet to decide roles (Fisheries department, Copefrito, BV, WCS, IRD) | | | | | | | | |
| | | | | | 01 & 21/05/06 Andavadoaka village meet to plan NTZ opening | | | | | | |
| | | | | | | 22 - 24/07/06 Workshop on natural resource management & formation of an association by WCS | | | | | |
| | | | | | | 28 - 29/07/06 National workshop on cephalopod management, Tuléar | | | | | |
| | | | | | | BV, WCS present Nosy Fasy results to Andavadoaka & surrounding villages, help villages to replicate Nosy Fasy NTZ | | | | | |
| | | | | | | Andavadoaka, Nosy Hao plan for 2nd Nosy Fasy NTZ closure | | | | | |

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| | | | | | | | 18/08/06 BV presents National cephalopod management workshop to Lamboara | | | | |
| | | | | | | | | 15/09/2006 Roger Samba presents National cephalopod management workshop to Andavadoaka | | | |
| | | | | | | | | Lamboara & 4 villages establish Ampisorogna NTZ | | | |
| | | | | | | | | Nosy Ve & 5 villages establish Nosy Masay NTZ | | | |
| | | | | | | | | | BV, WCS and Roger Samba lead village appraisal of NRs | | |
| | | | | | | | | | Villagers hold own meetings on NRM plans | | |
| | | | | | | | | | BV, WCS hold village workshops of CBNRM | | |
| | | | | | | | | | | 21/11/06 Andavadoaka village meeting on FAD, Fisheries department & WCS | |
| | | | | | | | | | | 29/11/06 FSP meeting (BV, WCS, IRD, ARVAM) | |
| | | | | | | | | | | | 06/12/05 community leaders present MPA plans to Morombe sous-prefet |

| 2006 | | | | | | | | | | | |
|--|----------|-------|--|--|------|------|--------|-----------|---------|----------|----------|
| January | February | March | April | May | June | July | August | September | October | November | December |
| 21- 22/01/06 9 villages attend workshop on CBNRM | | | | | | | | | | | |
| | | | 24 - 25/04/06 planning of NTZ openings | | | | | | | | |
| | | | 29/04/06 Mayor of Morombe, Police Commisioner & Morombe sous-prefet attend meeting on octopus NTZs | | | | | | | | |
| | | | | 01/05/06 Tamoplove, Lamboara, Agnolignoly, Tsimivolo and Ankitambagna group meeting (NTZs, dina) | | | | | | | |
| | | | | 31/05/06 Befandefa, Ankindranoke, Ampasimara and Vatoavo group meeting (NTZs, dina) | | | | | | | |

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| | | | | | 03/06/06 Nosy Ve, Andragombala, Nosy Mitata, Antsatsamoroy, Ambolimoky, Belavenoke and Bevato (NTZs, dina) | | | | | | |
| | | | | | 14/06/06 Andavadoake, Nosy Hao, Ampasilava, Ankilimalinike, Ampisorogna and Antsanagnanangy group meeting (NTZs, dina) | | | | | | |
| | | | | | | 21/07/06 leaders of 23 villages determine preliminary MPA zoning | | | | | |
| | | | | | | | Village leaders present plans to their villages; individual villages agree on measures | | | | |
| | | | | | | | 23/08/2006 leaders of 23 villages begin to define MPA management structure, management plan & dina | | | | |

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| | | | | | | | | Village leaders present plans to their villages; individual villages agree on measures | | | |
| | | | | | | | | | 16 - 18/10/06 leaders of 23 villages determine MPA dina | | |
| | | | | | | | | | Village leaders present plans to their villages; individual villages agree on measures | | |
| | | | | | | | | | 31/10/06 leaders finalise MPA dina & management plan | | |
| | | | | | | | | | | Village leaders present plans to their villages | |
| | | | | | | | | | | Formalisation & legalisation of Velondriake by local authorities & Morombe court | |
| | | | | | | | | | | 08/11/06 authorities in Morombe give "l'arrêté provisoire de l'APM Velondriake (numéro 669)" | |
| | | | | | | | | | | | Velondriake application for temporary protection submitted to Ministry of Environment |
| | | | | | | | | | | | BV, WCS & Velondriake committee tour 23 villages to explain Velondriake dina, management plan & VA structure |
| | | | | | | | | | | | 12/12/06 Morombe tribunal legalises the Velondriake Dina |

| 2007 | | | | | | | | | | | |
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| January | February | March | April | May | June | July | August | September | October | November | December |
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| | | | | | | | | | | | |
| 29/01/07 Velondriake meeting Andavadoaka (Action plan & budget) | | | | | | | | | | | |
| | 07/02/07 Velondriake planning meeting Tampolove | | | | | | | | | | |
| | 10/02/07 Fagnemotse vondrona meeting Tampolove (NTZs, action plan) | | | | | | | | | | |
| | 11/02/07 Vondrona Milasoia meeting (NTZs, action plan) | | | | | | | | | | |
| | Tour of Vezo Milagnoriake (NTZs, action plan) | | | | | | | | | | |
| | 19/02/07 Velondriake management meeting Tampolove (NTZs, action plan) | | | | | | | | | | |
| | Participative mapping of coral habitats in all coastal villages | | | | | | | | | | |
| | | Velondriake Association receives the legalised Dina from the Moromber tribunal | | | | | | | | | |
| | | BV exploratory & ecological surveying of Velondriake coral reefs | | | | | | | | | |
| | | NTZ (Ankindranoke, Ampasimara, Ankindranoke, | | | | | | | | | |
| | | 05/03/07 Velondriake planning meeting Andavadoaka (resource degradation, destructive techniques, dina application) | | | | | | | | | |
| | | 16/03/07 Velondriake committee holds a village meeting in Bevato to stop use of beach seine nets by Vezo Sara | | | | | | | | | |

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| | | 23/03/07 Velondriake workshop Andavadoaka (ecological monitoring) | | | | | | | |
| | | Velondriake committee 1st village tour (NTZ planning, MPA awareness raising, VA structure) | | | | | | | |
| | | 18/04/07 Velondriake President meets Morombe Mayor & councilors; explains Velondriake, tries to stop beach seining by Vezo Sara from Morombe | | | | | | | |
| | | Velondriake committee 2nd village tour (NTZs confirmed, Dina awareness raising, villager needs) | | | | | | | |
| | | Manta tow surveying of shallow coral habitats within Velondriake | | | | | | | |
| | | 15 - 18/05/07 Velondriake workshop Andavadoaka (MPA creation & management, zoning) | | | | | | | |
| | | 26 - 28/05/07 ANGAP PA forum Mangily, Roger Samba | | | | | | | |
| | | Velondriake committee 3rd village tour (NTZ, MPA reinforced, commence Dina application) | | | | | | | |
| | | 02/06/0 Velondriake workshop Andavadoaka (transfer de gestion, MPA) | | | | | | | |
| | | BV & Velondriake conduct socio-economic surveying | | | | | | | |
| | | 16 - 17/06/07 Velondriake planning meeting Andavadoaka (progress, action plan, budget) | | | | | | | |
| | | Velondriake committee again try to stop Vezo Sara using beach seine nets in Bevato | | | | | | | |
| | | Ecological surveying & long term monitoring of coral reef habitats within Velondriake | | | | | | | |

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| | | | | | | | | 10 - 15/09/07 Community conservation workshop Ankilibe, Roger Samba | | |
| | | | | | | | | Vondrona appraise resource degradation & causes in each village | | |
| | | | | | | | | | | Velondriake committee appraise resource degradation, causes and discuss solutions in each village |
| | | | | | | | | | | 16 - 17/11/07 Velondriake meeting Andavadoaka (ecological monitoring, FAV, SGP, progress evaluation, planning) |
| | | | | | | | | | | 17/11/07 Antsepoke & Nosy Be request inclusion in Velondriake & assistance in NTZs |
| | | | | | | | | | | 12/12/07 Velondriake workshop Andavadoaka (marine ecology for management) |

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| | | | | | | | | 10 - 15/09/07 Community conservation workshop Ankilibe, Roger Samba | | |
| | | | | | | | | Vondrona appraise resource degradation & causes in each village | | |
| | | | | | | | | | | Velondriake committee appraise resource degradation, causes and discuss solutions in each village |
| | | | | | | | | | | 16 - 17/11/07 Velondriake meeting Andavadoaka (ecological monitoring, FAV, SGP, progress evaluation, planning) |
| | | | | | | | | | | 17/11/07 Antsepoke & Nosy Be request inclusion in Velondriake & assistance in NTZs |
| | | | | | | | | | | 12/12/07 Velondriake workshop Andavadoaka (marine ecology for management) |
| | | | | | | | | | | 18/12/07 Velondriake meeting Andavadoaka (presentation resource degradation & solutions, planning) |

| 2008 | | | | | | | | | | | |
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| January | February | March | April | May | June | July | August | September | October | November | December |
| | | | | | | | | | | | |
| BV & Velondriake socio-economic surveying | | | | | | | | | | | |
| 15/01/08 Velondriake annual planning meeting Andavadoaka | | | | | | | | | | | |
| 16/01/08 Velondriake workshop Andavadoaka (participative appraisal techniques) | | | | | | | | | | | |
| Velondriake lead village participative habitat mapping | | | | | | | | | | | |
| BV & Velondriake carry out ecological surveying of seagrass and mangroves in all villages | | | | | | | | | | | |
| | 03 - 04/02/08 Velondriake meeting with SGP | | | | | | | | | | |
| | BV & Velondriake tour of all villages (initial temporary NTZ planning) | | | | | | | | | | |
| | Velondriake committee finalise appraisal of resource degradation & village solutions | | | | | | | | | | |
| | 27/02/08 WWF staff meet Velondriake members & BV to learn of Velondriake model | | | | | | | | | | |
| | Construction of Velondriake signs in Tampolove, Ambalorao, Bevato & Morombe | | | | | | | | | | |
| | | 14/03/08 Velondriake workshop Andavadoaka (octopus NTZ management) | | | | | | | | | |
| | | 16 - 18/03/08 Velondriake committee members meet the Mayor, Sous-Prefet, Gendarme Chief to present Velondriake | | | | | | | | | |
| | | | 03 - 05/03/08 BV train Roger Samba for PACP work | | | | | | | | |
| | | | BV & Velondriake tour all villages to disseminate the 14/03 workshop & to begin planning NTZs | | | | | | | | |
| | | | 04 & 09/04/08 BV visits Mayor of Befendefa to discuss activities & Velondriake | | | | | | | | |
| | | | 22 - 23/04/08 PACP village exchanges & training with Velondriake (Andrevo & Fitsitsike) | | | | | | | | |

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| | | | 24/04/08 - 01/05/08 further PACP village exchanges & training with Velondriake (Ankilibe, Sarodrano, Saint Augustin, Lovokampy) | | | | | | | |
| | | | 26/04/08 Equator prize award ceremony Andavadoaka, representative of the Minister of Environment, Morombe & Menabe officials | | | | | | | |
| | | | | 10/05/08 Velondriake meeting Ampasilava (temporary NTZs, dina application, turtle conservatin, holothuria aquaculture) | | | | | | |
| | | | | 17/05/08 Lamboara decide to protect turtle nesting beach & seabird nesting site | | | | | | |
| | | | | 31/05/08 FAV meeting Befandefa (action plan, dina enforcement) | | | | | | |
| | | | | | | | | | | |
| | | | | | BV & Velondriake tour all villages (permanent NTZs, seagrass & mangrove ecological surveying results) | | | | | |
| | | | | | 04 - 07/06/08 Velondriake president helps develop environmental communal development plan | | | | | |
| | | | | | 07/06/08 all coastal villages of Befandefa commune request inclusion in Velondriake (communal development plan) | | | | | |
| | | | | | 11/06/08 training of Velondriake committee members for PACP village training | | | | | |
| | | | | | 12 - 13/06/08 PACP village exchanges & training with Velondriake (Beravy, Ambalaboy, Ifaty, Mangily, Fimihara, RD, WWF) | | | | | |
| | | | | | 14/06/08 further training of Velondriake committee members for PACP village training | | | | | |
| | | | | | 15 - 16/06/08 PACP village exchanges & training with Velondriake (Belitsakae, Ambotsibotsike, Tsongoritelo, adjoint Maire Belalanda, Ambolomelake, Tsifota, Fierenamasay, vice conseiller de commune Monombo, Maromena, Befasy, Fimihara) | | | | | |

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| | | | | | 23/06/08 BV & Velondriake meet with PACP | | |
| | | | | | | 06/07/08 Velondriake meeting Andavadoaka (action plan for zoning & participative octopus monitoring) | |
| | | | | | | 11/07/08 BV meet with Befendefa (Peace Corps volunteer application, natural resource problems) | |
| | | | | | | 12/07/08 Velondriake president meets Lamboara village to finalise protection of turtle & seabird nesting sites | |
| | | | | | | BV & Velondriake establish the participative octopus monitoring program | |
| | | | | | | Validation & geo-referencing of participative habitat maps | |
| | | | | | | 17/07/08 BV meet Lamboara to support the protection of the turtle & seabird nesting sites | |
| | | | | | | 19/07/08 Vondrona Fagnemotse protect the turtle (Antratra-Ankeroma) & seabird (Vavarano) nesting sites | |
| | | | | | | 24- 25/07/08 Velondriake training workshop on octopus monitoring | |
| | | | | | | 26/07/8 Bevato village meeting; request that Kalaony help to enforce the Velondriake Dina | |
| | | | | | | | Letters of approval for Velondriake to attain temporary protection status (Befandefa commune, Morombe district, DRDR Toliara, DREFT Toliara, chef de region Sud Ouest) |

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| | | | | | | | 05 - 07/08/08 Velondriake workshop Andavadoaka (permanent NTZs, zoning); all village leaders attend |
| | | | | | | | 11/08/08 Velondriake planning meeting Andavadoaka (zoning action plan, budget) |
| | | | | | | | 15 - 18/08/08 Club Alo Alo MPA play, conservation awareness raising & beach clean-up Bevato, Belavenoke |
| | | | | | | | 21 - 22/08/08 Velondriake workshop Andavadoaka (dina application, monitoring); all village leaders attend |
| | | | | | | | BV & Velondriake tour all villages to explain dina application |
| | | | | | | | 24/08/08 Club Alo Alo MPA play & conservation awareness raising Tampolove |
| | | | | | | | 25/08/08 BV turtle conservation village meeting Tampolove |
| | | | | | | | 09/08/08 Villagers of Nosy Hao decide to try to stop night fishing (torch in condom); Velondriake Presidents meets them to support this |
| | | | | | | | BV train first Velondriake scholars to dive & survey coral reefs |
| | | | | | | | 11 - 12/09/08 Velondriake President meets Birdlife in Morombe with members of Club Alo Alo |
| | | | | | | | BV assist Velondriake to establish Village Record Books in all villages |

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| | | | | | | | | 17/09/08 Tampolove village meeting with Velondriake President; want to stop night fishing (torch in condom) by migrant fishers |
| | | | | | | | | 27 - 28/09/08 Velondriake meeting Andavadoaka (action plan, budget, zoning, monitoring) |
| | | | | | | | | BV trains fish monitoring teams in Lamboara & Andragombala; monitoring begins in December |
| | | | | | | | | BV tour all villages (ecological surveying results, permanent NTZs) |
| | | | | | | | | 10 - 11/10/08 Fisheries department/Velondriake workshop Andavadoaka (national fishing regulations, dina); attended by all village leaders |
| | | | | | | | | 18/10/08 Velondriake workshop (fish spawning aggregations) |
| | | | | | | | | 20/10/08 Roger Samba wins Getty Award for Conservation Leadership |
| | | | | | | | | 22/10/08 WWF meet Velondriake & BV (plan village exchanges) |
| | | | | | | | | 28 - 30/10/08 DELC meet BV & Velondriake |
| | | | | | | | | Velondriake carry out initial FSA surveying |

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| | | | | | | | | | | 06/11/08 Velondriake & BV present MPA on Radio Morombe (inclusion of Nosy Be, NTZ calendar, dina) |
| | | | | | | | | | | 08/11/08 PACP village exchanges & training with Velondriake (Salary Baie villages, Tsiandamba to Andravony) |
| | | | | | | | | | | Velondriake committee tour all villages (permanent NTZs, finalise zoning) |
| | | | | | | | | | | 16 - 25/11/08 Velondriake environmental & social impact study by external consultant, step in gazetting MPA |
| | | | | | | | | | | 22/11/08 Velondriake meeting Andavadoaka (E&SIS, zoning, management plan) |
| | | | | | | | | | | 23 - 24/11/08 Velondriake meeting Andavadoaka (village-based holothuria aquaculture) |
| | | | | | | | | | | 26 - 28/11/08 Village-based ecological monitoring Lamboara |
| | | | | | | | | | | 06/12/08 FAV meeting Befandefa (dina application, Kalaony) |

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| | | | | | | | | | | | 11 - 14/12/08 Village-based ecological monitoring Belavenoke |
| | | | | | | | | | | | 20/12/08 Velondriake meeting Ampasilava (finalise zoning & permanent NTZs); attended by all village leaders |

| 2009 | | | | | | | | | | | |
|---|---|---|-------|-----|------|------|--------|-----------|---------|----------|----------|
| January | February | March | April | May | June | July | August | September | October | November | December |
| 08/01/09 Velondriake supervisors meet, Andavadoaka (octopus monitoring, village record book, dina) | | | | | | | | | | | |
| BV finalises gps points of octopus fishing sites | | | | | | | | | | | |
| 23/01/08 Velondriake meeting Andavadoaka (evaluation of 2008, 2009 planning, opening of temporary NTZs) | | | | | | | | | | | |
| 26 - 28/01/09 BV train Nirina (Velondriake from Ampasilava) to do book keeping | | | | | | | | | | | |
| 26 - 30/01/09 Velondriake / Rodrigues fishermen exchange; Velondriake & BV lead MPA training | | | | | | | | | | | |
| | During the first 3 weeks of Feb Velondriake & BV held village meetings throughout Velondriake to set temporary NTZ opening date; communication with collection companies (Copefrito, Murex) | | | | | | | | | | |
| | 14 - 16/02/09 Velondriake President & BV hold village meetings in Bevato & Belavenoke to resolve NTZ thefts | | | | | | | | | | |
| | 17 - 18/02/09 Velondriake management & BV meet Morombe Mayor, Chef de Gendarme & fisheries department to try to resolve beach seine in Bevato | | | | | | | | | | |
| | 21/02/2009 Velondriake meeting Andavadoaka (opening of temporary NTZs, SGP grant application, working with local authorities to enforce the dina) | | | | | | | | | | |
| | 26/02/09 - 12/03/09 3 village-based monitoring supervisors carry out a survey in all villages to see how villagers believe the temporary NTZs can be better managed | | | | | | | | | | |
| | 26/02/09 - 12/03/09 Vondrona supervisors also carry out a separate investigation in all villages | | | | | | | | | | |
| | | 02 - 05/03/09 Senior members of Velondriake & BV meet with the Morombe Mayor & fisheries service to stop beach seining in Bevato; the culprits, from Tsinjorano in Morombe, meet with the Mayor, Velondriake & BV; they agree to respect the Velondriake dina | | | | | | | | | |

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| | | 02 - 07/03/09 BV train 7 Velondriake Scholars in scientific surveying of coral habitats |
| | | 08/03/09 Befandefa, BV meets with the Mayor of Befandefa & other senior communal authorities to present & discuss the activities of Velondriake |
| | | 14/03/09 Velondriake meeting Bevato (actions for next 3 months, temporary NTZs, Tsinjorano beach seiners, socio-economic research, Dr Solohary) |
| | | 17/03/09 BV & Velondriake meet the Mayor of Befandefa to discuss Velondriake activities & the application of the dina, Tsinjorano beach seiners |
| | | 18/03 - xxx/0x/09 BV & Velondriake hold village meetings to present the results of the temporary NTZs & plan the temporary NTZs of 2009 |
| | | 19/03/09 BV & senior Velondriake members hold a meeting in Bevato about beach seines; village agrees that they no longer want Tsinjorano fishers to continue beach seining & sign a PV |
| | | 20/03/09 official closure of the Isony permanent mangrove NTZ near Vataova |
| | | 23/03/09 the Velondriake President, Vondrona supervisor Alex Norbert & the chef de kalaony of Andavadoaka (Boto Romain) meet 3 divers who use torches at night; they agree to stop this practice |

| 2005 | | | | | | | | | | | |
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| January | February | March | April | May | June | July | August | September | October | November | December |
| 15/01/2005 Theft from Nosy Fasy NTZ; fisherman caught & pays fine of 40 000 Ar after village meeting; culprit given longer to pay because bad weather prevents fishing | | | | | | | | | | | |
| | | | | | | | | | | | President of Ampasilava catches 4 Ampasilava fishers in Ampisorogna NTZ; as they cannot pay the fine they are forbidden from fishing on the opening day |

| 2006 | | | | | | | | | | | |
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| January | February | March | April | May | June | July | August | September | October | November | December |
| 2 Lamboara fishermen caught diving in Ampisorogna NTZ; they pay a fine of 4 000 Ar each & have their catch confiscated | | | | | | | | | | | |
| | 4 Lamboara fishermen caught in Ampisorogna NTZ; they pay a fine of 4 000 Ar each & have their catch confiscated | | | | | | | | | | Fishers from Morombe beach seine in Bevato |
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| 2007 | | | | | | | | | | | |
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| January | February | March | April | May | June | July | August | September | October | November | December |
| | | Fishers from Morombe beach seine in Bevato | | | | | | | | | |
| | | Befandefa villagers said to steal from Beloa mangrove NTZ | | | | | | | | | |
| | | | | 01/05/07 Velondriake committee delay Nosy Hao octopus NTZ; but Andavadoaka village begin fishing in it while Nosy Hao & Ampasilava wait for opening at next low tide | | | | | | | |
| | | | | Continuing problem of fishers from Morombe & Andravony using beach seine nets in Bevato & Belavenoke | | | | | | | |
| | | | | Velondriake President visits Bevato to try to resolve problem then meets Morombe Mayor to explain Velondriake Dina & try to stop beach seining | | | | | | | |
| | | | | | | | | | | Use of laro in Vataova's Isony mangrove NTZ | |

| 2008 | | | | | | | | | | | |
|---|---|--|--|-----|---|---|--------|-----------|---------|----------|----------|
| January | February | March | April | May | June | July | August | September | October | November | December |
| 18/01/08 3 fishers from Ankindranoke & Befandefa caught using laro in Vataova's Isony mangrove NTZ; Vataova President writes a letter to Vondrona Fagnemotse to deal with the theft | | | | | | | | | | | |
| Two incidents of use of laro in Vataova's Isony mangrove NTZ, one occurring the night before the NTZ opening | | | | | | | | | | | |
| Theft of sea cucumbers from the Women's Association enclosure; occurred during 3 weeks of bad weather | | | | | | | | | | | |
| | 02/02/08 Vondrona Fagnemotse meet in Tampolove; fine the 3 villagers who stole from Isony mangrove NTZ 30 000 Ar | | | | | | | | | | |
| | 23/02/08 3 Ankindranoke fishers refuse to pay fine for using laro in Isony mangrove NTZ & no longer support it; they were never to pay the fine | | | | | | | | | | |
| | | Vezo Sara from Morombe continue to use beach seines in Bevato; conflict between the villagers & migrants | | | | | | | | | |
| | | | 3 Ankindranoke fishers still refuse to pay fine for using laro in Isony mangrove NTZ in January 08 | | | | | | | | |
| | | | | | 03/06/08 Nahoda Marcel explains Dina to Belavenoke, particularly that beach seines are illegal; many fishers migrate annually from this village & are unaware of the Velondriake Dina | | | | | | |
| | | | | | 04/06/08 Fishers use a beach seine near Antsatsamoroy | | | | | | |
| | | | | | 16/06/08 Migrant fishers from Morombe?? use laro near Belavenoke; no reaction from villagers nor Velondriake | | | | | | |
| | | | | | 18/06/08 Migrant fishers from Morombe?? use beach seine near Belavenoke | | | | | | |
| | | | | | 22/06/08 Further use of laro by migrant fishers near Ambolimoky; no reaction from villagers nor Velondriake | | | | | | |
| | | | | | 28/06/08 Velondriake President sends a letter to Nosy Hao requesting that they stop fishing turtle to supply a trade in Andavadoaka | | | | | | |
| | | | | | | 01/07/08 Lebaho fisher caught using laro in Bevato mangrove; pays a fine of 30 000 Ar after a village meeting | | | | | |

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| | | | | | | | 03/08/08 Velondriake President meets a turtle meat seller in the North of Andavadoaka; he agrees to stop |
| | | | | | | | Mme Marie (Nosy Hao) agrees to stop trading in turtle meat on discussions with Roger Samba & M. Coco |
| | | | | | | | 04/08/08 Villagers from Ambalorao use laro near Nosy Ve |
| | | | | | | | Nahoda of Nosy Ve sends a letter to the Velondriake central committee about Ambalorao villagers using laro |
| | | | | | | | President of Ambalorao repremands his villagers who used laro near Nosy Ve; by this act the Velondriake committee cannot take further action |
| | | | | | | | Migrants from Andravony, Sud d' Ambatomilo practise night fishing (torch in condom) near Tampolove |
| | | | | | | | 26/09/08 Andavadoaka fishers caught using fine net; they meet with the Velondriake President & pay a fine |
| | | | | | | | Vezo Sara use beach seines in Bevato; some Bevato villagers begin using beach seines |
| | | | | | | | 29/10/08 Signs of use of laro near Vataova; no one caught |
| | | | | | | | 28 - 29/11/08 6 pirogues from Andavadoaka, 1 from Antserananangy are seen possibly net fishing in Nosy Kara temporary NTZ |
| | | | | | | | 29/11/08 Andavadoaka village meet over theft from Nosy Kara NTZ; culprits are fined and pay 10 000 Ar / pirogue |
| | | | | | | | 11/12/08 Fishers from Morombe net fish in Nosy Be's temporary NTZ; return to Morombe without meeting Nosy Be president as requested |

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| | | | | | | | | | | | 15 - 17/12/08 3 fishers from Ankindranoke fish in Mahavatse temporary NTZ using laro; village president asks Vondrona Fagnemotse to arbitrate |
| | | | | | | | | | | | 23/12/08 Vondrona Fagnemotse hold a meeting in Ankindranoke; culprits refuse to pay the fine & to continue with the NTZ |
| | | | | | | | | | | | Migrants and villagers use beach seines in Belavenoke |

| 2009 | | | | | | | | | | | |
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| January | February | March | April | May | June | July | August | September | October | November | December |
| 05/01/09 2 pirogues caught fishing in Bevato's temporary NTZ | | | | | | | | | | | |
| | Vezo Sara from Morombe beach seine near Bevato; a large number (20+ pirogues) are attracted by the opening of the NTZ & beach seine in it | | | | | | | | | | |
| | About 2 weeks after the national opening Andavadoaka fishermen steal at night from Nosy Kara & Magnhatse temporary NTZ; theft also suspected in Ampisorogna | | | | | | | | | | |
| | 09/02/09 7 fishers from Bevato caught diving in their NTZ Lagniriake | | | | | | | | | | |
| | 10/02/09 Bevato village meet about theft from NTZ; the 7 fishers admit guilt & pay a fine of 3 L toaka gasy | | | | | | | | | | |
| | 11 - 13/02/08 fishers from Belavenoke & Ambolimoky fish octopus in Bevato's NTZ | | | | | | | | | | |
| | 13/02/09 fishers from Bevato fish in their NTZ on seeing Belavenoke & Ambolimoky fishing there | | | | | | | | | | |
| | 14/02/09 fishers from Belavenoke steal from their NTZ Vorea | | | | | | | | | | |
| | 14/02/09 Velondriake President & BV hold village meetings in Bevato to resolve NTZ thefts; the villagers agree to stop until the opening 23 Feb | | | | | | | | | | |
| | 16/02/09 Velondriake President & BV hold village meetings in Belavenoke about NTZ thefts, try to resolve village conflict between those who had respected the closure & the others who had recently fished there; they agree to do the opening on the 23 Feb | | | | | | | | | | |
| | 19/02/09 Copefrito sous-collecteurs meet in Andavadoaka to sort out why so much of the catch is off; they confirm that there has been theft at night in Milasoa & Fagnemotse temporary NTZs | | | | | | | | | | |
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