

WEALTH ACCOUNTING AND VALUATION OF ECOSYSTEM SERVICES (WAVES) MADAGASCAR

PRIORITY POLICY LINKAGES AND WORKPLAN: AN UPDATE OF PROGRESS

March 2013

WAVES Madagascar National Steering Committee

<http://www.wavespartnership.org/waves/>

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Cover photo: Waterfall in Montagne d'Ambre National Park in northern Madagascar. This national park protects the watershed that supplies water to the nearby city of Antsiranana which has a population of over 100,000 people.

1. Introduction to WAVES Madagascar & Activities to Date

“WAVES Madagascar aims to strengthen the capacity to manage Madagascar’s natural capital and to promote sustainable development”

Madagascar is one of five developing countries that is a partner of the WAVES Global Partnership. With its abundant natural resources and a predominantly poor, rural population Madagascar is an ideal candidate within which to test the application of natural capital and ecosystem service accounting methods and the links to policy development. There are currently no quantitative analyses of the scale of the country’s natural capital wealth and virtually no integration of natural capital economic values in the policy framework. WAVES Madagascar will establish a range of tools to start redressing this situation and allow the economic value of selected natural resources to be integrated into analysis and monitoring of macro-economic performance, as well as decisions and policy making related to natural resource management.

Since the launching of WAVES Madagascar in 2011, the Government of Madagascar has signaled its strong support for the Partnership through Cabinet endorsement of Madagascar’s involvement in the partnership, the allocation of co-financing of USD500,000 for WAVES activities in and around protected areas, and the formal establishment of a national Steering Committee with high level technical representation from Government, including the Secretary-General of the Ministry of Economy and Industry that will act as the Co-president. The Government has also endorsed a communiqué and declaration arising from the Summit on Sustainability in Africa related to the implementation of natural capital accounting

Technical activities over the last two years have focused on consultations and awareness-raising with Government, civil society and development partners to introduce concepts of natural capital accounting and to undertake a scoping exercise to identify priority issues for consideration during WAVES activities. These discussions led to the development of a detailed workplan and budget for WAVES Madagascar, which was validated by the Steering Committee in August 2012. In recent months activities have focused on detailed planning and preparation for the first round of technical assistance activities that will commence in early 2013. In a parallel process, the Government has recruited a National Coordinator that will act as the Government focal point for WAVES and play an integral role in the team implementing the workplan.

This Policy Note has been prepared in advance of the 2013 WAVES Global Partnership Meeting (9 – 11 April, 2013) to provide background on WAVES Madagascar, an update of progress since the last Partnership meeting and present an overview of the priority activities for the next year of WAVES Madagascar.

2. Overview of Macro-economic Context in Madagascar

For the last thirty years, weak growth and fragility in the face of repeated political crises have characterized the macroeconomic performance of Madagascar. Between 1980 and 1995, average annual GDP growth was less than 2 percent. Improved GDP growth rates were evidenced from the late 1990s, and significant growth was seen between 2004 and 2008, with a peak in annual growth of 7.1 percent in 2008. With the onset of the political crisis in 2009, it dropped dramatically to negative growth of - 4.6%, before returning to positive growth of 1.6 percent in 2011.

The modest economic growth experienced by Madagascar in recent decades has been insufficient to compensate for the country’s rapid population growth, currently estimated at 2.8 percent per annum. With GDP/capita estimated at US\$453 in 2010, Madagascar is categorized amongst the poorest countries in the world. Since 1980, GDP/capita has decreased in real terms and an 18 percent decrease in real GDP/capita was evidenced between 2008 and 2010. The gap in terms of GDP/capita between Madagascar and the Sub-Saharan African region has widened over this period, with current national GDP/capita less than half the regional average. 76.5 percent of the population – representing 15.4 million persons - lives below the poverty line. Rural areas experience the highest levels of poverty with 82.2 percent compared to 54.2 percent in urban areas

The tertiary sector is the predominant sector in the Malagasy economy representing 52.9 percent of GDP in 2010 (refer Table 1). Transport and service activities dominate the GDP of the tertiary sector

and while tourism continues to play an important role, economic activity in this sector, which has traditionally been one of the largest sources of foreign exchange earnings, has been significantly affected by the current political instability.

The primary sector accounts for 25.7 percent of the national GDP, with agricultural activity the most important contributor, followed by livestock and fisheries and forestry activities. Agriculture is the main livelihood source for the rural population and is essential to meet subsistence needs. Agricultural production – notably rice production – is in fact the single largest contributor to GDP constituting 14.1 percent of GDP in 2010. The contribution of coastal and marine resource exploitation has stagnated in recent years with economic activity decreasing annually by 2 percent between 2008 and 2010. The contribution of forestry to GDP has seen a net augmentation in the same period with annual growth of 30.4 percent linked to precious timber exploitation that had an export value of US\$176 million in 2009.

Table 1: Structure of Madagascar's Economy

	2008	2009	2010
Population	19,071,811	19,601,026	20,142,015
GDP (US\$ millions)	8,041	8,365	9,132
GDP (US\$ per capita)	469	478	453
Structure of GDP (% of total):			
<u>Primary Sector</u>	22.3%	26.7%	25.7%
Agriculture	13.4%	14.9%	14.1%
Forestry	5.2%	5.4%	4.4%
Livestock and fisheries	3.7%	6.5%	7.2%
<u>Non-primary Sector</u>	77.7%	73.3%	74.3%
Food and agricultural feed industries	3.6%	3.9%	4.4%
Extractive industries	0.1%	0.2%	0.2%
Timber industries	0.2%	0.2%	0.1%
Production of mineral and metal products	1.7%	1.7%	1.4%
Transformation industries	7.0%	7.0%	6.8%
Other industries	1.9%	1.8%	1.8%
Services and others	54.6%	51.5%	52.9%

Source: Instat. 2012. Tableau de Bord de l'Economie en 2012.

Industrial economic activities are dominated by food, beverage and energy production however the mining sector is of growing importance. Investments by two large-scale mining operations (Rio Tinto's ilmenite mining operation in the south-east and Ambatovy's nickel and cobalt mining operation in the east) represented more than 65 percent of GDP in recent years. Exported production from these two operations is expected to contribute between 30 and 60 percent of national export earnings in coming years, and their contribution to the fiscal revenues of the State is expected to increase from 1 percent to 18 percent by 2018.

The national economy is not greatly diversified and is concentrated in several sectors and geographic regions that have become development hubs because of their higher population densities, their proximity to large development projects (such as mining projects) or their access to markets. The marginalization of other regions where poverty rates are significantly higher has influenced the poor economic performance of the entire country. This inequality of economic activity, particularly in rural areas, has led to a lack of employment opportunities for poor rural households, thus increasing their overall vulnerability.

Madagascar has an open economy and has favored regional economic integration, however exports to neighboring countries remain low and Europe, the USA and Asia have to date remained the most important markets for Madagascar. In the last three years, the suspension of preferential trading

treaties following the onset of the political crisis has however negatively affected export activities to these countries.

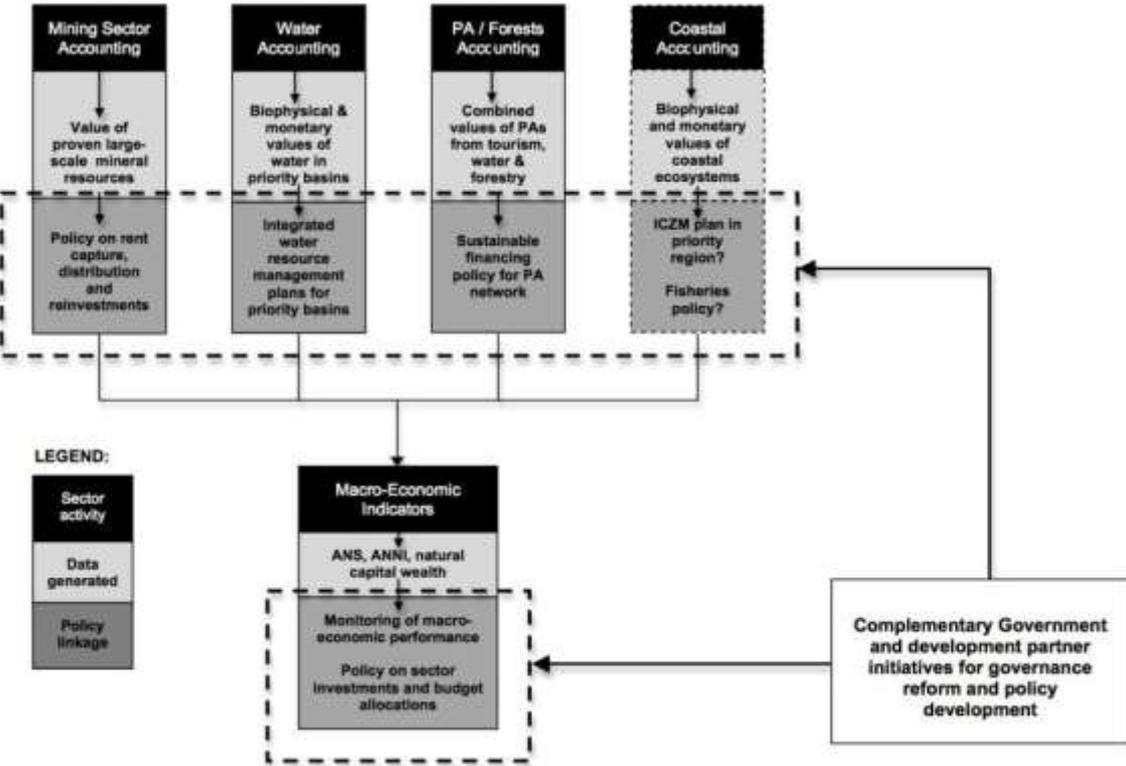
Weak national savings and high fiscal pressure (estimated at 11 percent of GDP in 2010) are limiting factors to development of the private sector and investments in human capital. The economy remains highly dependent on external aid, which before the 2009 political crisis accounted for approximately two thirds of the public investment budget, and foreign direct investment in a limited number of sectors such as mining and to a lesser extent tourism. Following the onset of the political crisis, suspension of foreign aid has severely affected public investments with a decrease of 60 percent between 2008 and 2009.

The national economy is vulnerable in the face of climatic shocks such as droughts, cyclones and flooding that affect the country every year. These events provoke considerable damages in key economic sectors such as the transport and agricultural sectors and the effects are unequally distributed with poor, rural populations being the hardest hit. The 2008 cyclone season, which was the last season for which a comprehensive evaluation was carried out, caused losses equivalent to 4 percent of GDP and the 2012 season is expected to cause similar levels of losses. Other exogenous factors, including the volatility of prices of key imports and exports on global markets (e.g. vanilla, shrimp, rice and petrol) have also affected recent economic performance.

3. Policy Linkages

The starting point for the development of the WAVES Madagascar workplan was the identification of a series of priority policy questions across several key sectors that could be informed by natural capital accounting activities. This process has identified five broad policy linkages that WAVES activities will seek to inform that are discussed below and illustrated in Figure 1. During the detailed activities in each of these sectors these policy linkages will be further investigated, discussed, and refined. Detailed road maps will be prepared outlining inputs, processes and outputs for each policy linkage to guide future WAVES activities.

Figure 1: WAVES Madagascar Outputs and Policy Linkages



3.1 Policy dialogue on natural resource rent capture, distribution and reinvestment in the mining sector

With its extensive mineral and non-mineral sub-soil assets, Madagascar is recognized as a geologically rich country with resources that have the potential to generate large economic gains over a relatively short period. With the recent development of the first two large-scale mining operations in Madagascar, the formal mining sector's contribution to GDP is expected to grow from less than 1 percent to 15 percent in coming years. Numerous other large-scale mining operations are in the exploration phase throughout the country and Madagascar is considered to be on the cusp of a major increase in large-scale mining activities.

Despite the potential economic benefits that exist, royalties captured by the State from existing large-scale operations are relatively low (between 1 and 2 percent) compared to other countries. Furthermore, despite Madagascar's position as a pioneer in terms of revenue distribution to regional and local communities, conflicts exist in terms of the proportion of revenues earmarked for different levels of the administration and the mechanisms used for revenue sharing. Many private sector operators have expressed their willingness to participate in dialogue on these issues through their implication in the EITI process, which is active in Madagascar. However, operators have also expressed frustration at the weak policy framework and inconsistent political decisions that have resulted in the suspension of exploration and development activities in the last few years. Given the growing awareness on the part of communities and civil society regarding the potential economic benefits of mining activities, and the growing interest of international companies in Madagascar's mineral resources, these issues are expected to remain at the forefront of the political debate in coming years.

The transformation of the country's non-renewable mineral natural capital to other productive forms of capital, will require a strong and consensual policy framework with identified policy needs in four areas: (i) policies to promote efficient resource extraction in order to maximize resource rent generated by the extractive sector; (ii) a system of taxes and royalties that allows Governments to recover equitable and proportionate shares of rents; (iii) a clear policy for the investment of resource rents in productive assets; and (iv) policies to manage land use conflicts and control adverse effects of resource extraction on other components of natural capital.

WAVES Madagascar will facilitate discussions with Government, civil society and private sector operators to determine the specific elements of a future policy framework that could most benefit from the results of natural capital accounting in the sector, in keeping with the available resources under the WAVES workplan. In particular, by estimating the rents generated through natural resource extraction, WAVES will allow the eventual creation of policy that helps to avoid dissipation of the country's natural wealth. Once mineral accounts have been developed WAVES Madagascar will provide technical assistance to integrate the results of mining accounts into the selected areas of policy development.

3.2 Basin level integrated water resources management planning

At the national level, internal renewable water resources are in the order of 337 cubic kilometers per year, 99 percent of which is surface water and the remaining 1 percent is groundwater. Water resources and availability throughout Madagascar are highly heterogeneous because of marked regional differences in rainfall. The east and north of the country typically have abundant rainfall, while the west and south are drier and experience recurrent water stress. National level data therefore mask important disparities at the basin and even sub-basin level.

Total water use is estimated at 14.97 cubic kilometers per year, or 4.5 percent of renewable water resources. The agricultural sector has the highest water use (estimated at 96 percent in 2000), followed by municipal use (3 percent) and industrial use predominantly for the textile, hydroelectricity generation and mining industries (2 percent). The irrigated agricultural surface in Madagascar, predominantly for rice growing, is estimated at 1 million hectares or 30 percent of the total of cultivated land. Irrigation infrastructure is generally small-scale and while nominally managed by local water users associations, such infrastructure is often in poor condition because of lack of financing for its maintenance. Municipal water use by households and small enterprises is predominantly assured by the State owned company JIRAMA, although contracts are also established with the private sector to supply water because of the lack of capacity of JIRAMA. In 2010, 45 percent of households had

access to a secure water supply; although the rate was significantly higher in urban areas than in rural areas. The growing large-scale mining sector will have significant water needs and availability of adequate secure resources will be essential to the development of this industry. Initial studies carried out by the World Bank and others indicate that the biophysical hydroelectric potential of the country's water resources is under-exploited and could be significantly increased. Currently hydroelectricity accounts for only two thirds of the national electricity production despite its potential economic advantages over thermal power production and efficiency of existing hydroelectric power stations is increasingly affected by sedimentation of dams.

Madagascar's national water policy dates from the mid 1990s and was developed without full consideration of the economic values of water resources, nor of equity considerations in terms of pricing policy and availability to water. Data availability in the sector is weak due to the number of actors in the sector and the lack of a coordinated approach to data collection and analysis. The Ministry of Water Resources is interested in the application of the principles of integrated water resources management, but has not yet developed integrated water basin management policy or plans. Future policy development in this area could be strengthened by a clearer understanding of the relative economic contribution of water to different user groups such as agricultural, municipal and industrial users.

There is an opportunity for WAVES Madagascar activities to contribute to increased knowledge of the water resources sector in Madagascar, through the development of basin and/or sub-basin water resources accounts and/or through generation of information on specific policy questions such as the monetary value of the untapped hydroelectric potential of water resources. Such accounts would assist the Ministry of Water Resources in its objective of developing national policy for integrated water resources management and plans for priority basins. Due to the scale of the data collection and analysis work, it is proposed to collaborate with other actors – such as UNDP and African Development Bank – who are working in the sector to define detailed policy linkages and collaborate on data collection and analysis tasks.

3.3 Sustainable financing of national protected area network

Madagascar's protected area network covers 6.9 million hectares. It contains unrivalled biodiversity, is the main draw-card for international tourists, provides essential watershed benefits to downstream users, and harbors significant forest carbon stocks. The network relies heavily on external aid for its operation, which is estimated at US\$ 14 million per year. Yet the network represents a largely untapped source of economic benefits that, when converted into financial returns, could be used both to improve its own financial sustainability, and for the natural resources sector more generally. The potential economic benefits from tourism and watershed across the entire network are in the order of US\$48 million per year, of which US\$28 million could be generated by ecotourism, and US\$20 million by watershed protection¹. Less is known about the economic values of carbon stocks but research into the biophysical aspects of such stocks is relatively well advanced. Current capture of the economic benefits harbored within the network is very low, with only US\$0.5 million/year generated by tourist visitation fees earmarked for protected area management.

The need for a policy framework to improve the capture and distribution of the network's economic benefits and thus contribute to its sustainable financing has been identified as an entry point for natural capital accounting activities supported by WAVES Madagascar. Activities would include combining the results of ecotourism and forestry sector accounting with water resources accounting results (refer Section 3.2 above) to generate information on the economic valuation profile of protected areas. WAVES Madagascar would provide technical assistance to Government and civil society to use this information to develop sustainable financing mechanisms and policy for the protected area network.

3.4 Natural capital accounting for fisheries and coastal resource management

The fisheries and coastal resources sector is of economic importance to Madagascar both at the national level, and in terms of household livelihoods and provision of subsistence resources. Based on

¹ In USD (2003) and based on a network size of 6.9 million hectares, sourced from Carret & Loyer. 2003. *Comment financer durablement les aires protégées à Madagascar?* Agence Française de Développement, Paris.

official statistics, which are likely to underestimate true economic values, the fisheries and coastal resources sector contributed US\$146 million or nearly 2 percent of GDP. Official estimates are that there are 102,000 fishers in Madagascar, although this is also certainly a gross underestimate as there has been no recent census and many rural households practice fishing as seasonal or part-time occupation or as a means of supplementing their subsistence needs.

A policy framework for integrated coastal zone management (ICZM) has existed since 2010 and has received strong political support through the creation of a high-level national ICZM Committee. However, little translation of the policy into tangible actions on the ground has been carried out despite its potential as a tool to resolve conflicting resource management and land use issues in the coastal zone. Regional ICZM Committees have been put in place in pilot zones in Madagascar, but these committees lack the capacity to integrate ecosystem accounting into policy and action plan formulation.

The sector could benefit from ecosystem and natural capital accounting activities as a means of generating data on the economic value of the sector as a whole, and of important sub-sectors in order to inform policy on sustainable coastal and marine resource management, and generate a better understanding on households' dependency on such resources. However, the institutional, capacity and data availability constraints within the sector are significant and could undermine the ability to achieve tangible results in the sector in the short-term and/or to assure the sustainability of processes put in place during the WAVES partnership in the medium to long term.

A modest approach to WAVES Madagascar activities in the fisheries and coastal resources sector will be adopted in the short-term. WAVES Madagascar will support a detailed Scoping Study and Action Plan for ecosystem and natural capital accounting in the fisheries sector that identifies the data needs (and means of generating data), capacity and resource needs, possible collaborations with national and regional partners, and associated institutional strengthening needs (i.e. in data collection, management, and analyses) that would facilitate future ecosystem and natural capital accounting activities. During the implementation of WAVES Madagascar the evolution of the sector would be monitored and discussed during annual workplan reviews and if found to be feasible activities, such as piloting regional-level ecosystem accounting activities to feed into ICZM planning or developing fisheries sector accounts, would be implemented.

3.5 Macro-economic performance monitoring and natural resource management

Madagascar's system of national accounts and macro-economic indicators make scant reference to natural capital values. While data on volume and value of production is available for certain sub-sectors (e.g. large scale mining, large-scale forestry, large-scale and small-scale fisheries and agriculture), data on potentially important small-scale and informal activities in the mining, forestry and fisheries sectors is missing, and there is little information on royalties, fees and taxes for natural-resource based sectors.

Progressive inclusion of natural capital values in the system of national accounts for priority natural resource issues, and development of macro-economic indicators will thus improve the country's ability to: (i) monitor the sustainability of its economic development; and (ii) manage key natural resource based sectors. For the purposes of WAVES Madagascar activities, the focus will be on developing new, complementary macro-economic indicators including adjusted net savings (ANS), adjusted net national income (ANNI) and natural capital wealth. A progressive approach to development of these macro-economic indicators will be applied. In the short term, existing preliminary estimates prepared by the World Bank will be refined and adjusted using available country-specific data. In the medium to long term, the outcomes of natural resource accounting activities supported by WAVES Madagascar will be progressively included to further refine the indicators. Technical activities will be complemented by capacity building both in the development and maintenance of these indicators, as well as in their use and interpretation.

4. Summary Workplan

The WAVES Madagascar workplan has been structured around five technical work areas that correspond to the policy linkages identified in the previous section (refer Table 2). The estimated total budget of WAVES Madagascar is USD 2.0 million, of which USD 1.5 million would be allocated from

the WAVES multi-donor trust fund, and USD 0.5 million is co-financing allocated by the Government of Madagascar through the Third Environment Support Program Project (EP3). Annual reviews of the workplan would be carried out to review progress against workplan objectives, and allow preparation of detailed annual activity schedules and budgets.

Table 2: WAVES Madagascar Summary Workplan

Work Area	Objective	Expected Overall Outcomes	Indicative Budget (USD)
1. Macro-economic indicators	To develop new macro-economic indicators that integrate economic values of natural resources, and that are complementary to existing indicators, are developed to guide and facilitate monitoring of sustainable development.	Macro-economic indicator development and annual revision including adjusted net savings (ANS), adjusted net national income (ANNI) and natural capital wealth	30,000
2. Mining sector	Contribute to medium to long-term policy dialogue on rent recovery, distribution and investment	Satellite account development for proven resources in large-scale mining sector and policy analysis	65,000
3. Managing watersheds and water resources	Contribute to regional integrated water resources management planning	Monetary and physical accounts for water resources (initially in priority zones), and policy analysis related to integrated water resources management	510,000
4. Value of protected area & forest ecosystems	Contribute to sustainable financing of national protected area network	Ecotourism accounts and integration into macro-economic indicators Analysis of combined ecosystem service values – ecotourism, water resources and (timber and non-timber) forestry values - in selected protected areas to feed into sustainable financing policy for the PA network	477,000
5. Fisheries and coastal resources	Scoping of the data and resource requirements for implementation of ecosystem and natural capital accounting in the fisheries and coastal resources sector is carried out.	Detailed Action Plan for ecosystem and natural capital accounting in fisheries and coastal resources sector, with subsequent activities to be defined based on outcomes. Possible activities relate to ecosystem service accounting to feed into ICZM planning or fisheries sector accounts	285,000 (to be confirmed)
6. Capacity building	National counterparts are empowered to undertake natural capital accounting tools and use the results in policy development	Trained national counterparts in Government, research institutes and civil society	240,000
7. Project management	WAVES activities are managed in partnership between the World Bank and Government	A core team of World Bank and Government staff are resourced to manage and support WAVES activities	393,000

5. Enhancing Sustainability of Outcomes

A key objective of WAVES Madagascar will be to optimize the sustainability of the mechanisms and tools that are established for natural capital accounting – both in terms of institutional structure and technical capacity - following completion of the workplan implementation. To this end, two streams of activity are proposed to complement the technical account development activities: (i) a comprehensive program of capacity building; and (ii) continued discussions with Government on the development of institutional arrangements to facilitate the continuation of natural capital accounting activities post-WAVES.

Capacity building activities will account for over 15 percent of the WAVES budget and will be integrated into all technical activities. The focus will be on “hands-on” training for national counterparts in Government, research institutes and civil society in the development and use of natural capital accounts. Training topics will include application of SEEA methodologies, links between the SEEA and the system of national accounts, ecosystem service accounting methods, and the utilization of environmental accounting outcomes in policy development at the sector and macro-economic level. Opportunities for attendance at external forums and training events for key counterparts will be identified as will opportunities for specialists working on WAVES Madagascar to present lecture or seminars to broader audiences.

Discussions with Government on institutional arrangements for natural capital accounting will continue throughout workplan implementation. Issues that will be discussed will include the institutional home of satellite accounts, the roles and responsibilities of various agencies including the national statistics institute and line ministries, as well as the policy or legislative mechanisms that may be appropriate to ensure ongoing compilation and use of satellite accounts.

6. Implementation Arrangements

Implementation arrangements for WAVES Madagascar are shown in Figure 2 and described below.

The WAVES Madagascar National Steering Committee, in partnership with the WAVES Global Partnership Secretariat, will be responsible for overseeing implementation of activities in Madagascar. This Steering Committee is presided by the Secretary-General of the Ministry of Economy and Industry and Conservation International. The Steering Committee also includes representatives from sector line ministries (i.e. water, environment, fisheries, mines, forests and coastal zone management) and the private sector (Chamber of Mines, tourism organizations and enterprise bodies).

A series of Technical Working Groups have been established by the Steering Committee to provide technical guidance and support to activities in different thematic work areas. To date Technical Working Groups for the mining, water resources and protected areas/forestry sector have been established. As technical activities intensify in coming months, the participants and functions of these groups will be progressively defined.

The World Bank-led WAVES Global Partnership Secretariat coordinates global activities and provides technical advice and support to the Steering Committee and the World Bank in-country technical assistance team. The Secretariat provides the link to the WAVES Policy and Experts Technical Committee that is leading the methodological development activities of WAVES at the global level.

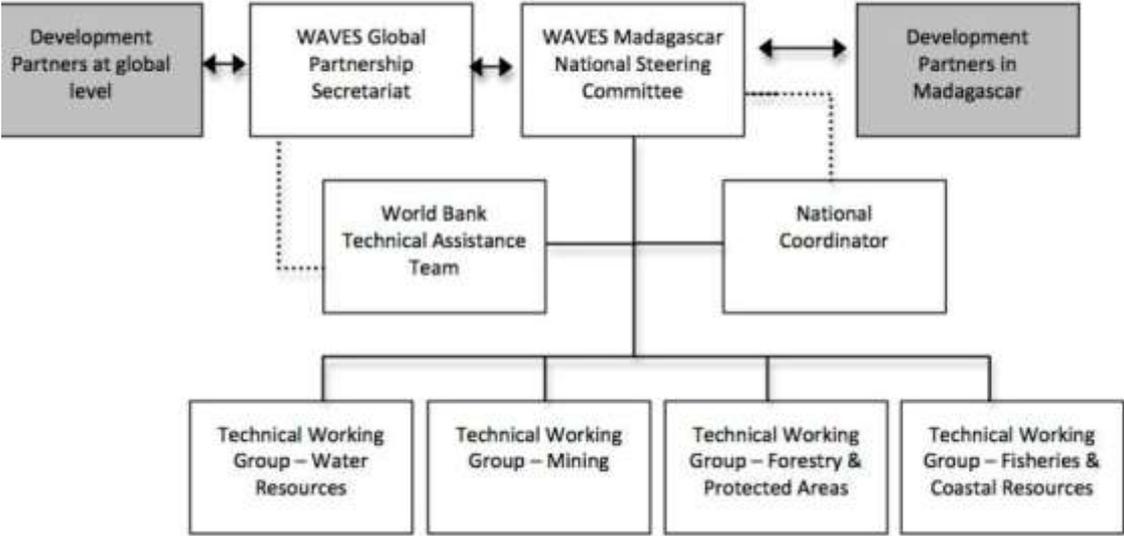
The WAVES National Coordinator has been recruited by the Government to act as the Government focal point and liaison for WAVES Madagascar. The National Coordinator will provide secretariat and support services to the Steering Committee and the Technical Working Groups, and will liaise closely with the World Bank technical assistance team in the day-to-day management of WAVES activities.

The World Bank Technical Assistance team is based in Madagascar and provides day to day project management support and technical assistance to the Steering Committee and the National Coordinator. This team acts as a key technical liaison with the Global Partnership Secretariat and other WAVES partner countries.

7. The Way Forward

The next year will see substantive progress in the implementation of the WAVES Madagascar workplan. Activities will commence in the mining, forestry and water resources sectors. An international environmental accounting specialist will commence work in April 2013 to provide technical support and training for the Steering Committee and national counterparts for accounts development in these sectors. The first task of the specialist will be to work with counterparts to identify clear and tangible links between desired policy outcomes and natural capital accounts and to assist in the series of sector specific roadmaps to guide technical and policy activities over the next several years. This task will be followed by data collection and initial account preparation. The specialist will also provide comprehensive hands-on training for national counterparts in account development.

Figure 2: WAVES Madagascar Implementation Arrangements



This work will be followed by initial data generation activities related to protected area tourism activities. Visitor and enterprise survey accounts will be implemented in the second half of 2013 to allow capture of the peak tourism seasons.

The first round of estimates of complementary macro-economic indicators – ANS, ANNI, natural capital wealth – will be prepared towards the end of the year as initial data from satellite accounts becomes available.

A tailored communications and outreach strategy will be prepared for Madagascar in coming months, together with a national monitoring and evaluation framework to allow WAVES impacts and results to be monitored and reported to Government and stakeholders.

Towards the end of 2013 the WAVES Madagascar Annual Planning Meeting will be held to review progress to date and to prepare the detailed workplan for 2014.

Annex 1: WAVES Madagascar: Detailed Workplan, Budget and Schedule

Work Area	Objective	Expected Overall Outcomes	Planned Outputs by Year ²				Indicative Budget (USD) ³
			Year 1 - 2013	Year 2 - 2014	Year 3 - 2015	Year 4 - 2016	
1. Macro-economic indicators	To develop new macro-economic indicators that integrate economic values of natural resources, and that are complementary to existing indicators, are developed to guide and facilitate monitoring of sustainable development.	Macro-economic indicator development and annual revision including adjusted net savings (ANS), adjusted net national income (ANNI) and natural capital wealth	Initial estimates of new macro-economic indicators (ANS, ANNI, natural capital wealth)	Revised estimates of new macro-economic indicators (ANS, ANNI, natural capital wealth)	Revised estimates of new macro-economic indicators (ANS, ANNI, natural capital wealth)	Revised estimates of new macro-economic indicators (ANS, ANNI, natural capital wealth)	30,000
2. Mining sector	Contribute to medium to long-term policy dialogue on rent recovery, distribution and investment	Satellite account development for proven resources in large-scale mining sector, integration into macro-economic indicators, and policy analysis	Creation of first mining sector accounts and Action Plan for progressive refinement	Refined mining sector accounts Commence policy analysis related to mineral rent recovery, distribution & investment	Refined mining sector accounts Continue policy analysis related to mineral rent recovery, distribution & investment Feasibility study on inclusion of small-scale mining in future accounts	Refined mining sector accounts	65,000
3. Managing watersheds and water resources	Contribute to regional integrated water resources management planning	National and river basin level monetary and physical accounts for water resources and integration into macro-economic indicators, and policy analysis.	Data needs assessment and commencement of water accounts preparation in priority zones	Continue preparation of water accounts in priority zones Commence policy analysis related to integrated water resource management	Complete preparation of water accounts in priority zones and (if feasible) prepare consolidated accounts Continue policy analysis related to integrated water resource management	Refined water accounts Continue policy analysis related to integrated water resource management	510,000

² An annual review of the workplan will be undertaken to develop detailed annual activity schedules

³ Includes allocation from WAVES Multi-Donor Trust Fund of USD1.5 million and allocation from IDA-financed EP3 project of USD0.5 million.

Work Area	Objective	Expected Overall Outcomes	Planned Outputs by Year ²				Indicative Budget (USD) ³
			Year 1 - 2013	Year 2 - 2014	Year 3 - 2015	Year 4 - 2016	
4. Value of protected area & forest ecosystems	Contribute to sustainable financing of national protected area network	Ecotourism accounts and integration into macro-economic indicators Analysis of combined ecosystem service values in selected protected areas to feed into fiscal policy analysis	Creation of first forest sector accounts and Action Plan for progressive refinement Commencement of data collection (tourist and enterprise surveys) for tourism accounts	Creation of first tourism accounts Refinement of forestry sector accounts	Refined tourism and forestry accounts Commence policy analysis of protected area network benefits capture and financing strategy options	Refined tourism and forestry accounts Continue policy analysis of protected area network benefits capture and financing strategy options	477,000
5. Fisheries and coastal resources	Scoping of the data and resource requirements for implementation of ecosystem and natural capital accounting in the fisheries and coastal resources sector is carried out.	Detailed scoping study and Action Plan for ecosystem and natural capital accounting in fisheries and coastal resources sector	n/a	Scoping Study for preparation of fisheries sector satellite accounts	To be confirmed based on outcomes of Scoping Study	To be confirmed based on outcomes of Scoping Study	285,000 (to be confirmed)
6. Capacity building	National counterparts are empowered to undertake natural capital accounting tools and use the results in policy development	Trained national counterparts in Government, research institutes and civil society	Ongoing program of hands-on technical training and facilitated involvement in project activities related to natural capital accounting tools, integration of results in policy development, and establishment and interpretation of complementary macro-economic indicators.				240,000
7. Project management	WAVES activities are managed in partnership between the World Bank and Government	A core team of World Bank and Government staff are resourced to manage and support WAVES activities	National coordinator, World Bank technical assistance, Steering Committee and Technical Working Group functioning, participation in international events, communications and outreach.				393,000
TOTAL						2,000,000	