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Tool for the evaluation of Performance of Aquatic Animal Health Services

OIE PVS Tool

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Mozambique

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OIE - PVS EVALUATION

REPORT OF THE

AQUATIC ANIMAL HEALTH SERVICES

OF

MOZAMBIQUE

19 – 29 SEPTEMBER 2011

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List of acronyms, abbreviations and/or special terms

AAD	Aquatic animal disease
AAH	Aquatic Animal Health
AAHS	Aquatic Animal Health Services
APCM	Associação dos Productores de Camarão de Moçambique – Association of prawn producers in Mozambique
BIP	Border inspection post
CA	Competent authority (INIP, see below)
CVL	Central Veterinary Laboratory
CVO	Chief Veterinary Officer
DDAE	Direccao Distrital das Actividades Economicas – part of which are District Veterinary Services
DNSV	Direcção Nacional dos Servicos de Veterinaria – National Diretorate of Veterinary Services
DPP	Direcção Provinciais das Pescas (Provincial Fishery Directorate)
DVS	Director of Veterinary Services – Chief Veterinary Officer (CVO)
EEZ	Exclusive economic zone
ES	Escola de Pesca (Fisheries School)
EU	European Union
FAO	Food and Agricultural Organisation of the United Nations
GDP	Gross domestic product
Ha	hectare
HACCP	Hazard Analysis Critical Control Points
IIAM	Instituto de Investigação Agrária de Moçambique- Agricultural Research Institute
ICT	Information and Communication Technology
ICEIDA	Icelandic International Development Agency
IFAD	Interntional Fund for Agricultural Development
INAE	National Institute for Economic Activities
INAQUA	Instituto Nacional de Desenvolvimento da Aquacultura
INIP	Instituto Nacional de Inspecção de Pescado (National Institute for Fishery Inspection)
Km	Kilometer
LIP	Fish Inspection Laboratories
MoF	Ministry of Fisheries (Ministério das Pescas)
MoH	Ministry of Health
OIE	World Organisation for Animal Health
OIE-PVS	OIE Performance of Veterinary Services Evaluation Tool
PCR	Polymerase chain reaction

SDAE	Serviço Distrital das Actividades Economicas – part of which are District Veterinary Services
SPP	Serviço Provincial de Pecuária - – part of which are Provincial Veterinary Services (PVS)
UEM	University Eduardo Mondlane Maputo
VS	Veterinary Service(s)
VPH	Veterinary Public Health
WSD	White spot disease
WSSV	White spot syndrome virus

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OIE-PVS AQUATIC ANIMAL HEALTH EVALUATION TEAM

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PART I: EXECUTIVE SUMMARY

Following a request to the OIE from its Government, an evaluation of the aquatic animal health services of Mozambique, based on the OIE-PVS (Performance of Veterinary Services) methodology was conducted in September 2011 by a team of three independent OIE-approved evaluators.

I.1 Introduction

The OIE developed the OIE-PVS (Performance of Veterinary Services) Evaluation Tool to assist Aquatic Animal Health Services (AAHS) – both public and private - to identify their strengths and weaknesses. The OIE-PVS team conducted the OIE-PVS AAHS evaluation in Mozambique with the assistance of the Institute of Fisheries Inspection (INIP) of the Ministry of Fisheries (MoF), as INIP is the recognized Competent Authority by countries importing fishery products for human use from Mozambique. INIP facilitated consultations with a wide range of stakeholders visited throughout Mozambique. The following chapters of this report detail the results of this assessment which are summarised below.

The evaluation began with meetings with the Director of INIP, the OIE Delegate of Mozambique (being the Director of Veterinary Services), Heads of Departments of INIP and senior management officials of the headquarters of INIP in Maputo.

A program was agreed in which the OIE Evaluation Team visited sites and institutions **(public and private sector)** in the cities and coastal regions and discussed the issues with government officials, public and private sector professionals, small holder fishermen, fish farmers and producers, traders and other stakeholders.

The mission concluded in Maputo with a meeting with the Vice-Minister of Fisheries, in the presence of the Director of INIP, who showed great interest in the Mission and expressed his deep concern regarding the outbreak of White Spot Disease, indicating priority actions following receipt of the OIE-PVS Report.

At a closing meeting with the Director of INIP and Senior Management. Broad findings of the evaluation were discussed and information provided on the process of finalization of the report.

At all times the Team was impressed with the high level of professionalism and competence shown by all members of the VS they were privileged to meet.

The OIE Aquatic Animal Health Code 2011[1] defines “aquatic animal health services” as: “*the governmental and non-governmental organisations that implement animal health and welfare measures and other standards and recommendations in the Aquatic Code in the territory. The Aquatic Animal Health Services are under the overall control and direction of the Competent Authority. Private sector organisations, veterinarians, aquatic animal health professionals or veterinary paraprofessionals are normally accredited or approved by the Competent Authority to deliver the delegated functions*”

Based on OIE Aquatic Animal Code Standards and the results of this OIE-PVS Evaluation of the AAHS of Mozambique, the summary conclusions are:

- There is no legislation to deal with aquatic animal health and aquatic animal diseases;
- None of the five specialized institutions, nor any other part of the Ministry of Fisheries has an aquatic animal health mandate

[1] E.60

- The Directorate of Veterinary Services (DNSV) has no aquatic animal health mandate
- No legal or administrative procedures or regulations are in place to deal with aquatic animal health emergencies
- There exists minimal professional and institutional capacity to address
  - preventative,
  - diagnostic,
  - curative,
  - control and
  - eradication needs within the aquatic animal health sector.

- The outbreak of White Spot Disease in late August 2011 demonstrated the inability of Mozambique fisheries institutions, due to the absence of an aquatic animal health mandate, to deal promptly with an aquatic animal disease emergency and to take immediate and decisive remedial actions.
- A high level of professional and technical expertise, aided by an appropriate chain of command, has been implemented for post-harvest veterinary public health, food safety and traceability regarding aquatic animal products for human use.
- Existing laboratory infrastructure and proven institutional capacity at INIP could serve as a framework for developing the diagnostic and surveillance needs and requirements for an Aquatic Animal Health Service for Mozambique.

Increasing aquaculture output, as a stated Mozambique development priority and goal, will result in increased possibilities of developing major aquatic animal disease problems as it has been experienced in all countries developing aquaculture. Without an appropriate Aquatic Animal Health Service in place, this deficiency will place further aquaculture development and potential for an increased export market in severe jeopardy resulting in significant negative socio-economic impacts.

In order to safeguard present and future markets of aquaculture farms for export of live aquatic animals and aquatic animal products for human use, it is recommended to investigate possibilities; formulate necessary guidelines and procedures, to implement in close cooperation with private sector, aquatic animal disease free compartments in identified localities in Mozambique.

An AAHS should be developed and implemented within the present capacity of the MoF using existing information/recommendations such as contained in the existing "*Proposal for a National Aquaculture Animal Health Strategy for Mozambique*" from the University of Stirling, 2009 (document EM.12). Resource support and outside assistance could be sought to help facilitate this development.

I.2 Key findings of the evaluation

I.2.A Human, physical and financial resources

Personnel records indicated a few staff vacancies and professional and technical positions are held by appropriately qualified personnel at central and provincial levels. A local government level is not applicable.

A relatively high number of professional personnel hold veterinary qualifications; none of whom have any post-graduate formal training in aquatic animal health and **the Team notes with concern, that there is no professional competency with respect to aquatic animal health in general and aquatic animal diseases and diagnostics in particular.**

The competency level, however, as far as veterinary public health, food safety and the general implementation of food hygiene measures such as HACCP is high.

The training of technical personnel is of a uniform standard that allows the development of some specialised aquatic competencies in veterinary public health in general and food safety and quality inspection of fish in particular, however there is a lack of even basic competencies in AAH.

Continuing Education (CE) courses encompass a broad subject width and are available to personnel throughout the country.

Within INIP the Team verified the existence and implementation of good and appropriate internal coordination mechanisms and a clear and effective chain of command at the national level for most activities which is extended effectively to the provincial level.

In contrast to the effective internal coordination, the Team **identified the virtual total absence of coordination and collaboration with other specialized agencies of the MoF as a major constraint to the aquatic animal health sector.**

Operational funding of the veterinary public health sector in INIP is adequate, however there are no funds allocated to services within aquatic animal health, nor is there any government treasury provision for emergency funding as a defined budget item.

Comprehensive records, documentation and management systems and they regularly use of records and documented procedures in the management of resources and operations, provide for the control and effectiveness of operations.

I.2.B Technical authority and capability

INIP has modern and well equipped veterinary public health laboratories at the three strategic fishing ports of Maputo, Beira and Quelimane. Laboratory staff is familiar with analytic testing protocols and adhere to a quality system and has been doing proficiency testing at all 3 LIPs in collaboration with the Swedish *Statens Livsmedelsverk* organization.

The Team noted the absence of diagnostic capacity for aquatic animal disease testing such as bacteriology, pathology, virology, serology, PCR etc. Although the staff is familiar with the testing for specific agents, they have not been trained in diagnostic testing protocols.

The LIPs (Maputo, Beira & Quelimane) are very specialized in veterinary public health efforts and have a formal Quality System in place which is overseen by a Quality Manager. Test documentation, QA protocols, and laboratory biosecurity have all been implemented.

None of the LIPs are capable of assisting in the diagnosis of aquatic animal diseases

INIP fully implements a HACCP system for licensing processing plants (construction plans, appropriate technical solutions and a hygienic processing flow) and certifying vessels and processing plants based on requirements on chemicals, bacteriology, and residues content/contamination in relation to human food safety stated in the Hygiene Control of Food Products of Aquatic Origin (Decree 76/2009, of December 15).

As there is no dedicated risk analysis section within INIP, this HACCP competency forms a good base for developing risk analysis procedures within AAH.

INIP, as CA, has no import control function as this is within the INAQUA authority, thus posing a major aquatic animal disease control deficiency.

The absence of any form of AAHS results in a major constraint to execute AAH measures. Neither a passive nor an active AAD surveillance system is in place by the MoF, however the Team verified that some private aquaculture establishments did implement an active AAD surveillance programme, which was instrumental in detecting the presence of WSD virus in Mozambique (AquaPesca Aug/Sept. 2011).

The Team notes with concern the absence of any AAD responsibility by any institution of the MoF, or any other government authority or agency. No emergency AAD response plans have been developed or implemented.

INIP has a strong legal framework to execute their mandate within food safety.

There is no national medicines control authority, nor is there a national licensing requirement. There is thus no control over the production, sale or distribution of medicines or biologicals for veterinary use in aquatic animals.

INIP administers a well functioning tracing system for aquatic products and for prawn aimed for export.

I.2.C Interaction with stakeholders

INIP has a well maintained and informative website, which also has an English translation (*www.inip.gov.mz*).

There is, however, a lack of planned, structured and documented communication to keep stakeholders informed of INIP activities and programmes, in a transparent, effective and timely manner.

INIP actively participates in relevant regional and international meetings and INIP personnel also attended numerous training courses and workshops during 2010.

I.2.D Access to markets

INIP initiates legislation and regulatory requirements in close coordination with other relevant MoF institutions. After the respective drafts have been handed to the MoF legal division, however, INIP has no further direct role in the internal and external quality assurance of the draft legal instruments.

INIP has a comprehensive and effective inspection and monitoring programme for compliance with INIP regulations for the export of aquatic products for human consumption.

Veterinary health certification for aquatic products for human use is carried out in full compliance with relevant international standards

The OIE Delegate (CVO at DNSV) is the official contact point for the OIE, but the Team witnessed some institutional and administrative constraints in the aquatic animal disease reporting pathway during the present outbreak of WSD.

The establishment of aquatic disease-free compartments, being normally a private sector driven initiative, could offer a viable option for the export of aquatic sub-populations such as prawn and tilapia.

Table 1: Summary of OIE/PVS evaluation results

PVS results summary of AAHS Mozambique	Level of Advancement	Result
I. HUMAN, PHYSICAL AND FINANCIAL RESOURCES		
I.1. Professional and technical staffing of the AAHS		
A. Professional staff	The majority of professional positions are occupied by appropriately qualified personnel at central and state / provincial levels	**2**
B. Technical personnel	The majority of technical positions at central and state / provincial levels are occupied by personnel holding technical qualifications.	**2**
I.2. Competencies of professional and technical staff in the AAHS		
A. Competencies of professionals	The practices, knowledge and attitudes of professionals are of a uniform standard that usually allow for accurate and appropriate clinical and administrative activities of the AAHS.	**2**
B. Competencies of technical personnel	The training of technical personnel is of a uniform standard that allows the development of only basic aquatic animal health competencies.	**3**
I.3. Continuing education	The AAHS have access to CE that is reviewed annually and updated as necessary, and it is implemented for all categories of the relevant personnel.	**4**
I.4. Technical independence	The technical decisions are based on scientific evidence but are subject to review and possible modification based on non-scientific considerations.	**3**
I.5. Stability of structures and sustainability of policies	Some changes occur in the organisational structure and/or leadership of the public sector of the AAHS following a change in the political leadership, but these have little or no negative effect on sustainability of policies	**4**
I.6. Coordination capability of the AAHS		
A. Internal coordination	There are internal coordination mechanisms and a clear and effective chain of command at the national level for most activities	**4**
B. External coordination	There are informal external coordination mechanisms for some activities, but the procedures are not clear and/or external coordination occurs irregularly.	**2**
I.7. Physical resources	The AAHS have suitable physical resources at national (central) level and at some regional levels, and maintenance and replacement of obsolete items occurs only occasionally	**2**
I-8. Operational funding	Funding for the AAHS is clearly defined and regular, but is inadequate for their required base operations (i.e. disease surveillance, early detection and rapid response and veterinary public health).	**2**
I-9. Emergency funding	No contingency and compensatory funding arrangements exist and there is no provision for emergency financial resources.	**1**
I-10. Capital investment	The AAHS occasionally develops proposals and secures funding for the establishment, maintenance or improvement of operational infrastructure but this is normally through extraordinary allocations.	**2**
I-11. Management of resources and operations	The AAHS have comprehensive records, documentation and management systems and they regularly use records and documented procedures in the management of resources and operations, providing for the control of effectiveness and the conduct of analysis and planning	**3**

II. TECHNICAL AUTHORITY AND CAPABILITY		
II.1. Laboratory diagnosis	For major zoonoses and diseases of national economic importance, the AAHS have access to and use a laboratory to obtain a correct diagnosis	**2**
II.2. Laboratory quality assurance	Some laboratories used by the public sector AAHS are using formal QA systems	**2**
II.3. Risk analysis	The AAHS compile and maintain data but do not have the capability to systematically assess risks. Some risk management decisions are based on scientific risk assessment	**2**
II.4. Quarantine and border security	The AAHS cannot apply any type of quarantine or border security procedures for aquatic animals or aquatic animal products with their neighbouring countries or trading partners	**1**
II.5. Epidemiological surveillance		
A. Passive surveillance	The AAHS have no passive surveillance programme	**1**
B. Active surveillance	The AAHS have no active surveillance programme	**1**
II.6. Early detection and emergency response	The AAHS have no field network or established procedure to determine whether a sanitary emergency exists or the authority to declare such an emergency and respond appropriately	**1**
II.7. Disease prevention, control and eradication	The AAHS have no field network or established procedure to determine whether a sanitary emergency exists or the authority to declare such an emergency and respond appropriately	**1**
II.8. Food safety	Implementation, management and coordination (as appropriate) are generally undertaken in conformity with international standards only for export purpose and for products that are distributed throughout the national market	**3**
II.9. Veterinary medicines and biologicals	The AAHS cannot regulate veterinary medicines and biologicals	**1**
II.10. Residue testing	Some residue testing programme is performed but only for selected aquatic animal products for export.	**2**
II.11. Emerging issues	The AAHS do not have procedures to identify in advance likely emerging issues.	**1**
II.12. Technical innovation	The AAHS have only informal access to technical innovations, through personal contacts and external sources.	**1**
II.13. Identification and traceability	The AAHS have implemented procedures to identify and trace some products of aquatic animal origin for food safety, aquatic animal health and trade purposes, in accordance with relevant international standards.	**3**
II.14. Aquatic animal welfare	Some of the OIE standards are implemented, e.g. primarily for the export sector.	**2**
III. INTERACTION WITH STAKEHOLDERS		
III.1. Communications	The AAHS have informal communication mechanisms	**2**
III.2. Consultation with stakeholders	The AAHS maintain informal channels of consultation with stakeholders	**2**
III.3. Official representation	The AAHS actively participate[2] in the majority of relevant meetings.	**3**
III.4. Accreditation / authorisation / delegation	The public sector of the AAHS has neither the authority nor the capability to accredit / authorise / delegate the private sector to carry out official tasks	**1**
III.5. Participation of producers and other stakeholders in joint programmes	Producers and other stakeholders only comply and do not actively participate in programmes	**1**

[2] *Active participation* refers to preparation in advance of, and contributing during the meetings in question, including exploring common solutions and generating proposals and compromises for possible adoption.

IV. ACCESS TO MARKETS		
IV.1. Preparation of legislation and regulations	The AAHS have the authority and the capability to participate in the preparation of national legislation and regulations and can largely ensure their internal quality, but the legislation and regulations are often lacking in external quality.	**2**
IV.2. Implementation of legislation and regulations and stakeholder compliance	Aquatic animal health legislation is generally implemented. As required, the AAHS have a power to take legal action / initiate prosecution in instances of non-compliance in most relevant fields of activity.	**3**
IV.3. International harmonisation	The AAHS monitor the establishment of new and revised international standards, and periodically review national legislation, regulations and sanitary measures with the aim of harmonising them, as appropriate, with international standards, but do not actively comment on the draft standards of relevant intergovernmental organisations.	**3**
IV-4. International certification	The AAHS develop and carry out all relevant certification programmes for any aquatic animals, aquatic animal products, services and processes under their mandate in compliance with international standards.	**4**
IV-5. Equivalence and other types of sanitary agreements	The AAHS have implemented equivalence and other types of sanitary agreements with trading partners on selected aquatic animals, aquatic animal products and processes.	**3**
IV-6. Transparency	The AAHS notify in compliance with the procedures established by these organisations	**3**
IV-7. Zoning	The AAHS cannot establish disease free zones.	**1**
IV-8. Compartmentalisation	As necessary, the AAHS can identify aquatic animal sub-populations with a distinct health status suitable for compartmentalisation.	**2**

I.3 Key recommendations

I.3.A Human, physical and financial resources

A coordination mechanism should be implemented as a matter of high priority to address the deficiencies in coordination between the specialized institutions of the MoF.

A focussed coordination mechanism should be developed and implemented to coordinate all relevant aquatic animal health issues with external stakeholders

Implement an effective, user-friendly information management system to manage the vast amounts of data generated at central and provincial INIP levels, by installing the necessary software in the new, to date unused, hardware obtained under the ICEIDA project.

I.3.B Technical authority and capability

The urgent need for AAHS at a designated MoF institution with a clear mandate and appropriate regulatory legislative support is considered by the Team to be the single most important priority action to be addressed by the Mozambique authorities.

In this context the Team considers it is a priority that clear and defined pathways for aquatic animal disease reporting and investigation be formulated and put into place in order to empower INIP as CA to execute all required functions and prevent any duplication of efforts with other MoF institutions.

It is recommended that the institution at the MoF, to be charged with aquatic animal health responsibilities, develops a strategic plan for aquatic animal disease

diagnostics including a diagnostic reference laboratory incorporating a Quality System.

The proposed AAH diagnostic capacity could be established at the existing 3 INIP LIP veterinary public health laboratories (Maputo, Beira and Quelimane), to optimize available laboratory human and physical resources.

It is recommended to establish a dedicated risk analysis section with the INIP organisation.

The fragmented administrative and legal weaknesses within the MoF should receive urgent corrective attention.

As a high priority government action (MoF) for AAD status evaluations, the "Proposal for a National Aquaculture Animal Health Strategy for Mozambique" from the University of Stirling, 2009 (document EM.12), requested by INAQUA, forms a good basis for developing an aquatic animal disease surveillance system.

Due to the lack of regulatory control in respect of veterinary medicines and biologicals in Mozambique, enabling legislation is a priority to exercise control over the importation, production, sale and use of veterinary medicines in terrestrial and aquatic animals. The AAHS should closely collaborate with the Directorate of Veterinary Services (DNSV) of the Ministry of Agriculture in order to achieve this goal.

I.3.C Interaction with stakeholders

It is recommended that INIP maintains an official contact point for communications.

I.3.D Access to markets

The Team recommends that INIP and the OIE Delegate optimize the internal coordination mechanisms to facilitate the timely reporting of aquatic animal disease outbreaks from the OIE Focal Point for Aquatic Animal Health, through the OIE Delegate, to the OIE WAHIS data management system.

In order to safeguard present and future aquaculture farms for export of live aquatic animals and aquatic animal products for human use, it is recommended to investigate possibilities; formulate necessary guidelines and procedures, to implement in close cooperation with the private sector, aquatic animal disease free compartments in identified localities in Mozambique.

PART II: CONDUCT OF THE EVALUATION

At the request of the Government of Mozambique, the Director General of the OIE, Dr. Bernard Vallat, appointed an independent OIE-PVS team consisting of Dr Herbert Schneider (Team leader), Dr Edgar Brun and Dr. Ronald Lewis (OIE Technical Experts) to undertake an evaluation of the aquatic animal health services of Mozambique. The evaluation was carried out against the OIE criteria (chapters 3.1 and 3.2 of the 2011 OIE Aquatic Animal Health Code), using the 2010 OIE-PVS Tool as a guide.

The evaluation was carried out from 19th to 29th September 2011.

II.1 OIE PVS Tool: method, objectives and scope of the evaluation

To assist countries to establish their current level of performance, form a shared vision, establish priorities and carry out strategic initiatives, the OIE has developed an evaluation tool called the OIE Tool for the Evaluation of Performance of Veterinary Services (OIE PVS Tool[3]) which comprises four fundamental components:

- Human, physical and financial resources
- Technical authority and capability
- Interaction with stakeholders
- Access to markets.

These four fundamental components encompass 44 critical competencies, for each of which five qualitative levels of advancement are described. For each critical competency, a list of suggested indicators was used by the OIE Evaluation Team to help determine the level of advancement.

A glossary of terms is provided in Appendix 2.

The report follows the structure of the OIE PVS Tool and the reader is encouraged to consult that document to obtain a good understanding of the context in which the evaluation was conducted.

The objective and scope of the Aquatic PVS evaluation includes all aspects relevant to the OIE Aquatic and Terrestrial Animal Health Codes. In addition, the scope and objectives were clarified before the mission (see Appendix 7) as appropriate to the mandate and context of the AAHS in this country.

II.2 Country information (geography, administration, agriculture and livestock)

Mozambique lies from 10°20' (the mouth of the Rovuma River on the Tanzania border) to 26°50' south (Ponta do Ouro on the South African border). The coastline is 2,780 km long, and the Exclusive Economic Zone is 562.000 km^2. The population of the nation is just over 21 million (as at 2007). The country occupies 800,000 km^2 of the southeast coast of Africa, sharing a border with South Africa, Swaziland, Zambia, Zimbabwe, Malawi and Tanzania (Figure 1).

[3] www.oie.int

Figure 1: Mozambique's coastline showing important fishing ports such as Maputo, Beira, Quelimane and Angoche[4].

Mozambique´s administrative division is composed by 10 provinces and 128 districts with Maputo City considered by some as an 11th Province.

[4] http://www.unuftp.is/static/fellows/document/tomas02prf.pdf

Figure 2: Administrative Divisions of Mozambique

Climate and agro-ecological zones[5]

Mozambique is mostly low lying (only 13% has an elevation above 1000 meters) and has an extensive coastline (2 700 km).

The climate ranges from subtropical in the south to tropical in the centre and north. July (winter) temperatures average 21°C at Pemba in the north and 18°C at Maputo in the south. January (summer) temperatures average about 27°C along the coast but are lower in upland areas (21°C).

Rainfall is highly seasonal (most rain falls between October and April each year) and varies regionally, being higher in the north (1 000-1 800 mm per annum) than the south (400-1 000 mm per annum). A decreasing trend in rainfall has been observed in East Africa region as a whole over the last four decades, while the occurrence of droughts has been steadily

[5] E.4

increasing. High variability in rainfall associated with tropical cyclones and the El Nino/La Nina phenomenon compound this problem, resulting in extreme floods and droughts from time to time.

Agriculture and livestock production

Agriculture is the main activity of the Mozambican population. Approximately 84% of the economically active population in Mozambique works in agriculture, which contributes about 40% of the Gross Domestic Product (GDP).

Following a sharp fall in livestock numbers, due to the direct and indirect effects of the protracted civil war, the numbers have risen steadily over the last ten years. In recent years the Government and various cooperation partners have been providing assistance for the restocking of cattle and goats, mainly through NGOs. Livestock in Mozambique, especially on small family farms, is still recovering and the country remains, relative its neighbours, grossly livestock under-populated

Mozambique has excellent climatic and land conditions for the development of livestock. The rearing of cattle, pigs, goats, rabbits and poultry has great potential as the existing supply does not meet domestic demand, with significant volumes of meat, poultry and dairy products currently being imported, mainly from South Africa and Europe[6].

Marine and coastal environments[7]

Mozambique has the third longest coastline in Africa, characterized by a diversity of habitats including sandy beaches, coral reefs, estuarine systems, bays, mangroves, seagrass beds, and numerous offshore islands.

The coastline can broadly be split into three regions: a coral coast in the north (north of Pebane), a swamp coast in the central region (Pebane to Bazaruto Island) and a parabolic dune coast in the south (south Bazaruto Island).

The continental shelf encompasses a total area of 68 300 km2 and varies from very narrow to very broad, the broadest point (140 km) lying opposite the town of Beira. Tidal range is amongst the highest in Africa (up to 6.3 m).

Human demographic data

Table 1: Human demographic data (2007)[8]

Province	Population
Niassa	1,259,824
Cabo Delgado	1,666,070
Nampula	4,191,210
Zambézia	3,994,559
Tete	1,885,172
Manica	1,493,948
Sofala	1,726,904
Inhambane	1,329,295
Gaza	1,256,364
Maputo Província	1,276,012
Maputo Cidade	1,128,571
Total	**21,207,929**

Source: www.ine.gov.mz (2nd September 2011)

[6] OIEPVS Mozambique 2008
[7] E.4
[8] E.48

The Mozambique Fisheries Sector

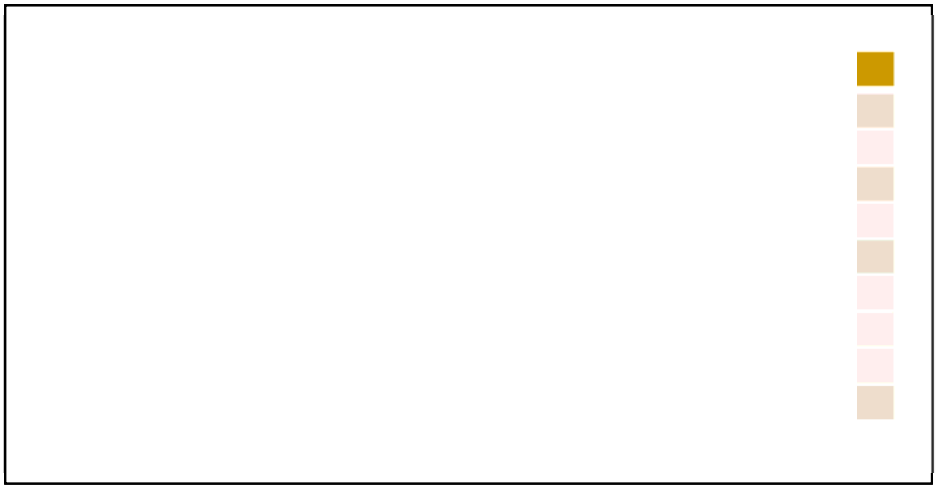
Marine and inland fisheries in Mozambique are governed in terms of the Fisheries Law (1990) and the Marine Fisheries General Regulations (2003). Three main areas of activity are recognized in terms of the regulations promulgated under these laws: subsistence, artisanal, and semi-industrial. Participation in any of these sectors requires a license issued by the national or provincial authorities. Most industrial fisheries are quota controlled while the controlled semi-industrial and artisanal fisheries are controlled through licenses only, but the artisanal fishery is in effect open access. The most important industrial fishery, the shallow water shrimp fishery, is also controlled through a 3-month closed season. Fisheries Policy in Mozambique is proscribed in terms of the Fisheries Policy (Resolution No. 11/96) and Fisheries Master Plan which were approved by the council of Ministers in 1996 and 1994 respectively, as instruments to identify strategies, prioritize development initiatives, and to contribute to national development objectives of reducing absolute poverty, promoting economic growth and development, and consolidating national unity[9].

In 2006, the contribution of fisheries to GDP was estimated to be about 4 %. More than 140,000 people are directly employed in the fisheries sector (2008), accounting for approximately 0.8% of the active population, mostly in the artisanal sector and the livelihood of 500,000 people is directly dependant on fishing activities[10]. Collectively, fisheries produce catches of 100 000 and 120 000 tons per year, and contribute about 30-40% of the total export earnings for the country[11].

Mozambique's fishing industry can be divided into artisanal, semi-industrial and industrial. The semi-industrial sub-sector consists mostly of Mozambique companies with up to four vessels, usually foreign charters. Vessels target mainly shrimp.

Industrial fishing is mainly operated through joint ventures between the government and foreign companies from Japan and Spain. The main commercial species are lobster, crabs, gamba (deep-water shrimp), shrimp, crayfish and squid.

Table 2 : General 2010 data by the Ministry of Fisheries[12],[13]



* of the 2008 annual catch / production of 120 000 tons

- 86% is by artisanal fishing
- 13,5% by industrial and semi-industrial fishing; and
- 0,5% by aquaculture

[9] E.4
[10] E.42
[11] E.4
[12] http://www.worldfishcenter.org/wfcms/file/SF0959SID/Benin/Mozambique%20fisheries%20-20Mr.%20Amos%20Chamussa.pdf
[13] E.57

The main fishery harbours are:

- Angoche
- Quelimane
- Beira (most important by catch volume)
- Maputo

The main marine resources are:

- Crustaceans -shrimp, lobsters, crabs
- Demersal fish -garoupas, pargos, solhas, ...
- Pelagic fish -tuna, shark, mackerel, sardines
- Molluscs -squid, mussels, oysters, calamari (lulas)

Mozambique's export fish and fish products sector can be divided into two main subsectors

1. Marine (capture) fisheries and
2. Aquaculture[14].

Marine (capture) fisheries[15],[16]

The country's marine waters cover an area of about 100,000 km^2 with an EEZ of 200 nautical miles, while inland waters cover an area of about 13,000 km^2.

The main fishing areas are the shallow water shrimp fishery in the Sofala Bank and demersals for line fishery in Beira Bay and Maputo Bay.

The marine fisheries sector in Mozambique is very important, providing employment for between 75.000–80.000 people while an estimated 480.000 people are economically dependent on this sector.

Three main broad segments can be distinguished in the marine (capture) fisheries sub-sector, as defined[17] in terms of the Mozambique fisheries regulations (Regulamento da Pesca Maritime 1997):

1. **Industrial fishing:** this is conducted mainly by foreign vessels which have on-board processing facilities. These foreign vessels concentrate on shallow water shrimp (the most important fishery in the country). The main commercial species are lobster, crabs, gamba (deep-water shrimp), shrimp, crayfish and squid.

Table 3: Mozambique 2011 fishery harbour and establishment data[18]

Region	Harbour	Freezer vessels	Ice vessels	Factory vessel	Ice factory	Aquaculture establishm.
Maputo	Maputo	13	29	0	1	
Inhambane	Inhambane			2		
	Maxixe		5			
	Vilanculos					1
Sofala	Beira	49	14		1	1
Zambézia	Quelimane	10	2		2	1
Nampula	Inguri					
	Angoche	3	9			
		75	59	2	4	2
TOTAL number of vessels				**136**		

[14] E.23
[15] E.4 ,E.7 & E.48
[16] E.57
[17] E.4
[18] E.48

2. **The semi-industrial fisheries:** this segment is concentrated near the main coastal cities, where fish can easily reach the urban markets for consumption or export.
   The semi-industrial sub-sector consists mostly of Mozambique companies with up to four vessels, usually foreign charters. Vessels target mainly shrimp. The semi-industrial fishing fleet consists of around 330 boats.
3. **Artisanal:** The approximately 9,000 artisanal fishermen sell their catch on the domestic market.
   Artisanal fishing provides livelihoods for more than 50,000 families and supplies food for a large proportion of the population. Fishers use handlines, beach seines and gillnets.

   While part of the artisanal fisheries catch is consumed within the household, a substantial portion is either processed or sold to mobile fish traders.

   Artisanal fishers target a range of resources including fish, shrimp, crabs, and molluscs. A small recreational fishery also exists, focusing mostly of line-fish in the southern part of the country.

   Artisanal fisheries is the main source of fish for domestic consumption.

   Government priorities for value-addition in this sector are for fresh / frozen products and processing by dry-salting and smoking.

   Artisanal Fisheries – 2007 Census

   - 1.200 fishing sites
   - 136.000 fishermen
   - 39.000 boats (3% motorized canoes, dough-outs)
   - 42.000 fishing gears

Inland fisheries[19]

Mozambique's freshwater fish fauna is poorly known. Only fish species in the major river systems such as the Zambezi, Limpopo, Pungue and Incomati Rivers have been documented. The lower Zambezi has by far the greatest fish biodiversity. The conservation status of fish species in Mozambique is not known[20].

Inland fisheries are focused on the large lakes (Niassa, Cahora Bassa, Amaramba, Chiúte, and Chilwe) and major river systems in the country (Zambeze, Limpopo and Pungue/Buzi River Basins). Lake fisheries include both a semi-industrial and artisanal fishing sectors, while the riverine fisheries include only an artisanal component. The lake fisheries have been well studied and most seem to be operating at or near their maximum sustainable limits, and yield about 25-30.000 tonnes of fish per annum. Catches have been relatively stable for the last decade at least. Much less is known about the riverine fisheries but yields for the Zambezi are estimated to be comparable to that from Lake Cahora Bassa (15 000 tonnes per annum), but are much lower for the other river systems (e.g. Limpopo: 200-650 tonnes per annum).

Main Inland Fisheries resources are[21]**:**

- Kapenta–commercial fisheries
- Tilápia, carp, catfish, tigerfish, shrimp.

[19] E.4
[20] E.4
[21] E.57

Aquaculture systems and general statistics according to the FAO Mozambique National Aquaculture Sector Overview[22] (as adapted by E.48 Baseline information and E.57)

1. **Distribution and general characteristics**
   There are:
   - an estimated 3 500 freshwater fish ponds (200-400 m^2 in area, 105 ha) in Manica, Niassa, Tete, Sofala and Zambézia;
   - three commercial shrimp aquaculture enterprises (2011) operating in Vilanculo - Inhambane Province (*MARBAR/Xibaha*); Beira, Sofala Province (*Sol & Mar* with 500 ha) and Quelimane, Zambézia province (*Aquapesca* with 1 000 ha). The two large operators use a semi-intensive farming system in earthen ponds (size range from 5-10 ha) and import feed from the region (South Africa, Mauritius and Seychelles) or from Asia. The production was at 4.8 tons/ha/year, however Sol&Mar is not in operation since end 2009 and AquaPesca has been temporarily closed due to WSD outbreak end August 2011. Water quality is permanently monitored and investment is high. The species produced are *Penaeus monodon* the giant tiger prawn and *Penaeus indicus* the Indian white prawn;
   - Seaweed (*Eucheuma spinosum* and *Kappaphycus alvarezii*) is farmed in Cabo Delgado (from Pemba to Macomia, including some islands in the Quirimba archipelago) and in Nampula (between Angoche and Nacala) provinces.

2. **Cultured species**
   The cultured species in Mozambique include fish, crustaceans and aquatic macro algae. The species most cultivated are the native marine prawn species: giant tiger prawn (*Peneaus monodon*), Indian white prawn (*Peneaus indicus*) and the native freshwater fish Mozambique tilapia (*Oreochromis mossambicus*).

   In early 1990s, the ALCOM programme introduced from Zimbabwe the common carp (*Cyprinus carpio*), the silver carp (*Hypophthalmichtys molitrix*), and Nile tilapia (*Oreochromis niloticus*). Nowadays, however, subsistence farmers culture hybrids of *Oreochromis mossambicus* and *Oreochromis niloticus*, likely to be inbred strains that lead to slow growth and low production.

   In the late 1990s, the seaweed species *Kappaphycus alvarezii* (=*Eucheuma cottonii*) and *Eucheuma denticulatum* (=*E. spinosum*) were introduced from Zanzibar (Tanzania).

3. **Aquaculture production systems**
   Aquaculture development[23] : Aquaculture has not been a traditional activity for food supply in Mozambique, but is now a growing segment of Mozambican fisheries. One objective of the Master Plan is to improve the supply of fish to the domestic market, increase export earnings and create new jobs by the development of marine and freshwater aquaculture. Through the programme, important activities will be implemented to strengthen the institutional infrastructure, and to create incentives particularly for private small-scale freshwater aquaculture and for seaweed production.

   The aquaculture potential is estimated to be[24]
   - Ocean 30 000ha
   - Freshwater 258 000ha

[22] E.1 (2006)
[23] http://www.imr.no/forskning/bistandsarbeid/land/mozambique/en
[24] E.57

The fish processing industry[25]

In the domestic market, preference is for fresh fish. Processing for the export market is regulated and subject to INIP supervision. The raw fish is mostly frozen on-ship, with a limited number of on-shore processing establishments.

Table 4: Production units licensed for export from 2000 to 2010[26]

Production Units/Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Processing Plants Aquaculture	0	0	0	0	3	3	3	2	2	2	2
Freezing storage	8	8	8	6	5	3	3	3	3	2	2
Processing Plants on Land (excluding aquaculture)	20	32	30	22	39	34	22	17	21	17	18
Storages for Dry Fish	42	27	27	32	37	40	49	53	52	52	49
Freezing Vessels	106	106	108	98	111	106	93	85	89	73	69
Kapenta vessels (Dry Fish)	152	95	107	130	162	182	214	228	230	224	227
Total	**328**	**268**	**280**	**288**	**357**	**368**	**384**	**388**	**397**	**370**	**367**

Exports:

The main fish export markets for Mozambique are the European Union (62%), rest of Africa (25%) and Asia (12%)[27]. The most important exports are frozen shrimp and prawns.

Table 5: EXPORTS of fish and fish products from 2003 to 2009[28]

Fishery product (Tons)	2003	2004	2005	2006	2007	2008	2009
Dry Kapenta	2,757	5,149	3,640	5,071	2,288	585	2,894
Wild prawn	1,487	9,079	1,517	2,128	257	14	5,202
Aquaculture prawn	133	214	239	171	376	0	244
Deep prawn	637	904	1,005	803	804	187	1,235
Crabs	355		226	369	405	126	254
Fresh Fish	225	607	171	142	225	45	171
Dry Tilapia	23	0	0	5	143	92	377
Lobster	11	30	4	6	7	6	6
Langoustine	123	117	92	136	133	30	128
Squid and octopus	42	203	60	70	10	6	25
Other fishery products	1	92	174	60	20	11	684

Imports:

The domestic market is supplied by local production and imports being mainly sourced from South Africa and Namibia, which in 2008 supplied 68% of the import value[29]

[25] E.57
[26] EM.3
[27] E.57
[28] EM.3
[29] E.21

Table 6: IMPORTS of fish and fish products in 2010[30]

Type of fish products	Quantity (Tons)	Country of Origin	Type of transport	Port of Entry	Final Destination Mozambique
Tuna	22.011,43	Portugal, RSA, Thailand	Vessel, truck	Maputo	National Market
Codfish	33.909,00	Portugal	Vessel, truck	Maputo,	National Market
Mackerel	36.978,79	Angola, Australia, China, Spain, India, N.Zealand, Namibia, Portugal, RSA, Taiwan, Yemen	Vessel, truck	Maputo, Beira, Nacala, Quelimane	National Market
Squid	28,00	Argentina	Vessel	Maputo	National Market
canned fish	31.822,40	Portugal, RSA	Vessel, truck	Maputo	National Market
Sardine	81.927,37	Portugal, Peru, RSA, Thailand, Morocco	Vessel, truck	Maputo, Beira, Nacala	National Market
frozen fish	41.365,00	Portugal	Vessel	Maputo	National Market
live fish	0,04	RSA, Thailand	Truck, plane	Maputo, Inhambane	National Market

Economic data

National GDP	US$ 11.664 billion (2009 estimate)
National budget	4,3 US$ billion (2011 proposal)
Total agriculture % of GDP	29% (Fisheries 4% estimate)
Economic value of fisheries sector	30-40% of all export earnings
Annual budget of INIP (CA) 2010	

Mozambique is classed as having 'low' human development, ranking 172/182 in the UNHD Report (2009). The **annual GDP growth rate is** 7,0% (2010[31]). The countries main **industries are the processing of natural resources:** prawns and fish; timber, sugar and copra; cashew nuts[32].

Mozambican Finance Minister Manuel Chang[33] told reporters on 11 March 2011 that the government is drawing up an amended budget for 2011, which will soon be submitted to the country's parliament, the Assembly of the Republic. The existing 2011 budget, passed by the Assembly in December 2010, envisages total public expenditure of 132,4 million meticais (about 4,3 US$ billion). Total state revenue, mostly from taxation, is expected to reach 73.3 billion meticais, thus leaving a deficit of 59.1 billion meticais to be covered by grants and loans. Thus 55.4 per cent of the budget is covered by the government's own projected revenue, leaving 44.6 per cent to be covered by foreign aid.

II.3 Context of the evaluation

II.3.A Availability of data relevant to the evaluation

In accordance with the provisions of the OIE-PVS Manual, pre-mission requests for data and background information were submitted immediately on receipt of the go-ahead for the mission from OIE.

[30] E.48
[31] E.58
[32] E.42
[33] http://allafrica.com/stories/201103150160.html

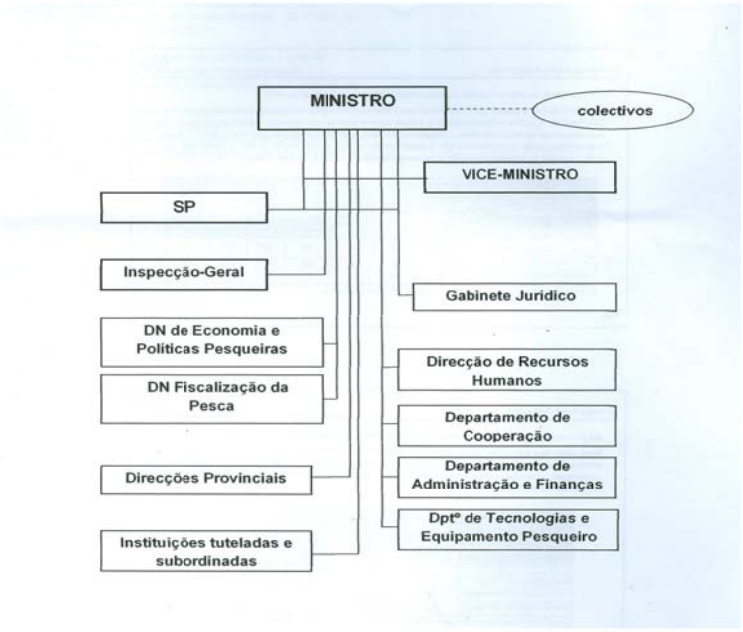
Some data in respect of personnel numbers and AAHS institutions, as well as import and export figures (2010) was provided some 2 weeks before the team's arrival in Mozambique and further documents were provided during the visit.

A list of documents received by the Team before and during the PVS Evaluation mission is provided in Appendix 6. All documents listed in Appendix 6 are referenced, where applicable, to relevant critical competencies to demonstrate the levels. Documents and pictures are also referenced to relevant critical competencies to support the related findings.

II.3.B General organisation of the Aquatic Animal Health Services

The management authority for the sector is the **Mozambican Ministry of Fisheries**, established by Presidential Decree 1/2000 of 17 January 2000.

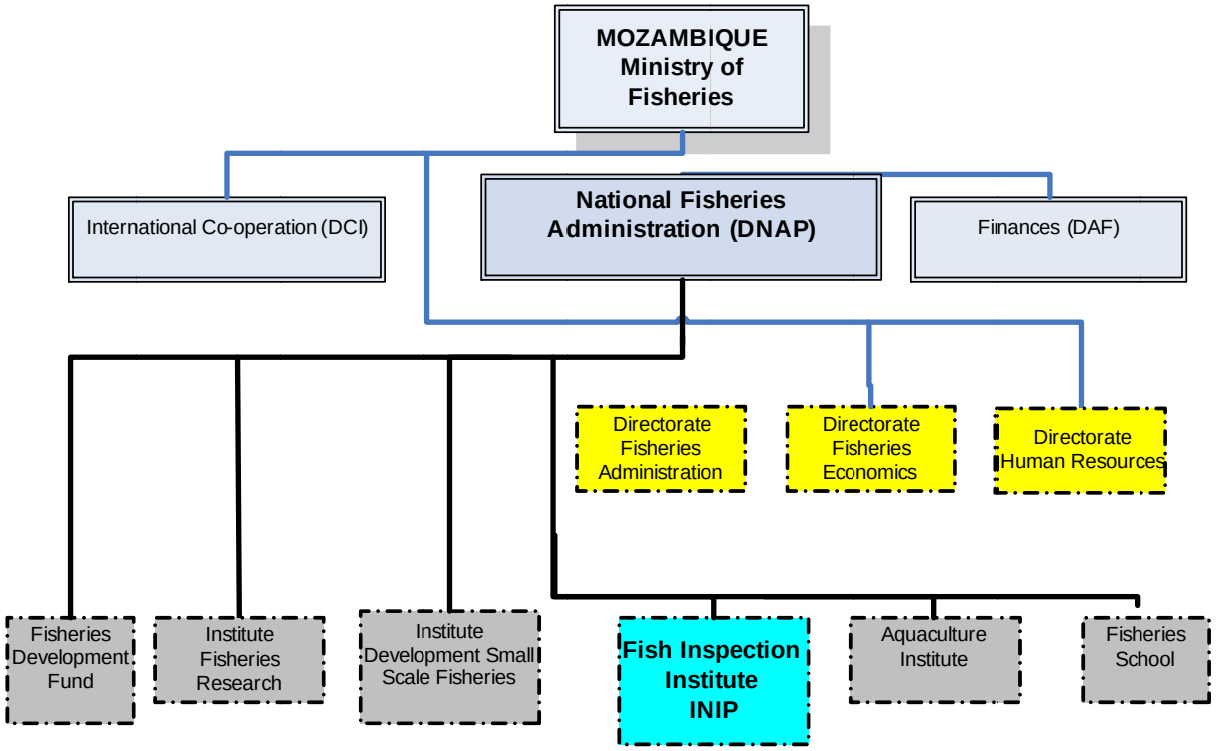
Figure 3: Organogram of the Ministry of Fisheries[34]



The current structure of the Ministry, at central level involves three national directorates for fisheries administration, fisheries economics and human resources, and two departments for international cooperation and administration and finance.

[34] http://www.mozpesca.gov.mz/images/stories/pdfs_oficiais/organogramamp.pdf

Figure 4: Ministry of Fisheries Departments, Directorates & Specialized Institutes



At provincial level
Provincial Directorates of Fisheries (DPP) representing the MoF

The OIE Focal Point Aquatic Diseases is within the Fish Inspection Institute (INIP).

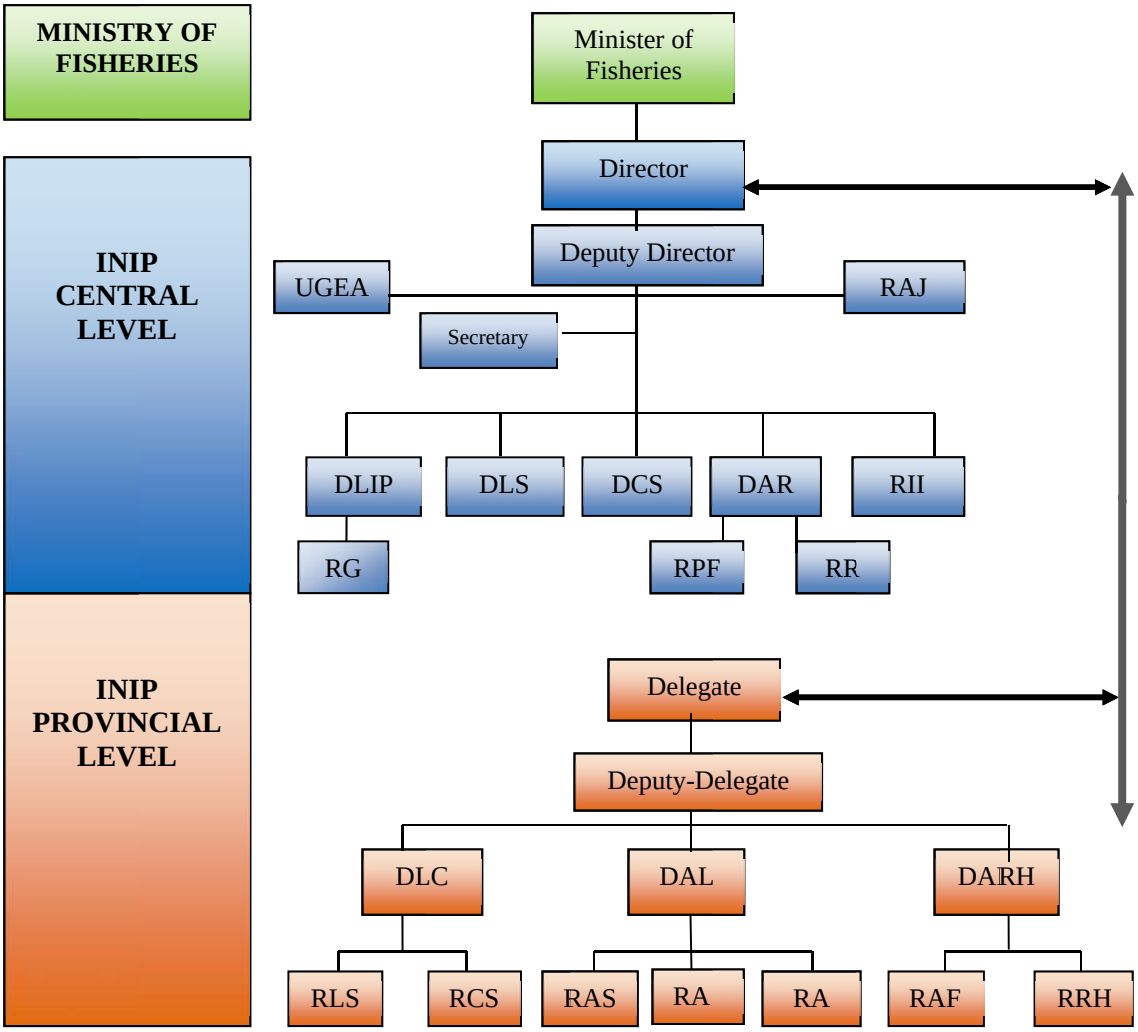
Aquatic Disease reporting to the OIE is undertaken by the Direcção Nacional dos Servicos de Veterinaria – National Diretorate of Veterinary Services (DNSV) of the Ministério da Agricultura e Desenvolvimento Rural – Ministry of Agriculture and Rural Development (MADER)

The Ministry of Fisheries is responsible for all fisheries activities in Mozambique including the regulation of illegal, unreported and unregulated (IUU) fishing and depletion of the national shrimp resources. One of its identified roles is to safeguard the access of Mozambique's fisheries products to its main export markets[35].

The management authority for the sector is the National Administration for Fisheries (Administração Nacional das Pescas - ADNAP) recently instituted.

[35] E.23

Figure 5: Organogramme of INIP



DAL	Department of Laboratorial Analysis	**RAQ**	Division of Chemical Analysis
DARH	Department of Administration and Human Resources	**RAS**	Division of Sensorial Analysis
DCS	Department of Sanitary Certification	**RCS**	Division of Sanitary Certification
DLC	Department of Licensing and Certification	**RGQ**	Division of Quality Management
DLIP	Department of Fish Inspection Laboratories	**RII**	Division of Informatics and Information
DLS	Department of Sanitary Licensing	**RLS**	Division of Sanitary Licensing
RAF	Division of Administration and Finance	**RPF**	Division of Assets and Finance
RAJ	Division of Legal Assistance	**RRH**	Division of Human Resources
RAM	Division of Microbiological Analysis	**UGEA**	Unit of Procurement

Figure 5 clearly indicates the direct chain of command.

In the management of the sector the ADNAP is supported by the National Institute for Fisheries Research (IIP) and the **National Institute for Fish Inspection (INIP)**; the National Institute for the Development of Small Scale Fisheries (IDPPE), the National Institute for the Development of Aquaculture (INAQUA), the Fisheries Promotion Fund (FFP) and the Fisheries School (EP) are responsible for the promotion of sectorial development.

The Fisheries administration extends to local level through provincial and district services for fisheries administration[36].

[36] E.42

Specific responsibilities of the different Ministry institutions are as follows:

- **Administracção Nacional das Pescas (DNAP) -** National Administration for Fisheries**-**
  Administers licenses for all industrial and semi-industrial fishing vessels, and is responsible for prosecutions, implementing and monitoring access agreements, collecting and compiling basic catch and landing statistics, and for monitoring quotas.

  DNAP is represented at **provincial level** by the Provincial Directorates of Fisheries Administration (DPAPs).

  Despite the creation of a separate Ministry of Fisheries, subsistence small-scale freshwater fish farming is under the promotion and assistance of the provincial agriculture departments

- National Institute for Fisheries Research (**IIP**) - provides scientific advice on fish stocks and management measures to DNAP

- **Instituto Nacional de Desenvolvimento da Aquacultura (INAQUA)**[37]
  - aquaculture development policies and planning of aquaculture activities;
  - propose technical legislation and development plans;
  - issue licenses and collect fees with regard to aquaculture activities;
  - monitoring and surveillance, secure statistic register, analysis and processing.

  With regard to fish farming the main activities comprise promotion, capacity building, the dissemination of new techniques and promote information exchange between producers, implement new lines of micro credit for the small fish farming operators to address self employment and family income.

- **Fundo de Fomento Pesqueiro (FFP) – Fisheries Development Fund**

- The Institute of Small-Scale Fisheries Development (IDDPE) is responsible for development of artisanal fisheries.

In Mozambique[38] the Veterinary Authority is under the Ministry of Agriculture and the Competent Authority for aquatic animal health is under the Ministry of Fisheries. In addition within this Ministry there are different institutions dealing with specific subjects of aquatic animals. Although this arrangement may bring some benefits due to specialization on specific matters, some challenges arise in the relationships and coordination between veterinary and fisheries authorities.

- **Instituto Nacional de Inspecção do Pescado (INIP) –**

In order to administer and monitor the safety and quality of exported fish products, the Ministry of Fisheries established the National Fish Inspection Institute (INIP) in 2005[39].

As the competent authority INIP is responsible for the development, establishment and enforcement of the necessary legislation as regards the fisheries industry.

INIP has three laboratories in Maputo, Beira and Quelimane and has the authority to license fishing vessels and on-shore processing plants after they have undergone the necessary evaluation of their hygiene and food safety practices.

INIP is thus:

- responsible for certifying fish product quality and health and hygiene standards of the vessels and processing plants

[37] E.45
[38] E.46
[39] E.23

- the competent authority in respect of aquatic animal health and aquatic animal disease monitoring
- responsible for the development, establishment and enforcement of the necessary legislation as regards the fisheries industry
- Hosting the OIE of the Focal Point for Aquatic Animals Diseases.

Private sector organisations in the fisheries sector[40]

NGOs play a vital role in community mobilization, empowerment and implementation of projects. In Mozambique, a number of NGOs is involved in agriculture extension (including fish farming), group formation and credit provision to small-scale rural farmers.

The **Association of Shrimp Producers of Mozambique** at present represents only one of the 3 established shrimp aquaculture businesses (Aquapesca). When founded, membership was to be limited to companies licensed by authorities as industrial producers.

Legislation applicable to the Fisheries sector in Mozambique[41]

The sector's main framework instruments are

- *Fisheries Master Plan*,
- Fisheries Policy (Resolution No. 11/96)
- *Strategic Plan for the Artisanal Fishing*,
- *Strategy for the Development of Aquaculture*,
- *Fisheries Research Development Strategy*,
- *MCS Policy and the Implementation Strategy*, and the
- *National Plan to Combat Illegal, Unreported and Unregulated Fishing*

The main legal instruments are the following:

- Fisheries Act of 1990 (No. 3/1990) – under revision
- Regulations for Marine Fisheries (No 16/1996)
- *Regulation for Aquaculture, 35/*2001;
- *Regulation on Fish Inspection and Quality Control* of 2001 (under revision)
- Ministerial Decree of 23 April 2002 (Moratorium on coral and ornamental fish collection and trade)
- Marine Fisheries General Regulations (2003)
- Maritime Fisheries Decree (43/2003)
- R*esolution approving MCS policy and its implementation*, 2008,
- *Resolution approving the National Plan for prevent and combat IUU fishing*, 2009.

Maritime fishing, aquaculture, health, commerce, customs and international food safety regulations (Codex, WHO, importing markets, EU, USA and others) have been harmonized under the Regulation for Inspection and Quality Assurance of Fishery Products (RIGO) under decree 17/2001 of June 12th[42] .

The following personnel data represent the 2011 staffing (as per 1 September 2011) (no vacancies were reported).

[40] E.1
[41] E.4
[42] E.44

Table 7: Official Aquatic Animal Health Services (AAHS)[43]

	Veterinary / Professional staff		Administrative staff (non-professional)		Fisheries paraprofessionals and other Technical staff*	
	Filled posts	Vacant posts	Filled posts	Vacant posts	Filled posts	Vacant posts
National AAHS	7		1		13	
Provincial - AAHS						
Zambézia Delegation	3		3		4	
Sofala Delegation	4		2		9	
Tete Delegation	1		2		3	
Inhambane Delegation	2		3		2	
Maputo Delegation	4		3		7	
Manica Representative			1			
Niassa Representative			1			
Cabo Delegado Representative	1		1			
Nampula Delegation	2				4	
TOTAL	**24**		**17**		**42**	

Table 8: Official Aquatic Animal Health Laboratory Services (AAHLS)

	Veterinary / Professional staff		Administrative staff		Fisheries paraprofessionals and other Technical staff *		
	Filled posts	Vacant posts	Filled posts	Vacant posts	Filled posts	Vacant posts	
National AAHLS	3						
Provincial - AAHS							
Maputo Delegation	6		2		4		
Zambézia Delegation	3		3				
Sofala Delegation	1		4				
Nampula Delegation	1		1				
TOTAL	**14**		**10**		**4**		**28**

[43] E.48

II.3.C Animal disease occurrence

Information on aquatic animal disease occurrence is supplied six-monthly to the OIE WAHID database by the OIE Focal Point for Aquatic Animals, based at the INIP and the information transmitted by the *Direcção Nacional dos Servicos de Veterinaria* (DNSV) – National Directorate of Veterinary Services of the Ministry of Agriculture.

An outbreak of WSSV was reported on 22nd September 2011. Prior to that date no OIE listed aquatic diseases had been reported by Mozambique[44].

Table 9: Aquatic Animal Disease status of Mozambique[45] - Exceptional epidemiological events

Mozambique has submitted the following immediate notification to OIE in response to an epidemiologically significant event.

Summary	Report	Country	Date of Notification	Disease	Reason for Notification	Disease manifestation	Outbreaks	Date resolved
		Mozambique	**22/09/2011**	**White spot disease**	First occurrence	Clinical disease	1	Continuing

ANNUAL ANIMAL HEALTH REPORT ON THE NOTIFICATION OF THE ABSENCE OR PRESENCE OF ALL DISEASES

OIE Ref: 104841, 99032, 90286, Report Period: Jan - Dec 2010 Country: Mozambique

Report Summary

Animal type	Aquatic and terrestrial	Date of report	13/03/2011
Submitted	Yes	Report Period:	Jan - Dec 2010
Name of Sender of the report	Zacarias Elias Massicame	Address	Praça dos Heróis Moçambicanos Maputo C.P. 1406
Position	Senior Veterinarian	Telephone	(258-21) 460494
Fax	(258-21) 460479	Email	uevdinap@map.gov.mz
Entered by	Zacarias Elias Massicame		

1. Summary on OIE-listed diseases/infections present in Mozambique

Fish

Disease:	Date of last occurrence	Species	Control Measures	Routine Vaccinated
Epizootic haematopoietic necrosis (Domestic)	-	pis	* Qf M GSu Qi	
Epizootic haematopoietic necrosis (Wild)	-	pis (fau)	* Qf M GSu Qi	
Epizootic ulcerative syndrome (Domestic)	-	pis	* Qf M GSu Qi	
Epizootic ulcerative syndrome (Wild)	-	pis (fau)	* Qf M GSu Qi	
Gyrodactylosis (Gyrodactylus salaris) (Domestic and Wild)	0000			
Infectious haematopoietic necrosis (Domestic and Wild)	0000			
Infectious salmon anaemia (Domestic and Wild)	0000			
Koi herpesvirus disease (Domestic and Wild)	0000			
Red sea bream iridoviral disease (Domestic and Wild)	0000			
Spring viraemia of carp (Domestic and Wild)	0000	***	* Qf	...
Viral haemorrhagic septicaemia (Domestic and Wild)	0000	***	* Qf	...
		pis	M GSu Qi	

Molluscs

[44] E.44
[45] E.47

Disease:	Date of last occurrence	Species	Control Measures	Routine Vaccinated
Infection with abalone herpes-like virus (Domestic and Wild)	0000			
Infection with Bonamia exitiosa (Domestic and Wild)	0000			
Infection with Bonamia ostreae (Domestic and Wild)	0000			
Infection with Marteilia refringens (Domestic and Wild)	0000			
Infection with Perkinsus marinus (Domestic and Wild)	0000			
Infection with Perkinsus olseni (Domestic and Wild)	0000			
Infection with Xenohaliotis californiensis (Domestic and Wild)	0000			

Crustaceans

Disease:	Date of last occurrence	Species	Control Measures	Routine Vaccinated
Crayfish plague (Aphanomyces astaci) (Domestic and Wild)	0000			
Infectious hypodermal and haematopoietic necrosis (Domestic and Wild)	0000			
Infectious myonecrosis (Domestic and Wild)	0000			
Spherical baculovirosis (Penaeus monodon-type baculovirus) (Domestic and Wild)	0000			
Taura syndrome (Domestic and Wild)	0000			
Tetrahedral baculovirosis (Baculovirus penaei) (Domestic and Wild)	0000			
White spot disease (Domestic and Wild)	0000			
White tail disease (Domestic and Wild)	0000			
Yellow head disease (Domestic and Wild)	0000			

Amphibians

Disease:	Date of last occurrence	Species	Control Measures	Routine Vaccinated
Infection with Batrachochytrium dendrobatidis (Domestic and Wild)	0000	***	* Qf GSu	...
Infection with ranavirus (Domestic and Wild)	0000	***	* Qf GSu	...

II.4 Organisation of the evaluation

II.4.A Timetable of the mission

Appendix 3 provides a list of persons met; Appendix 4 provides the timetable of the mission and details of the facilities and locations visited by the OIE-PVS Team and Appendix 5 provides the international air travel itinerary of team members.

The Appendix 5 indicates the travel undertaken by the assessors, air travel being indicated on the map (Figure 6) below.

II.4.B Categories of sites and sampling for the evaluation

In order to prevent bias in the selection of sites to be visited, the following criteria were applied inter alia:

- zone with a province that presents a particular sanitary risk – the harbours of Maputo, Beira and Quelimane, being three of the four main shipping ports

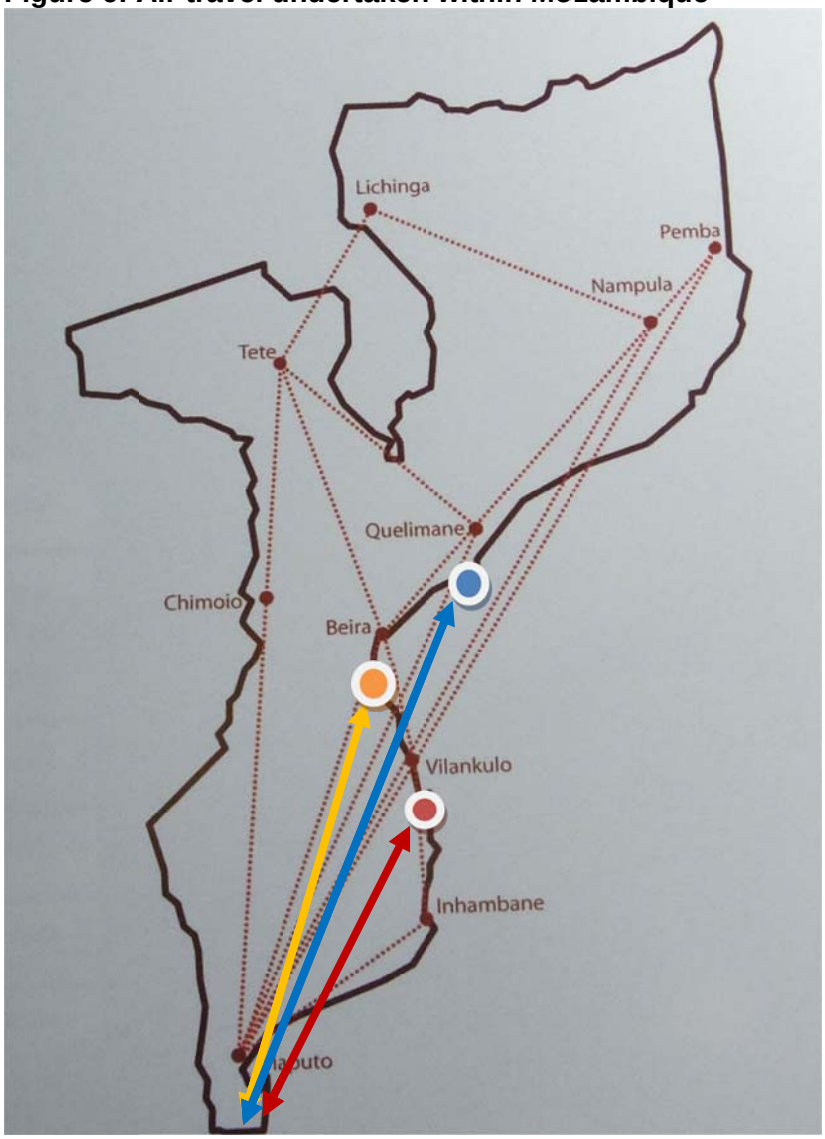
and the area of the outbreak of WSD (Sofala province)

- *major aquaculture activities in areas that have high density animal populations / major processors*.- commercial aquaculture farms in the Sofala province (Sol & Mar), Inhambane province (Marbar-Xihaba) and Zambezia province (Aquapesca)
- *particularly broad scope of activity for a local service, giving risk to a risk of personnel failing to manage all elements of their work* – artisanal fisheries in the areas of Maputo, Vilanculos, Beira and Quelimane in the provinces/districts visited;
- *different levels of fisheries production and diverse fisheries populations* – coastal subsistence and commercial aquaculture, coastal fresh water fisheries and commercial shrimp export facilities .

In order to assess epidemiological surveillance and public-private stakeholder relationships a number of visits were conducted at national fisheries laboratories, coastal and marine fisheries, brood stock aquaculture and commercial aquaculture enterprises, fisheries processing establishments and cold stores.

Appendix 4 provides a detailed list of sites visited and meetings conducted.

Figure 6: Air travel undertaken within Mozambique



BEIRA, Sofala Province 22 September

VILANKULO, Inhambane Province 23-24 September

QUELIMANE, Zambezi Province 25-27 September

PART III: RESULTS OF THE EVALUATION & GENERAL RECOMMENDATIONS

This evaluation identifies the strengths and weaknesses of the veterinary services, and makes general recommendations.

FUNDAMENTAL COMPONENTS

1.	HUMAN PHYSICAL AND FINANCIAL RESOURCES
2.	TECHNICAL AUTHORITY AND CAPABILITY
3	INTERACTION WITH STAKEHOLDERS
4.	ACCESS TO MARKETS

Veterinary services are recognised by the international community and by OIE Members as a '**global public good**'. Accordingly, it is essential that each country acknowledges the importance of the role and responsibilities of its veterinary services and gives them the human and financial resources needed to fulfil their responsibilities.

This OIE-PVS Evaluation examined each critical competency under the 4 fundamental components, listed strengths and gaps where applicable, and established a current level of advancement for each critical competency. Evidence supporting this level is listed in Appendix 6. General recommendations were provided where relevant.

The current level of advancement for each critical competency is shown in cells shadowed in grey (15%) in the table.

III.1 Fundamental component I: Human, physical and financial resources

This component of the evaluation concerns the institutional and financial sustainability of the VS as evidenced by the level of professional/technical and financial resources available and the capacity to mobilize these resources. It comprises eleven critical competencies:

Critical competencies:

Section I-1	**Professional and technical staffing of the AAHS**
	Professional staff (university qualification in veterinary science or other appropriate scientific studies)
	Technical personnel
Section I-2	**Competencies of professional and technical staff in the AAHS**
	Competencies of professionals
	Competencies of technical personnel
Section I-3	**Continuing education**
Section I-4	**Technical independence**
Section I-5	**Stability of structures and sustainability of policies**
Section I-6	**Coordination capability of the AAHS**
	Internal coordination (chain of command)
	External coordination
Section I-7	**Physical resources**
Section I-8	**Operational funding**
Section I-9	**Emergency funding**
Section I-10	**Capital investment**
Section I-11	**Management of resources and operations**

Aquatic Code Reference(s):

Points 1-7, 9 and 14 of Article 3.1.2. on Fundamental principles of quality: Professional judgement / Independence / Impartiality / Integrity / Objectivity / Aquatic animal health legislation and regulation / General organisation / Procedures and standards / Human and financial resources.

Terrestrial Code Reference(s):

Article 3.2.2. on Scope.

Points 1 and 2 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services.

Point 2 of Article 3.2.4. on Evaluation criteria for quality system: “Where the Veterinary Services undergoing evaluation… than on the resource and infrastructural components of the services”.

Article 3.2.5. on Evaluation criteria for human resources.

Points 1-3 of Article 3.2.6. on Evaluation criteria for material resources: Financial / Administrative / Technical.

Points 3 and Sub-point d) of Point 4 of Article 3.2.10. on Performance assessment and audit programmes: Compliance / In-Service training and development programme for staff.

Article 3.2.12. on Evaluation of the veterinary statutory body.

Points 1-5 and 9 of Article 3.2.14. on Organisation and structure of Veterinary Services / National information on human resources / Financial management information / Administration details / Laboratory services / Performance assessment and audit programmes.

I-1. Professional and technical staffing of the Aquatic Animal Health Services *The appropriate staffing of the AAHS to allow for professional and technical functions to be undertaken efficiently and effectively.* **A. Professional staff (university qualification in veterinary science or other appropriate scientific studies)**	Levels of advancement
	1. The majority of professional positions are not occupied by appropriately qualified personnel.
	2. The majority of professional positions are occupied by appropriately qualified personnel at central and state / provincial levels.
	3. The majority of professional positions are occupied by appropriately qualified personnel at local (field) level.
	4. There is a systematic approach to defining job descriptions and formal appointment procedures for professionals.
	5. There are effective management procedures for performance assessment of professionals.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.48, EM.9,**

Findings:

The present numbers of professional staff in the INIP are[46]

	Veterinarians		Biologists		Chemists		Animal husbandry technologists		Pharmacists	
	Insp	Lab	Insp	Lab	Insp	Lab	Insp	Lab	Insp	Lab
INIP Headquarters	6	1				1	1			
Maputo	2	3	2		1	1	2	2		2
Inhambane	2						2			
Sofala	3	2	2	2		1	2			
Zambezia	3	1		1		1		3		
Nampula	2						2			
Tete	1									
Cabo Delgado	1									
Manica										
TOTAL	20	7	4	3	1	5	9	5	0	2

In summary, the human resources of the INIP are composed of 27 Veterinarians, 7 Biologists, 6 Chemists, 14 Animal husbandry technologists and 2 Pharmasists.

The Team visited all three LIPs and also has discussions with four of the six Provincial delegations of INIP. Personnel records indicated a few staff vacancies and, professional positions are held by appropriately qualified personnel.

A relatively high number of veterinarians are employed, all having graduated from UEM Veterinary faculty in Maputo. In-service training on issues of AAH are offered and personnel is encouraged to enrol for post-graduate training courses.

Due to the high unemployment rate amongst the veterinary profession, the filling of vacancies poses no problem.

The Team was informed that INIP personnel do not have specific job descriptions.

Strengths:

The majority of professional positions are occupied by appropriately qualified personnel at central and provincial levels. Local government level is not applicable.

[46] EM.921

I-1. Professional and technical staffing of the Aquatic Animal Health Services Services *The appropriate staffing of the AAHS to allow for veterinary and technical functions to be undertaken efficiently and effectively.* **B. Technical personnel**	**Levels of advancement**
	1. The majority of technical positions are not occupied by personnel holding technical qualifications.
	2. The majority of technical positions at central and state / provincial levels are occupied by personnel holding technical qualifications.
	3. The majority of technical positions at local (field) levels are occupied by personnel holding technical qualifications.
	4. The majority of technical positions are effectively supervised on a regular basis.
	5. There are effective management procedures for formal appointment and performance assessment of veterinary para-professionals.

Terrestrial and Aquatic Code reference(s): Annexe 1

Findings:

Medical technologists are trained at the Veterinary Faculty Maputo in disciplines of Food Hygiene. Their employment is mainly by the aquatic food health sector, eg. the prawn export establishment.

In 2005, when INIP came into being, the initially recruited veterinarians underwent a 45-days training course in aquatic related subjects.

The Team was informed that veterinarians are functioning at a technical level and not in a veterinary professional capacity.

Strengths:

The majority of technical positions at central and state / provincial levels are occupied by personnel holding technical qualifications. Local government level is not applicable

I-2. Competencies of professional and technical personnel *The capability of the AAHS to efficiently carry out their professional and technical functions; measured by the qualifications of the personnel in professional and technical positions47.* **A. Competencies of professionals**	**Levels of advancement**
	1. The practices, knowledge and attitudes of professionals are of a variable standard that usually allow for elementary clinical and administrative activities of the AAHS.
	2. The practices, knowledge and attitudes of professionals are of a uniform standard that usually allow for accurate and appropriate clinical and administrative activities of the AAHS.
	3. The practices, knowledge and attitudes of professionals usually allow undertaking all professional/technical activities of the AAHS (e.g. epidemiological surveillance, early warning, public health, etc.).
	4. The practices, knowledge and attitudes of professionals are such as to usually allow undertaking specialized activities as may be needed by the AAHS.
	5. The practices, knowledge and attitudes of professionals are subject to regular updating, international harmonisation or evaluation.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.1, E.23, E.44, E.54, EM.1**

Findings:

The Team noted with concern, that there is no professional competency with respect to aquatic animal health in general and aquatic animal diseases and diagnostics in particular.

The competency level, however, as far as veterinary public health, food safety and the general implementation of food hygiene measures such as HACCP is high.

There are currently no facilities for aquaculture research in the country. Research is limited to resource surveys and environmental studies with the support of outside laboratories. There are no institutions teaching aquaculture subjects at higher level in Mozambique.

A project[48] (2009-2012) provides technical assistance located within the Shrimp Producers Association (Associação dos Productores de Camarão de Moçambique - APCM) which will work closely with the various public institutions such as the National Institute for Aquaculture Development (Instituto Nacional de Desenvolvimemento da Aquacultura – INAQUA) and the National Institute for Fishery Products Control (Instituto de Controle dos Produtos de Pesca– INIP). Special attention is paid to the strengthening of INIP capacities, as the Competent Authority (CA) for fishery products' exports to the European Union. Through an operator contract, APCM will be delegated the implementation of private sector-related activities. INIP will be responsible for its own activities.

In 2008 at an OIE Seminar for the aquatic sector[49], Mozambique reported limited expertise in the fisheries sector with availability of only 22 veterinary graduates, 17 medium level veterinary personnel, 4 graduate biologists and 10 graduate chemists.

In 2010 INIP employed 133 staff including 45 inspectors, 24 lab technicians, and 64 in support areas. Distribution according to qualifications is the following: 46 third tier education level technicians, 54 second tier education level technicians and 33 basic-level technicians[50].

Strengths:

- The practices, knowledge and attitudes of professionals are of a uniform standard that usually allow for accurate and appropriate veterinary public health and administrative activities of INIP.

Weaknesses:

[48] E.54
[48] E.54
[49] E.44
[50] EM.1

- The lack of professional competency with respect to aquatic animal health in general and aquatic animal diseases and diagnostics in particular.

B. Competencies of technical personnel	Levels of advancement
	1. The majority of technical personnel have no formal entry-level training.
	2. The training of technical personnel is of a very variable standard and allows the development of only limited aquatic animal health competencies.
	3. The training of technical personnel is of a uniform standard that allows the development of only basic aquatic animal health competencies.
	4. The training of technical personnel is of a uniform standard that allows the development of some specialist aquatic animal health competencies (e.g. food safety inspection of fish).
	5. The training of technical personnel is of a uniform standard and is subject to regular evaluation and/or updating.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **EM.1,**

Findings:

A relevant activity undertaken in 2010 was the training of staff in various fields, both technical and administrative, to enhance knowledge and, consequently, improve performance. The following short-term courses took place in 2010 and were attended by technicians from all over the country[51]:

- HACCP pre-requisites – Infrastructure and equipment in the industry of fisheries products (34 technicians from INIP, School of Fisheries (SF) and Fisheries Promotion Fund (FPF);
- HACCP applied to fisheries products – Advanced level I for inspectors (14 technicians);
- HACCP applied to fisheries products – Advanced level I for the industry (16 technicians);
- HACCP applied to fisheries products – Advanced level II (29 technicians);
- Statistical sampling – Inspectors and other laboratory technicians (27 technicians)
- Quality Management in laboratories (2 technicians);
- Human Resources Management (14 technicians);
- Training on-board the Spanish school ship INTERMARES on safety, fisheries, processing and mechanics (6 technicians);
- Asset and Financial Management (12 technicians);
- Secretariat (1 staff member);
- English language (31 staff members).

Concerning training in English language, the goal is that every staff member enrolled in 2010 achieves the highest grade provided by the Language Institute.

The Team visited the Escola de Pesca – Fisheries School (EP) which started a formal 3-year Aquaculture Course in 2010. Total course enrolment is 27 persons and the training is at the level of "medical technician" and aims to address the needs for competencies in the aquaculture sector. As AAD have until now been believed not to occur in Mozambique, a module in AAD was excluded in the beginning. However, now this has been added within the 3rd year as a 96-hour module (2012). No new such courses have been started due to infrastructural constraints.

Strengths:

- The training of technical personnel is of a uniform standard that allows the development of some specialist aquatic competencies in veterinary public health in general and food safety and quality inspection of fish in particular.

Weaknesses:

- Lack of basic competencies with regard to AAH.

[51] EM.1

I-3. Continuing education (CE)[52] *The capability of the AAHS to maintain and improve the competence of their personnel in terms of relevant information and understanding; measured in terms of the implementation of a relevant training programme.*	Levels of advancement
	1. The AAHS have no access to continuing veterinary, professional or technical CE.
	2. The AAHS have access to CE (internal and/or external programmes) on an irregular basis but it does not take into account needs, or new information or understanding.
	3. The AAHS have access to CE that is reviewed annually and updated as necessary, but it is implemented only for some categories of the relevant personnel.
	4. The AAHS have access to CE that is reviewed annually and updated as necessary, and it is implemented for all categories of the relevant personnel.
	5. The AAHS have up-to-date CE that is implemented for all relevant personnel and is submitted to periodic evaluation of effectiveness.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **EM.1, EM.3**

Findings:

INIP is committed to staff training and provided the Team with abundant evidence of recent short term training courses including the following in recent years[53]:

1.	HACCP (Maputo, Beira and Canada, 1999,2002,2005, 2007)
2.	HACCP – FDA (Maputo, Beira, 2007, 2010)
3.	Traceability (Maputo, Sofala, Zambézia, Inhambane e Nampula, 2009)
4.	ISO 17025 management Systems for the laboratory (USA, 2009)
5.	Rapid alert for food and Feed (RASFF), (RSA, 2009)
6.	Análises de Cádmio e Chumbo no pescado (2009)
7.	Quality system in Laboratory (ISO 17025) and analytic methods - Heavy metals (Portugal, 2010)
8.	Statistic Sampling (Maputo, 2010)
9.	ISO/IEC 17025 and laboratory Accreditation (Maputo, 2010)
10.	Quality control f the analytical results. Uncertainty estimations and validation of the analytical methods for chemical analysis. (Maputo, 2010)
11.	Technology of management and fish processing (Maputo, 2009)
12.	International Trade and Marketing requirements (Maputo, 2009)
13.	Basic safety on board, Art of fishing and conservation and processing techniques for fish and fishery (Maputo, 2010)
14.	OIE World Animal Health Information System (Malawi, 2009)
15.	Training on analytical skill for residue control (2010, Germany – Idesterin)

The Team was provided with excellent documentation[54] outlining all of the courses taken by each of the staff members at Maputo headquarters as well as at each of the provinces with INIP staff. All of the staff have taken advantage of many courses over the past several years, all of which would appear to be directly applicable to the work that is required of them.

The Team was informed that at a training workshop conducted during April 2011 at Beira regarding aquatic issues, one day was allocated to information on aquatic diseases.

The Team took note that 2 veterinarians of the Pathology department of the Veterinary faculty (UEM) attended a 1 week training course in prawn disease pathology at the OIE Reference

[53] EM.1 & 3
[53] EM.1 & 3
[54] EM.3

Laboratory for Aquaculture Pathology .at the University of Arizona, USA. One of these veterinarians is now retired.

In addition the Team was informed of the participation by LIP staff in a 4-day conference and a workshop on Biosecurity during August 2011 in Norway.

Strengths:

- CE courses encompass a broad subject width and their availability to personnel throughout the country.

Weaknesses:

- Very limited training in aquatic animal health and disease diagnostics.

I-4. Technical independence *The capability of the AAHS to carry out their duties with autonomy and free from commercial, financial, hierarchical and political influences that may affect technical decisions in a manner contrary to the provisions of the OIE (and of the WTO SPS Agreement where applicable).*	Levels of advancement
	1. The technical decisions made by the AAHS are generally not based on scientific considerations.
	2. The technical decisions take into account the scientific evidence, but are routinely modified to conform to non-scientific considerations.
	3. The technical decisions are based on scientific evidence but are subject to review and possible modification based on non-scientific considerations.
	4. The technical decisions are based only on scientific evidence and are not changed to meet non-scientific considerations.
	5. The technical decisions are made and implemented in full accordance with the country's OIE obligations (and with the country's WTO SPS Agreement obligations where applicable).

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.31**

Findings:

The Directors of the five specialized agencies, including INIP, have direct access to the Minister of Fisheries as far as policy implementation is concerned.

According to information provided, the Minister does not influence technical decisions within the broad policy framework; however, non-scientific considerations may influence technical decisions. Non-scientific considerations encompass changes that could result from conflicting priorities arising from policy objectives such as poverty reduction, expansion of the aquaculture sector and enhancing opportunities for small holder fishermen, in general, within the fisheries economy.

The Team received no evidence during the Mission concerning Ministerial interventions to modify technical decisions made.

I-5. Stability of structures and sustainability of policies *The capability of the AAHS structure and/or leadership to implement and sustain policies over time.*	Levels of advancement
	1. Substantial changes to the organisational structure and/or leadership of the public sector of the AAHS frequently occur (e.g. annually) resulting in lack of sustainability of policies.
	2. The organisational structure and/or leadership of the public sector of the AAHS is substantially changed each time there is a change in the political leadership and this has negative effects on sustainability of policies.
	3. Significant changes to the organisational structure and/or leadership of the public sector of the AAHS occur rarely, but this stability does not have a positive impact on the sustainability of policies.
	4. Some changes occur in the organisational structure and/or leadership of the public sector of the AAHS following a change in the political leadership, but these have little or no negative effect on sustainability of policies.
	5. The organisational structure and leadership of the public sector of the AAHS are generally stable. Modifications are based on an evaluation process, with positive effect on the sustainability of policies.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence (references of documents or pictures listed in Appendix 6):

Findings:

INIP was established in 2005 as an autonomous specialized government agency, directly reporting to the Minister of Fisheries.

The Team was informed during numerous discussions that changes in political leadership have little or no negative effect on sustainability of policies, as the present administrative organisation within the MoF has been stable for the past number of years and aquacukture regulations being sustainably implemented since 2001 (Reg.35 of 2001).

The six INIP Provincial representatives (delegations) are not subordinate to the Provincial Governor in respect of their technical functions and their execution (cf next CC : effective chain of command). Administrative and financial actions such as personnel administration, budget and financial issues (including salaries), however, are the responsibility of the provincial administration.

I-6. Coordination capability of the VS **A. Internal coordination (chain of command)** *The capability of the AAHS to coordinate its resources and activities (public and private sectors) with a clear chain of command, from the central level (eg the Principle Inspector of Fisheries), to the field level in order to implement all national activities relevant for OIE Codes (i.e. surveillance, disease control and eradication, food safety and early detection and rapid response programs).*	Levels of advancement
	1. There is no formal internal coordination and the chain of command is not clear.
	2. There are internal coordination mechanisms for some activities but the chain of command is not clear.
	3. There are internal coordination mechanisms and a clear and effective chain of command for some activities.
	4. There are internal coordination mechanisms and a clear and effective chain of command at the national level for most activities.
	5. There are internal coordination mechanisms and a clear and effective chain of command for all activities and these are periodically reviewed/audited and updated.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **EM.2,**

Findings:

The Team verified the existence and implementation of good and appropriate internal coordination mechanisms and a clear and effective chain of command at the national level for most activities which is extended effectively to the provincial level.

The Quality System in all LIPs is coordinated by a Quality Manager at INIP Maputo.

The sanitary and licensing considerations are harmonized between the INIP and its Provincial Delegations.

Coordination of available human resources was demonstrated to the Team by the temporary secondment of staff to meet peak demands during licensing activities at the beginning of each year.

The activities implemented consist solely of regulatory actions such as the licensing of fishing vessels, processing plants for aquatic animals etc as well food hygiene and safety with a clear chain of command.

Strengths:

- Clear and effective chain of command
- The organogramme presented page 26 of this report illustrates the direct chain of command between INIP and the MoF.

B. External coordination	Levels of advancement
The capability of the AAHS to coordinate its resources and activities (public and private sectors) at all levels with other relevant authorities as appropriate, in order to implement all national activities relevant for OIE Codes (i.e. surveillance, disease control and eradication, food safety and early detection and rapid response programs). Relevant authorities include other ministries and competent authorities, national agencies and decentralised institutions.	1. There is no external coordination.
	2. There are informal external coordination mechanisms for some activities, but the procedures are not clear and/or external coordination occurs irregularly.
	3. There are formal external coordination mechanisms with clearly described procedures or agreements for some activities and/or sectors.
	4. There are formal external coordination mechanisms with clearly described procedures or agreements at the national level for most activities, and these are uniformly implemented throughout the country.
	5. There are national external coordination mechanisms for all activities and these are periodically reviewed and updated.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **EM.1, EM.12**

Findings:

INIP is one of the five specialized institutions within the MoF. As INIP is recognized by international trading partners for aquatic animal products as the **competent authority** (CA), coordination with the other MoF institutions seems to be a necessity.

The Team was informed that quarterly meetings between the specialized institutions take place, however no minutes or agendas of such meetings were available to the Team.

Aquatic animal health issues are neither addressed nor coordinated between the various MoF institutions.

Apart from the "in-house" institutions of the MoF, the Ministry of Environment is an important counterpart for INIP, as this ministry is charged with undertaking environmental impact assessments prior to approval of fisheries processing establishments by INIP.

During a visit to the Biotechnology laboratory of the veterinary faculty of the UEM, as well as to the Central Veterinary Laboratory (CVL) of IIAM, it was evident to the Team, that very few, if any at all, coordination mechanisms are in place between these laboratories and to INIP.

The Team noted that INIP was not at all aware of aquatic disease pathology diagnostics nor PCR examinations on prawn viral diseases having been carried out for the private prawn fisheries sector in recent years.

There exists a multitude of other provincial and district government bodies, NGO.s and small holder, artisanal fishery people, all of which are active in the fisheries sector.

Informal external coordination mechanisms between staff of the specialized MoF agencies are based on personal contacts and have some, probably very limited, influence on the professional activities of these public sector agencies.

The Team noted no coordination with producers associations nor the fisheries industry.

Weaknesses:

- The Team identified the virtual total absence of coordination and collaboration with other specialized agencies of the MoF as a major constraint to the aquatic animal health sector.
- Similarly no coordination was evident between the veterinary faculty of the University (UEM) of Maputo and the CVL
- INIP personnel were not aware of the diagnostic PCR activities regarding aquatic animal diseases of the Biotechnology Laboratory, as well as the histopathology performed by the Pathology department (UEM).

Recommendations

- A coordination mechanism should be implemented as a matter of high priority to address the deficiencies in coordination between the specialized institutions of the MoF.
- A focussed coordination mechanism should be developed and implemented to coordinate all relevant aquatic animal health issues with external stakeholders.

I-7. Physical resources *The access of the AAHS to relevant physical resources including buildings, transport telecommunications, cold chain, and other relevant equipment (e.g. computers).*	Levels of advancement
	1. The AAHS have no or unsuitable physical resources at almost all levels, and maintenance of existing infrastructure is poor or non-existent.
	2. The AAHS have suitable physical resources at national (central) level and at some regional levels, and maintenance and replacement of obsolete items occurs only occasionally.
	3. The AAHS have suitable physical resources at national, regional and some local levels and maintenance and replacement of obsolete items occurs only occasionally.
	4. The AAHS have suitable physical resources at all levels and these are regularly maintained.
	5. The AAHS have suitable physical resources at all levels (national, sub-national and local levels) and these are regularly maintained and updated as more advanced and sophisticated items become available.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.23, EM.1**

Findings:

In 2007 INIP purchased motorcycles for the inspectors in the provinces and computers and laboratory equipment for the Maputo and provincial laboratories.

These additions allowed INIP to expand its geographical presence to the rest of Mozambique to ensure the availability of services to the other provinces and the traceability of fish originating in areas removed from urban areas[55].

The Team noted that, in general, physical resources such as vehicles, motor bikes, telecommunication, office and laboratory equipment were sufficient for the duties performed. The apparent relative ease of access to donor funding is the basis.

All INIP building infrastructures visited by the Team were well maintained or in the process of being upgraded or expanded.

Information provided by INIP[56] highlighted the activities of the IT (Information Technology) department in 2010 when the IT division undertook preventive, corrective and adaptive maintenance of the IT system at the headquarters and delegations, and carried out the following relevant activities:

- Purchased IT equipment in view of the database centralisation process;
- Installed the licensing and certification database in the provinces of Sofala, Zambézia and Tete; - all provinces except Niassa, Gaza, Cabo Delgado and Manica
- Assessed the compilation of data for the database of health licensing and certification;
- Introduced the use of "*Skype"*, the internet-based free communication software, in both Headquarters and each Provincial Delegation.

The Team was informed that the procured IT equipment is not operational, due to the appropriate software not having been provided. Evidence for this was presented to the Team at Quelimane were the hardware (PCs & printer) of the ICEIDA data system were in place but no data programme (software) and set-up of technical solutions.

The INIP 2010 annual report also indicates that there were plans to build INIP Delegation facilities in Tete, to rehabilitate the Vilanculos facilities, to rehabilitate facilities in the city of Inhambane, to expand the Nacala facilities, and to endow provincial delegations with furniture and various pieces of equipment. Neither of these activities took place due to constraints of a financial nature.

[55] E.23
[56] EM.1

Concerning the Tete building, there were funds available to pay for the topographic layout and the architectural plan through the fund coded as MDP/0012/96-RC, which also paid for the two vehicles planned in the National budget.

In 2010, responding to a request from INIP, funds were made available to expand the Fish Inspection Laboratory of Maputo.

Through the French Development Agency INIP obtained funds which were used to acquire reagents in the domestic and international markets, to meet costs associated to lab tests made abroad and attendance to the workshops of the World Organisation for Animal Health (OIE) and CODEX Alimentarius (registration fees, allowances, airfares and travel insurance).

I-8. Operational Funding *The ability of the AAHS to access financial resources adequate for their continued operations, independent of political pressure.*	Levels of advancement
	1. Funding for the AAHS is neither stable nor clearly defined but depends on resources allocated irregularly.
	2. Funding for the AAHS is clearly defined and regular, but is inadequate for their required base operations (i.e. disease surveillance, early detection and rapid response and veterinary public health).
	3. Funding for the AAHS is clearly defined and regular, and is adequate for their base operations, but there is no provision for new or expanded operations.
	4. Funding for new or expanded operations is on a case-by-case basis, not always based on risk analysis and/or cost benefit analysis.
	5. Funding for all aspects of AAHS activities is adequate; all funding is provided under full transparency and allows for full technical independence, based on risk analysis and/or cost benefit analysis.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **EM.3, EM.4**

Findings:

Mozambique receives substantial contributions of donor aid each year, the principal donor organizations being active in Mozambique include the European Union, World Bank, DANIDA, DFID, UNDP, Sweden, The Netherlands, Norway, Iceland and USAID.

Mozambique is highly dependent on international assistance and the EU (European Commission and member States). Accounting for approx. 70% of development assistance to Mozambique, the EU (European Commission and Member States) is one of the major players among donors. The EU, in close coordination with the other donors, is seeking to ensure that assistance promotes sustainable development and generates long term benefits.

For INIP about 45 % of the budget (excluding salaries) are supported by external donations.

2010 INIP Budget [57]

	Including salaries	%		Excluding salaries	%
INIP revenue	**9.514.424,00**	**24,4**		**9.357.644,47**	**35,9**
National budget	17.027.800,00	43,8		4.342.300,00	16,7
United Kingdom	3.456.965,40	8,9		3.456.965,40	13,3
France	1.153.058,96	3,0		1.153.058,96	4,4
Norway and Iceland	7.764.265,87	20,0		7.764.265,87	29,8
	38.916.514,23	100		**26.074.234,70**	100,00

It must be noted that there are no funds allocated to support an aquatic animal health service (disease detection, surveillance, emergency response activities, diagnostics etc). This is a major deficit as aquatic animal diseases are one of the major constraints to a prosperous development of aquaculture worldwide.

Veterinary public health regulatory requirements (licensing, inspection etc) are adequately funded.

[57] EM.4

It is an express policy of the Mozambique Government to reduce public expenditure, thus INIP, and for that matter all government bodies, are subjected to ongoing budgetary reductions.

Income from own (INIP) sources relates to licensing, inspection and other fees charged for services to the private sector. However, the Team was informed that the fee structure has not been adjusted since 2004, resulting in an extensive under-recovery of costs.

Strengths:

- Funding of the veterinary public health sector in INIP is adequate

Weaknesses:

- There are no funds allocated to services within aquatic animal health

I-9. Emergency funding	Levels of advancement
The capability of the AAHS to access extraordinary financial resources in order to respond to emergency situations or emerging issues; measured by the ease of which contingency and compensatory funding (i.e. arrangements for compensation of producers in emergency situations) can be made available when required.	1. No contingency and compensatory funding arrangements exist and there is no provision for emergency financial resources.
	2. Contingency and compensatory funding arrangements with limited resources have been established, but these are inadequate for expected emergency situations (including emerging issues).
	3. Contingency and compensatory funding arrangements with limited resources have been established; additional resources for emergencies may be approved but approval is through a political process.
	4. Contingency and compensatory funding arrangements with adequate resources have been established, but in an emergency situation, their operation must be agreed through a non-political process on a case-by-case basis.
	5. Contingency and compensatory funding arrangements with adequate resources have been established and their rules of operation documented and agreed with stakeholders.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **EM.1**

Findings:

The diagnosis of White Spot Disease in September 2011 in prawns resulted in the total destruction of the population without compensation. There is no specific budgetary allocation for such emergency aquatic animal disease events but, through direct intervention by the Minister of Fisheries, other budget funds can be re-allocated. Funds may also be re-allocated from an NGO project (e.g. French development project for aquaculture).

Although no specific fund may exist, the Team is under the impression that there may be funding available for contingency activity within the INIP to cope with extraordinary activities such as the WSD outbreak.

Weaknesses:

- The regulatory inability to access extraordinary financial resources in order to respond to emergency situations or emerging issues, with no arrangements for compensation of producers in emergency situations being in place.

I-10. Capital investment *The capability of the AAHS to access funding for basic and additional investments (material and non material) that lead to a sustained improvement in the AAHS operational infrastructure.*	Levels of advancement
	1. There is no capability to establish, maintain or improve the operational infrastructure of the AAHS.
	2. The AAHS occasionally develops proposals and secures funding for the establishment, maintenance or improvement of operational infrastructure but this is normally through extraordinary allocations.
	3. The AAHS regularly secures funding for maintenance and improvements of operational infrastructure, through allocations from the national budget or from other sources, but there are constraints on the use of these allocations.
	4. The AAHS routinely secures adequate funding for the necessary maintenance and improvement in operational infrastructure.
	5. The AAHS systematically secures adequate funding for the necessary improvements in operational infrastructure, including with participation from stakeholders as required.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence (references of documents or pictures listed in Appendix 6):

Findings:

The basic infrastructure including buildings, offices, and laboratories are well maintained and much of the funding for this comes through donor agencies. Similarly, the three main laboratories are well-equipped and the team noted that much of this equipment had also been secured through outside aid agencies.

A budget shortfall in 2010 meant that the planned purchase of a vehicle for INIPs Headquarters was not bought due to cuts in the earmarked revenue for INIP. Plans to build Delegation facilities in Tete; to renovate the facilities in Vilanculos and Inhambane; to expand the Nacala facilities; and to endow provincial delegations with furniture and various pieces of equipment did not materialize due to financial constraints.

I-11. Management of resources and operations *The capability of the AAHS to document and manage their resources and operations in order to analyze, plan and improve both efficiency and effectiveness.*	Levels of advancement
	1. The AAHS have some records or documented procedures, but these do not provide for adequate management of resources and operations.
	2. The AAHS routinely use records and/or documented procedures in the management of resources and some operations, but these do not provide for adequate management, analysis, control or planning.
	3. The AAHS have comprehensive records, documentation and management systems and they regularly use records and documented procedures in the management of resources and operations, providing for the control of effectiveness and the conduct of analysis and planning.
	4. The AAHS have adequate management skills, including the capacity to analyse and improve efficiency and effectiveness.
	5. The AAHS have fully effective management systems, which are regularly audited and permit a proactive continuous improvement of efficiency and effectiveness.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.46, EM.1, EM.3, EM.12**

Findings:

All INIP offices have presented to the Team documentation and records, as requested, demonstrating a great ability to manage their resources and operations. Staff members have also provided evidence of annual audits which occasionally have even occurred twice annually.

As noted in I-7, ICT equipment provided under an ICEIDA project would greatly improve efficiency and effectiveness, which, however, due to lack of to be-provided data management software, cannot be implemented. As there is no imminent prospect for the finalisation of this data base project, the hardware components could be re-allocated to other areas, as required.

Annual audits are carried out by INIP Head Office personnel at all Provincial INIP delegations and LIPs.

Asset registers are kept and all assets provided with code identification.

Strengths:

- Comprehensive records, documentation and management systems and the regular use of records and documented procedures in the management of resources and operations, provide for the control and effectiveness of operations.

Weaknesses:

- There is a large amount of data collected by each INIP office but there is no information management system to assist managing this data

Recommendations

- Implement an effective, user-friendly information management system to manage the vast amounts of data generated at central and provincial INIP levels, by installing the necessary software in the new, to date unused, hardware obtained under the ICEIDA project.

III.2 Fundamental component II: Technical authority and capability

This component of the evaluation concerns the authority and capability of the VS to develop and apply sanitary measures and science-based procedures supporting those measures. It comprises thirteen critical competencies

Critical competencies:

Section II-1	**Laboratory diagnosis**
Section II-2	**Laboratory quality assurance**
Section II-3	**Risk analysis**
Section II-4	**Quarantine and border security**
Section II-5	**Epidemiological surveillance**
	A. Passive Epidemiological surveillance
	B. Active Epidemiological surveillance
Section II-6	**Early detection and emergency response**
Section II-7	**Disease prevention, control and eradication**
Section II-8	**Food safety: Inspection of collection, processing and distribution of products of animal origin**
Section II-9	**Veterinary medicines and biologicals**
Section II-10	**Residue testing**
Section II-11	**Emerging issues**
Section II-12	**Technical innovation**
Section II-13	**Identification and traceability of aquatic animals and their products**
Section II-14	**Aquatic animal welfare**

Aquatic Code Reference(s):

Chapter 2.2. on Import risk analysis.

Points 6, 7, and 9 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / General Organisation / Procedures and standards.

Chapters 6.2. Introduction to the recommendations for controlling antimicrobial resistance.

Chapter 7.1. Introduction to the recommendations for the welfare of farmed fish.

Chapter 7.2. Welfare of farmed fish during transport.

Chapter 7.3. Welfare aspects of stunning and killing of farmed fish for human consumption.

Terrestrial Code Reference(s):

Point 1 of Article 3.2.4. on Evaluation criteria for quality systems.

Point 3 of Article 3.2.6. on Evaluation criteria for material resources: Technical.

Points 1 and 2 of Article 3.2.7. on Legislation and functional capabilities: Animal health, animal welfare and veterinary public health / Export/import inspection.

Points 1-3 of Article 3.2.8. on Animal health controls: Animal health status / Animal health control / National animal disease reporting systems.

Points 1-5 of Article 3.2.9. on Veterinary public health controls: Food hygiene / Zoonoses / Chemical residue testing programmes / Veterinary medicines/ Integration between animal health controls and veterinary public health.

Sub-point f) of Point 4 of Article 3.2.10. on Veterinary Services administration: Formal linkages with sources of independent scientific expertise.

Points 2 and 5-7 of Article 3.2.14. on National information on human resources / Laboratory services / Veterinary legislation, regulations and functional capabilities / Animal health and veterinary public health controls.

Chapter 4.1. on General principles on identification and traceability of live animals.

Chapter 4.2. on Design and implementation of identification systems to achieve animal traceability.

Chapter 6.2. on Control of biological hazards of animal health and public health importance through ante- and post-mortem meat inspection.

Chapters 6.6. to 6.10. on Antimicrobial resistance.

Chapter 7.6. Killing of animals for disease control purposes.

II-1. Laboratory diagnosis *The authority and capability of the AAHS to identify and record pathogenic agents, including those relevant for public health that can adversely affect aquatic animals and aquatic animal products.*	Levels of advancement
	1. Disease diagnosis is almost always conducted by clinical means only, with laboratory diagnostic capability being generally unavailable.
	2. For major zoonoses and diseases of national economic importance, the AAHS have access to and use a laboratory to obtain a correct diagnosis.
	3. For other zoonoses and diseases present in the country, the AAHS have access to and use a laboratory to obtain a correct diagnosis.
	4. For diseases of zoonotic or economic importance not present in the country, but known to exist in the region and/ or that could enter the country, the AAHS have access to and use a laboratory to obtain a correct diagnosis.
	5. In the case of new and emerging diseases in the region or world, the AAHS have access to and use a network of national or international reference laboratories (e.g. an OIE Reference Laboratory) to obtain a correct diagnosis.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.42, E.44, EM.3**

Findings:

Mozambique does not have any accredited laboratories for the diagnosis of aquatic animal diseases.

INIP has 3 veterinary public health laboratories under its mandate (Fish Inspection laboratories – LIP). At INIP central level the laboratory department is subordinated to INIP headquarters whereas at local and regional level it is subordinated to INIP Provincial Delegations.

The tasks to be performed by INIPs LIPs[58] include:

- To perform laboratory analyses on the quality of fish, aquaculture products and by-products;
- To elaborate and update the Laboratory Quality Manual;
- To acquire equipments, materials and reagents and control the stock;
- To compile and systematize the data on laboratory analyses performed;
- To keep records of information regarding laboratories;
- Supervise laboratory activities

The laboratories for Fish Inspection (LIP's) are capable of performing **the following analyses:**

- Fishery products:
  - **sensorial** (determination of freshness, parasites verification of labeling, weight and packaging);
  - **chemical** (determination of sulphites, Volatile Bases, pH, and heavy metals : include mercury, cadmium and lead).
  - **microbiologic** analyses (determination of bacteria indicators of level of hygiene (total number, *E.coli*), and Salmonella sp., Vibrio sp., Pseudomonas sp. and others;
- Water:
  - Determination of microbes. The installation of equipment for chemical determination of water is underway. Temporarily the Competent Authority uses South African Laboratories for the performance of chemical analyses.

Inter laboratory exchange of information

The LIPs have a working relationship with laboratories of the Ministry of Health for inter-laboratory control of chemical analyses. In the Southern Africa region (Southern Africa

[58] EM.3

Development Community-SADC) the existing partnership relates to heavy metals and water analysis.

For analysis of residues of veterinary drugs and environmental contaminants, INIP subcontracted some accredited laboratories and also uses European Union reference laboratories.

The laboratory system is entirely concentrated on veterinary public health efforts with no aquatic animal disease diagnostic system in place. There are no accredited laboratories for the analysis of aquatic animal diseases.

The absence of laboratory capability to support the monitoring and tracing of reportable diseases, and the limited number of technicians; as well as budgetary limitations, place constraints on development of diagnostic technical services.

Constructing, upgrading and equipping the 3 INIP laboratories was undertaken by funds provide by the Iceland Development Agency[59]. An extension to the INIP Maputo laboratory is underway.

The three INIP laboratories (Maputo, Beira and Quelimane) are well equipped and provide laboratory support related to veterinary public health, as prescribed by INIP. This support, however, relates only to aquatic products for human consumption that are destined for the international and national market.

The Maputo INIP Laboratory serves as central procurement office for all INIP laboratories. Although the Biotechnology Laboratory of the Faculty of Veterinary Medicine of UEM is equipped with molecular diagnostic equipment and able to provide several PCR tests, none of these tests have been validated.

Strengths:

- Modern and well equipped veterinary public health laboratories at the three strategic fishing ports of Maputo, Beira and Quelimane.
- Laboratory staff are familiar with analytic testing protocols and adhere to a quality system and have been doing proficiency testing at all 3 LIPs.

Weaknesses:

- Absence of diagnostic capacity for aquatic animal disease testing such as bacteriology, pathology, virology, serology, PCR etc.
- Although the staff is familiar with testing for specific agents, they have not been trained in diagnostic testing protocols.
- There is limited expertise in producing histopathology slides (no quality control); and no capability for interpretation.

Recommendations

- It is recommended that the institution at the MoF, to be charged with aquatic animal health responsibilities, develops a strategic plan for aquatic animal disease diagnostics including a diagnostic reference laboratory incorporating a Quality System.
- The proposed AAH diagnostic capacity could be established at the existing 3 INIP LIP veterinary public health laboratories (Maputo, Beira and Quelimane), to optimize available laboratory human and physical resources.

[59] E.42

II-2. Laboratory quality assurance *The quality of laboratories (that conduct diagnostic testing or analysis for chemical residues, antimicrobial residues, toxins, or tests for, biological efficacy, etc.) as measured by the use of formal QA systems and participation in relevant proficiency testing programmes.*	Levels of advancement
	1. No laboratories used by the public sector AAHS are using formal QA systems.
	2. Some laboratories used by the public sector AAHS are using formal QA systems.
	3. All laboratories used by the public sector AAHS are using formal QA systems.
	4. All the laboratories used by the public sector AAHS and most or all private laboratories are using formal QA systems.
	5. All the laboratories used by the public sector AAHS and most or all private laboratories are using formal QA programmes that meet OIE, ISO 17025, or equivalent QA standard guidelines.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.33, EM.3**

Findings:

The country does not have any accredited laboratories for the diagnosis of aquatic animal diseases.

The LIPs (Maputo, Beira & Quelimane) are very specialized in public health efforts and have a formal Quality System in place which is overseen by a Quality Manager. Test documentation, QA protocols, and laboratory biosecurity have all been implemented.

The Team verified the implementation of a proficiency testing system at all 3 LIPs in collaboration with the Swedish *Statens Livsmedelverk* organisation

None of the LIPs are capable of assisting in the diagnosis of aquatic animal diseases.

The Team noted that the LIP Maputo was one of five laboratories in Mozambique that will receive financial support from the United nations industrial development organization (UNIDO)[60] to achieve international recognition of its testing or calibration services from an internationally recognized accreditation body. ISO 17025 accreditation is sought at the LIP Maputo for the analysis sulphide bititration.

Strengths:

- A formal QA System has been established at the Maputo, Beira and Quelimane lLIP laboratories
- The three LIP laboratories participate in formal proficiency testing (Sweden)

Weaknesses:

- There is neither capability nor capacity to provide diagnostic support for aquatic animal diseases

[60] E.33

II-3. Risk analysis *The authority and capability of the AAHS to base its risk management decisions on a scientific assessment of the risks.*	Levels of advancement
	1. Risk management decisions are not usually supported by scientific risk assessment.
	2. The AAHS compile and maintain data but do not have the capability to systematically assess risks. Some risk management decisions are based on scientific risk assessment.
	3. The AAHS can systematically compile and maintain relevant data and carry out risk assessment. Scientific principles and evidence, including risk assessment, generally provide the basis for risk management decisions.
	4. The AAHS systematically conduct risk assessments in compliance with relevant OIE standards, and base their risk management decisions on the outcomes of these risk assessments.
	5. The AAHS are consistent in basing sanitary decisions on risk analysis, and in communicating their procedures and outcomes internationally, meeting all their OIE obligations (including WTO SPS Agreement obligations where applicable).

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.1, E.56, EM.3**

Findings:

INIP fully implements a HACCP system for licensing processing plants (construction plans, appropriate technical solutions and a hygienic processing flow) and certifying vessels and processing plants based on requirements on chemicals, bacteriology, and residues content/contamination in relation to human food safety stated in the Hygiene Control of Food Products of Aquatic Origin (Decree 76/2009, of December 15).

This HACCP competency forms a good base for developing risk analysis procedures within AAH.

There is no systematic collection (or storage) of data on national aquatic animal disease occurrence, or any procedures for assessing risk for disease spreading (bio-containment – bio-exclusion), risk of release/exposure related to import, or consequences to support decision making on AAH issues.

Strengths:

- INIP is highly qualified within the HACCP concept which is beneficial for a further risk analysis approach.

Weaknesses:

- The absence of a dedicated risk analysis section with the INIP organisation.

Recommendations

- Establish a dedicated risk analysis section with the INIP organisation.

II-4. Quarantine and border security *The authority and capability of the AAHS to prevent the entry and spread of diseases and other hazards of aquatic animals and aquatic animal products.*	Levels of advancement
	1. The AAHS cannot apply any type of quarantine or border security procedures for aquatic animals or aquatic animal products with their neighbouring countries or trading partners.
	2. The AAHS can establish and apply quarantine and border security procedures; however, these are generally based neither on international standards nor on a risk analysis.
	3. The AAHS can establish and apply quarantine and border security procedures based on international standards, but the procedures do not systematically address illegal activities relating to the import of aquatic animals and aquatic animal products.
	4. The AAHS can establish and apply quarantine and border security procedures which systematically address legal pathways and illegal activities.
	5. The AAHS work with their neighbouring countries and trading partners to establish, apply and audit quarantine and border security procedures which systematically address all risks identified.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.1, E.56, EM.13**

Findings:

There is no regulation governing quarantine of imported fish or aquatic species. There is no specific regulation on the control of disease in aquaculture.

The General Regulations for Aquaculture (Decree 13/2001)[61] provide for import control measures, with INAQUA having the legal mandate, as article 9 provides for the following:

1. The import of Aquatic species requires an authorisation from the Ministry of Fisheries, following consultation with the Fisheries Research Institute, where applicable quarantine norms should be specified.
2. The Minister of Fishery shall approve the quarantine norms to be complied by the import of aquatic species.
3. The Minister of Fisheries shall periodically publish the list of aquatic species whose entry to the Country is prohibited.

INIP has only a very limited import control capacity, relying on the Customs department for assistance at BIPs. The first BIP for the aquatic sector is planned to be established at the main border post with South Africa – Ressano Garcia. The control function will be under the INIP Maputo Provincial Delegation. Presently only spot checks are carried out by this INIP office at irregular intervals.

Strengths:

- INIP recognizes the value of having a staff member at border crossings and is initiating efforts to have an INIP staff member begin to accompany customs agents at Resanno Garcia border crossing with South Africa, beginning on a part time basis
- Legal provisions to deal with import control measures and quarantine are present with INAQUA.

Weaknesses:

- Fragmentation of a legal framework for AAH as demonstrated above, by placing the import control function with INAQUA.

Recommendations

- Address the weaknesses within the existing legal framework and regulatory authority for AAH.

[61] EM.13

II-5. Epidemiological surveillance *The authority and capability of the AAHS to determine, verify and report on the sanitary status of the aquatic animal populations under their mandate.* **A. Passive epidemiological surveillance**	Levels of advancement
	1. The AAHS have no passive surveillance programme.
	2. The AAHS conduct passive surveillance for some relevant diseases and have the capacity to produce national reports on some diseases.
	3. The AAHS conduct passive surveillance in compliance with OIE standards for some relevant diseases at the national level through appropriate networks in the field, whereby samples from suspect cases are collected and sent for laboratory diagnosis with evidence of correct results obtained. The AAHS have a basic national disease reporting system.
	4. The AAHS conduct passive surveillance and report at the national level in compliance with OIE standards for most relevant diseases. Appropriate field networks are established for the collection of samples and submission for laboratory diagnosis of suspect cases with evidence of correct results obtained. Stakeholders are aware of and comply with their obligation to report the suspicion and occurrence of notifiable diseases to the AAHS.
	5. The AAHS regularly report to stakeholders and the international community (where applicable) on the findings of passive surveillance programmes.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence (references of documents or pictures listed in Appendix 6):

Findings:

There is no passive surveillance for aquatic animal disease by the institutions of the MoF.

Weaknesses:

- Absence of any form of passive aquatic animal disease surveillance in Mozambique

Recommendations

- The "Proposal for a National Aquaculture Animal Health Strategy for Mozambique" from the University of Stirling, 2009, requested by INAQUA, forms a good basis for developing an aquatic animal disease surveillance system.

II-5. Epidemiological surveillance *The authority and capability of the AAHS to determine, verify and report on the sanitary status of the aquatic animal populations under their mandate.* **B. Active epidemiological surveillance**	Levels of advancement
	1. The AAHS have no active surveillance programme.
	2. The AAHS conduct active surveillance for some relevant diseases (of economic and zoonotic importance) but apply it only in a part of susceptible populations and/or do not update it regularly.
	3. The AAHS conduct active surveillance in compliance with scientific principles and OIE standards for some relevant diseases and apply it to all susceptible populations but do not update it regularly.
	4. The AAHS conduct active surveillance in compliance with scientific principles and OIE standards for some relevant diseases, apply it to all susceptible populations, update it regularly and report the results systematically.
	5. The AAHS conduct active surveillance for most or all relevant diseases and apply it to all susceptible populations. The surveillance programmes are evaluated and meet the country's OIE obligations.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence (references of documents or pictures listed in Appendix 6):

Findings:

There is no active surveillance for aquatic animal disease by the institutions of the MoF

INIP as CA for the aquatic fishery sector has no active surveillance programmes to determine, verify and report on the sanitary status of the aquatic animal populations under their mandate.

In contrast, the Team noted and was provided with evidence that at the 2 (two) approved private, commercial aquaculture establishments (MARBAR & AquaPesca for prawn brood stock) active aquatic animal disease surveillance had been implemented over the past years.

It was only as the result of this awareness of potential emerging infectious diseases and contact to an accredited laboratory that the outbreak of WSD at the AquaPesca aquaculture establishment in Zambezia Province was diagnosed at the end of August 2011.

Strengths:

- Active surveillance as a private initiative by the 2 licence aquaculture establishments.

Weaknesses:

- Absence of any form of official active aquatic disease surveillance in Mozambique.

Recommendations

- The "Proposal for a National Aquaculture Animal Health Strategy for Mozambique" from the University of Stirling, 2009, requested by INAQUA, forms a good basis for developing an aquatic animal disease surveillance system.

II-6. Early detection and emergency response *The authority and capability of the AAHS to detect and respond rapidly to a sanitary emergency (such as a significant disease outbreak or food safety emergency).*	Levels of advancement
	1. The AAHS have no field network or established procedure to determine whether a sanitary emergency exists or the authority to declare such an emergency and respond appropriately.
	2. The AAHS have a field network and an established procedure to determine whether or not a sanitary emergency exists, but lack the necessary legal and financial support to respond appropriately.
	3. The AAHS have the legal framework and financial support to respond rapidly to sanitary emergencies, but the response is not coordinated through a chain of command.
	4. The AAHS have an established procedure to make timely decisions on whether or not a sanitary emergency exists. The AAHS have the legal framework and financial support to respond rapidly to sanitary emergencies through a chain of command. They have national contingency plans for some exotic diseases.
	5. The AAHS have national contingency plans for all diseases of concern through coordinated actions with all stakeholders through a chain of command.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **EM12,**

Findings:

Since there is neither passive nor active surveillance for aquatic animal disease by the AAHS, INIP depends upon the private sector to inform it of disease outbreaks. The Team was unable to find evidence of or observe any indication of an emergency response plan for OIE-listed aquatic animal diseases.

In terms of the **Aquaculture Regulations 45 of 2001** notifications of aquatic disease disorders have to be notified within 5 days of the occurrence. The relevant legal provisions are[62]:

ARTICLE 25: Ailment and infected specimen

1. *Individuals and institutions exercising aquaculture activities should inform, within 5 (five) working days, the local representation of the Ministry of Fisheries in the province of any ailment-related incidents that may put at risk public health or the environment, as well as, other productive activities in the surroundings.*
2. *The affected specimen must be burnt or incinerated according to norms to be specified through a ministerial diploma issued by the Ministry of Fishery. The disposal of such specimen into the water discharges is prohibited.*
3. *In case of an epidemic, the Minister of Fisheries may order a suspension of activity of an aquaculture establishment and the injunction of commerce of the produce, as well as, order the seizing and incineration of such specimen.*

There is a brief overview in *Proposal for a National Aquaculture Animal Health Strategy for Mozambique*[63] of the essential minimal requirements for a contingency plan in the case of the identification of an OIE-Listed Disease. Unfortunately, there is no evidence that this was further developed or implemented following receipt.

White spot disease was reported by the Mozambique authorities to the OIE with a delay of some 23 days and without any kind of emergency response action.

Weaknesses:

- Delay in reporting due to communication deficiencies between INIP and DNSV
- The Team notes with concern that, due to the absence of any AAD responsibility by any institution of the MoF, or any other government authority or agency, no emergency response plans have been developed or implemented.

[62] EM.13
[63] EM.12

Recommendations

- Establish an AAHS at a designated MoF institution with a clear mandate and appropriate regulatory legislative support.

II-7. Disease prevention, control and eradication *The authority and capability of the AAHS to actively perform actions to prevent, control or eradicate OIE listed diseases and/or to demonstrate that the country or a zone are free of relevant diseases.*	Levels of advancement
	1. The AAHS have no authority or capability to prevent, control or eradicate aquatic animal diseases.
	2. The AAHS implement prevention, control and eradication programmes for some diseases and/or in some areas with little or no scientific evaluation of their efficacy and efficiency.
	3. The AAHS implement prevention, control and eradication programmes for some diseases and/or in some areas with scientific evaluation of their efficacy and efficiency.
	4. The AAHS implement prevention, control and eradication programmes for all relevant diseases but with scientific evaluation of their efficacy and efficiency of some programmes.
	5. The AAHS implement prevention, control and eradication programmes for all relevant diseases with scientific evaluation of their efficacy and efficiency consistent with relevant OIE international standards.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.44, EM.13**

Findings:

Due to the total absence of regulatory provisions applicable to aquatic animal diseases the CA has only very limited capacity to deal with aquatic animal disease outbreaks.

The absence of programmes for active and passive aquatic disease surveillance is an additional impediment.

Neither INIP, nor any other of the specialized institutes of the Ministry of Fisheries, being INAQUA, IIP and IDPPE, have an official mandate as far as the prevention, control or eradication of aquatic animal diseases are concerned.

In 2007[64], out of 23 immediate notifications in the African region received by the OIE only 2 pertained to aquatic diseases and of these 2 one was finally recognized as a misdiagnosis. Therefore in 2007 the OIE received only one immediate notification related to the *epizootic ulcerative syndrome* (EUS). This notification reported on the EUS outbreak of 20 December 2006 in the Chobe and Zambezi rivers in Kasane region (Botswana) where *Aphanomyces invadans* was identified in wild fish. After the implementation of a sampling program the outbreak was declared closed on 03 September 2007 by the authorities of Botswana.

The Team was informed that no clear definition of authority between INAQUA and INIP (as CA) for the mentioned occurrences is in place. No specific regulations have been made applicable as provided for in above paragraph 2.

The Team considers it a priority that clear and defined pathways for aquatic animal disease reporting and investigation be formulated and put into place in order to empower INIP as CA to execute all required functions and prevent any duplication of efforts with other MoF institutions.

Apart from an investigation some years ago in the Pemba area which was diagnosed as a rickettsial disease, the Team was unable to confirm the existence of any regulatory measures for AAD preventative, control or eradication procedures.

The Team was informed that INIP has the authority to destroy an aquatic animal product if deemed unfit for human consumption.

The Team noted that the Fisheries Research Institute (IIP) has no legal mandate to investigate AADs. However IIP was participating in the EUS disease investigations, led by Botswana as described above.

[64] E.44

Weaknesses:

- Absence of an AAHS
- Unclear and vague responsibilities of the various MoF specialized institutions in respect of minimal AAD interventions

Recommendations

- The Team considers it is a priority that clear and defined pathways for aquatic animal disease reporting and investigation be formulated and put into place in order to empower INIP as CA to execute all required functions and prevent any duplication of efforts with other MoF institutions for prevention, control or eradication of aquatic animal diseases.

II.8 Food safety: Inspection of collection, processing and distribution of products of aquatic animal origin *The authority and capability of the AAHS to implement, manage and coordinate food safety measures in relation to the collection, processing and distribution of products of aquatic animals. This competency also covers coordination with other authorities where there is shared responsibility for the functions.*	Levels of advancement
	1. Implementation, management, and coordination (as appropriate) are generally not undertaken in conformity with international standards.
	2. Implementation, management and coordination (as appropriate) are generally undertaken in conformity with international standards only for export purpose.
	3. Implementation, management and coordination (as appropriate) are generally undertaken in conformity with international standards only for export purpose and for products that are distributed throughout the national market.
	4. Implementation, management and coordination (as appropriate) are generally undertaken in conformity with international standards for export purpose and for products that are distributed throughout the national and local markets.
	5. Implementation, management and coordination (as appropriate) are undertaken in full conformity with international standards for products at all levels of distribution (including on farm-processing and farm gate sale).

[Note: This critical competency primarily refers to inspection of processed animal products and raw products other than meat (e.g. milk, honey etc.). It may in some countries be undertaken by an agency other than the VS.]

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence (references of documents or pictures listed in Appendix 6):

Findings:

In accordance with the General Regulations for Health and Hygiene Control of Food Products of Aquatic Origin (Decree 76/2009, of December 15) a number of legal tools have been developed and submitted to (many already approved by) the MoF. These tools establish the authority and capability of INIP to address food safety issues and imply harmonized measures on the various production units in the aquatic food production chain (fishing vessels, processing plants and storage facilities) for the domestic and international market.

INIP execute sanitary control on imported products. The team noticed that INIP could benefit from getting information from the retail inspections done by INAE in revealing sea food imports that may occur without the knowledge of INIP. This applies especially to the associated risk of importing infectious agents for aquatic animals.

Strengths:

- INIP has a strong legal framework to execute their mandate within food safety

II-9. Veterinary medicines and biologicals *The authority and capability of the AAHS to regulate veterinary medicines and biologicals, i.e the authorisation, registration, import, production, labelling, distribution, sale and use of these products.*	Levels of advancement
	1. The AAHS cannot regulate veterinary medicines and biologicals.
	2. The AAHS has some capability to exercise administrative control over veterinary medicines and biologicals.
	3. The AAHS exercise effective administrative control and implement quality standards for most aspects of the regulation of veterinary medicines and biologicals.
	4. The AAHS exercise comprehensive and effective regulatory control of veterinary medicines and biologicals.
	5. In addition to complete regulatory control, the AAHS systematically monitor for adverse reactions (pharmacovigilance) and take appropriate corrective steps. The control systems are subjected to periodic audit of effectiveness.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.1, E.56, E. 61, EM.13**

Findings:

There is no national medicines control authority, nor is there a national licensing requirement. There is thus no control over the production, sale or distribution of medicines or biologicals for veterinary use in aquatic animals and nothing prohibits anybody from selling veterinary medicines and biologicals.

In 2008 the OIE-PVS (Terrestrial) Team[65] was informed that legislation on the control and registration of veterinary medicines in Mozambique was under consideration. However, upon enquiry during the present evaluation it transpired that no such legislation has yet been enacted.

Article 23 of the General Regulations on Aquaculture (15/2001) – INAQUA – deal with chemical products, feed and veterinary drugs as follows[66]:

> *ARTICLE 23:* ***Chemical products, feed and veterinary drugs***
>
> > *Through a ministerial diploma, the Minister of Fisheries shall establish the norms for the use of chemical products, feed and veterinary drugs in the aquaculture activity, in co-ordination with the Fisheries Research Institute and other sanitation entities, according to appropriate legislation on this matter.*

The Team was informed that no such directive has been issued to date.

Weaknesses:

- In Mozambique no national medicines regulatory authority has yet been established.
- There is thus no control over the production, sale or distribution of medicines or biologicals for veterinary use in aquatic animals.

Recommendations

- Enabling legislation is a priority to exercise control over the importation, production, sale and use of veterinary medicines in terrestrial and aquatic animals.
- The AAHS should closely collaborate with the Directorate of Veterinary Services (DNSV) of the Ministry of Agriculture in order to achieve this goal.

[65] E.61
[66] EM.13

II-10. Residue testing *The capability of the AAHS to undertake residue testing programmes for veterinary medicines, chemicals, pesticides, radionuclides, metals, etc.*	Levels of advancement
	1. No residue testing programme for aquatic animal products exists in the country.
	2. Some residue testing programme is performed but only for selected aquatic animal products for export.
	3. A comprehensive residue testing programme is performed for all aquatic animal products for export and some for domestic use.
	4. A comprehensive residue testing programme is performed for all aquatic animal products for export and/or internal consumption.
	5. The residue testing programme is subject to routine quality assurance and regular evaluation.

[Note: This critical competency may in some countries be undertaken by an agency or agencies other than the AAHS.]

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **EM.3**

Findings:

Since the establishment of Mozambique's fisheries product export sector, the following residue testing programmes in accordance with requirements by the importing countries, such as the EU, are undertaken:

The Team noted compliance by INIP with all required hazard tests as required by aquatic product importing authorities and detailed summary reports were provided for verification.

The following are the detailed residue control programmes as undertaken by INIP:

Description of programs for biological residue control in fishery products and by-products[67]

Characteristics of the program

1. *The samples are analyzed in the laboratories of INIP within official controls (Regular Inspection Program), the own-checks of production units (implementation of HACCP), through the National Plan for Residue Control (PNCR) and through the National Plan for Control of Environmental Contaminants (PNCCA);*
2. *National Plan for Control of Environmental Contaminants: The Competent Authority collects the samples from the main fishing zones based on national regulation equivalent to (EC) N° 1883/2006 of the Commission of 19th of December 2006 and regulation on sampling methods and analyses for official control of dioxin contents in certain food and Regulation 333/2007 of 28th March of 2007 on sampling methods and analysis of environmental contaminants namely: heavy metals such as cadmium, lead and mercury;*
3. *For aquaculture products, INIP controls their quality regarding residues through the National Plan for Residue Control (PNCR), based on the statements from European Union Directive 96/23/CE of the Council, of April 29th 1996 and according to "Regulatory Programme for Control of Residues in Food" of the EU*

Measures taken in case of detection of residues

If laboratory results reveal the presence of residues exceeding acceptable limits, the Competent Authority will immediately take preventive measures in accordance with the "General Regulation for Hygio-Sanitary Control of Food Products of Aquatic Origin" and other legislation in force.

In case of positive laboratory results, products from the same aquaculture processing plant or from the same fishing zone will be considered as having residues and will be subject to re-sampling for confirmation of results. Thus, these products will not be exported nor traded at local market until new laboratory results prove the contrary.

[67] EM.3

Simultaneously this information will be sent to veterinary authorities of the exporting countries.

However, if more than half of the samples sent for confirmation turn to be positive, a supplementary control is made along the chain of production and in the processing plants.

During a period determined by the Competent Authority, the exploitation will be subject to a deep control aiming at identifying the source of detected residues as following:

- ***Group A Substances:*** *The whole lot where samples were withdrawn and had positive results, will be declared inadequate for human consumption and destroyed. Therefore, caution is required for confirmation of initial results.*
- ***Group B1 Substances***
  If seafood is alive will be kept in the pounds, until the gap between fishing periods and end of veterinary treatment is respected. In the case of prawns from a caught lot, it will be declared inappropriate for human consumption.

  The farm stocks where from the affected consignment of prawns was produced will be subject to a thorough test to determine the exact cause of positive results prior to authorization for use of new veterinary drugs.

  All necessary measures should additionally be taken to prevent recurrence of the incident.

Strengths:

- Detailed residue monitoring programme for aquatic foods for human consumption.

II-11. Emerging issues *The authority and capability of the AAHS to identify in advance, and take appropriate action in response to likely emerging issues under their mandate relating to the sanitary status of the country, public health, the environment, or trade in aquatic animals and aquatic animal products.*	Levels of advancement
	1. The AAHS do not have procedures to identify in advance likely emerging issues.
	2. The AAHS monitor and review developments at national and international levels relating to emerging issues.
	3. The AAHS assess the risks, costs and/or opportunities of the identified emerging issues, including preparation of appropriate national preparedness plans. The AAHS have some collaboration with stakeholders and other agencies (e.g. human health, wildlife and environment) and with stakeholders on emerging issues.
	4. The AAHS implement, in coordination with stakeholders, prevention or control actions due to an adverse emerging issue, or beneficial actions from a positive emerging issue. The AAHS have well-developed formal collaboration with stakeholders and other agencies (e.g. human health, wildlife and environment) and with stakeholders on emerging issues.
	5. The AAHS coordinate actions with neighbouring countries and trading partners to respond to emerging issues, including audits of each other's ability to detect and address emerging issues in their early stages.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.56**

Findings:

It is critically important to identify in advance, and take appropriate action in response to likely emerging issues under their mandate relating to the sanitary status of the country, public health, the environment, or trade in aquatic animals and aquatic animal products.

Such priority actions should seriously consider the potential grave consequences to the Mozambique fishing sector due to the high threat possibility of biological invasions, described as follows[68]

> *Aquaculture can be a source of risk from biological invasions in a number of ways, e.g. bringing in non-native species for farming and the use of non-native, fresh or frozen feedstocks. These can have adverse effects on biodiversity, including decline or elimination of native species –through competition, predation, or transmission of pathogens – and the disruption of local ecosystems and ecosystem functions. The global spread of many marine organisms through shipping has been a major marine biosecurity concern in the last decade. Ballast water19 may transport all groups of marine organisms. The transport of toxic algae in ballast water has had a profound effect on aquaculture activities, such as closure of farms during blooms. Hulls, on the other hand, can become carriers of encrusting organisms (e.g. macro-algae, bivalve molluscs, barnacles, bryozoans, sponges and tunicates), which may not only introduce novel pathogens but more seriously foul ports, coasts and aquaculture facilities, thus adding costs (for treatment and clearing) and weakening the economic viability of marine farms*

[68] E.56 p.98

II-12. Technical innovation[69] *The capability of the AAHS to keep up-to-date with the latest scientific advances and to comply with the standards of the OIE (and Codex Alimentarius Commission where applicable).*	Levels of advancement
	1. The AAHS have only informal access to technical innovations, through personal contacts and external sources.
	2. The AAHS maintain a database of technical innovations and international standards, through subscriptions to scientific journals and electronic media.
	3. The AAHS have a specific programme to actively identify relevant technical innovations and international standards.
	4. The AAHS incorporate technical innovations and international standards into selected policies and procedures, in collaboration with stakeholders.
	5. The AAHS systematically implement relevant technical innovations and international standards.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence (references of documents or pictures listed in Appendix 6):

Findings:

Representatives for INIP travel to national and international conferences (such as organized by OIE and SADC) for up-to-date-information through lectures, workshops and personal contacts. Internet connection is available for all employees. Hard copy literature is available although in moderate issues.

[70] E.56 p. 98

II-13. Identification and traceability of products of aquatic animal and their products *The authority and capability of the AAHS, normally in coordination with stakeholders, to identify and trace products of aquatic animal origin for the purpose of food safety, aquatic animal health or trade.*	Levels of advancement
	1. The AAHS do not have the authority or the capability to identify or trace products of aquatic animal origin.
	2. The AAHS can identify and trace some products of aquatic animal origin to deal with a specific problem (e.g. products originating from farms affected by a disease outbreak).
	3. The AAHS have implemented procedures to identify and trace some products of aquatic animal origin for food safety, aquatic animal health and trade purposes, in accordance with relevant international standards.
	4. The AAHS have implemented national programmes enabling them the identification and tracing of all products of aquatic animal origin, in accordance with relevant international standards.
	5. The AAHS periodically audit the effectiveness of their identification and traceability procedures.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence (references of documents or pictures listed in Appendix 6):

Findings:

Domestic and international movements of infected brood stock and seed are proven pathways for the entry and spread of these pathogens. Infectious diseases are constraining the development and sustainability of the industry through direct losses (in many cases, costing millions of US dollars), increased operating costs, closure of aquaculture operations, unemployment, restrictions on trade, and impacts on biodiversity[70].

CA has a well established, functioning tracing system for products of aquatic animal origin based on international criteria where a product may be traced from its original vessel at sea, date of catch and processing, storage, to transport for export at lot level. Associated laboratory analysis may be lot-associated at a random sampling.

Similarly, export of prawn brood stock may be traced back to enterprise, production period origin of brood stock, and production lot. Laboratory testing for relevant viruses is available.

Strengths:

- A well functioning tracing system for aquatic products and for prawn aimed for export

Weaknesses:

- There exists no traceability for aquatic animal products for the domestic market

[70] E.56 p. 98

II-14. Aquatic animal welfare *The authority and capability of the AAHS to implement the OIE standards for the welfare of farmed fish*	Levels of advancement
	1. The OIE standards are generally not implemented.
	2. Some of the OIE standards are implemented, e.g. primarily for the export sector.
	3. All of the OIE standards are implemented but this is primarily for the export sector.
	4. All of the OIE standards are implemented, for the export and the domestic sector.
	5. The OIE standards are implemented and implementation is periodically subject to independent external evaluation.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence

E.60, EM.14,

Findings:

The General Regulations for *For Hygiene Control On Foodstuffs Of Aquatic Origin*, under the jurisdiction of INIP, provides for the following actions[71]:

> *Definition: the physical, psychological and nutritional status of the animal, acquired by proper feeding, accommodation and transportation conditions that do not cause unnecessary lesions, or intense or prolonged suffering*
>
> *Art.18 - 1. The Competent Authority shall ensure that official controls are undertaken regularly, depending on risks and with the appropriate frequency, taking into account namely: a) Identified risks associated with aquatic animals, feeds or foodstuffs of aquatic origin, with the activity or operation, which **may influence** safety of these products or human health **or the welfare of aquatic animals**;*

Section 7 of the 2011 OIE Aquatic Animal Health Code details standards of the "Welfare of Fish" and the Team is satisfied that some of these standards are implemented in the fisheries export sector.

[71] EM.14

III.3 Fundamental component III: Interaction with stakeholders

This component of the evaluation concerns the capability of the VS to collaborate with and involve stakeholders in the implementation of programmes and activities. It comprises six critical competencies

Critical competencies:

Section III-1	**Communications**
Section III-2	**Consultation with stakeholders**
Section III-3	**Official representation**
Section III-4	**Accreditation / Authorisation / Delegation**
Section III-5	**Participation of producers and stakeholders in joint programmes**

Aquatic Code Reference(s):

Points 6, 7, 9, and 13 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / General organisation / Procedures and standards / Communication.

Terrestrial Code Reference(s):

Point 9 of Article 3.2.1. on General considerations.

Points 2 and 7 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services.

Sub-point b) of Point 2 of Article 3.2.6. on Administrative resources: Communications.

Article 3.2.11. on Participation on OIE activities.

Points 4, 7 and Sub-point g) of Point 9 of Article 3.2.14. on Administration details / Animal health and veterinary public health controls / Sources of independent scientific expertise.

III-1. Communications *The capability of the AAHS to keep stakeholders informed, in a transparent, effective and timely manner, of AAHS activities and programmes, and of developments in aquatic animal health and food safety.*	Levels of advancement
	1. The AAHS have no mechanism in place to inform stakeholders of AAHS activities and programmes.
	2. The AAHS have informal communication mechanisms.
	3. The AAHS maintain an official contact point for communications but it is not always up-to-date in providing information.
	4. The AAHS contact point for communications provides up-to-date information, accessible via the internet and other appropriate channels, on activities and programmes.
	5. The AAHS have a well developed communication plan, and actively and regularly circulate information to stakeholders.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.53,**

Findings:

The Team is not aware of any procedures or communications plan for communication to stakeholders when needed. However, there seems to be open access to get information when asking. There is no secrecy in the system, more a lack of awareness of the importance of transparently communicating relevant information.

There is an informal communication system in which the AAHS may have irregular, informal discussions with stakeholders but there is no specific or regular communication plan for stakeholder meetings. INIP inspectors must provide their own cell phones which also inhibits communications.

It was also noted that INIP staff in Inhambane have no fax or telephone.

The Team noted that, in the recent outbreak of WSD, it was the private stakeholders who informed INIP and INAQUA and met with the Minister of Fisheries to inform him of the problem. Private stakeholders have no clear understanding of who is responsible for dealing with this disease issue and there is no clarity regarding the chain of command.

Much of the communication amongst stakeholders within government (INIP, INAQUA, IIP) is also informal.

INIP has a well maintained and informative website, which also has an English translation (www.inip.gov.mz)

The Team met with the Association of prawn producers in Mozambique - Associação dos Productores de Camarão de Moçambique – APCM - and issues relating to communications, disease information etc. were discussed. APCM had 3 founding members and, according to information to the Team, did not open membership to other existing or potential prawn producers. However, due to the closing down of establishment at Pemba and the non-participation and closure of Sol & Mar since end 2009, the association at present only represents AQUAPESCA, based in the Zambezia Province.

Weaknesses:

- Lack of planned, structured and documented communication to keep stakeholders informed of INIP activities and programmes in a transparent, effective and timely manner

Recommendations

- The AAHS maintain an official contact point for communications

III-2. Consultation with stakeholders *The capability of the AAHS to consult effectively with stakeholders on AAHS activities and programmes, and on developments in aquatic animal health and food safety.*	Levels of advancement
	1. The AAHS have no mechanisms for consultation with stakeholders.
	2. The AAHS maintain informal channels of consultation with stakeholders.
	3. The AAHS maintain a formal consultation mechanism with stakeholders.
	4. The AAHS regularly hold workshops and meetings with stakeholders.
	5. The AAHS actively consult with and solicit feedback from stakeholders regarding proposed and current activities and programmes, developments in aquatic animal health and food safety, interventions at the OIE (Codex Alimentarius Commission and WTO SPS Committee where applicable), and ways to improve their activities.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.54,**

Findings:

INIP has its focus on food safety and its expertise lies within this field. Inspectors are regularly visiting vessels and processing plants, where in addition to inspection, they also give advice on improvements. This informal channel seems to work very well.

INIP has less competence in AAH and the consultancy input to stakeholders in this area is limited. The Team notice that there are sporadic meetings where issues may be debated openly or in dialogue. But there seems to be a need and an appreciation from stakeholders for more (regular) contact in order to coordinate private expectations and the official framework for developing the aquaculture vision of Mozambique.

Wide and in-depth consultations have been undertaken between all relevant MoF institutions, stakeholder originations and relevant involved NGOs in order to finalize a current draft for a new Fisheries Act.

The Afd (French) project[72] – "Support to Shrimp Farming in Mozambique" - provides technical assistance to the Shrimp Producers Association (Associação dos Productores de Camarão de Moçambique - APCM) which will work closely with the various public institutions such as the National Institute for Aquaculture Development (InstitutoNacional de Desenvolvimemento da Aquacultura – INAQUA) and the National Institute for Fishery Products Control (Instituto de Controle dos Produtos de Pesca– INIP).

During July 2011 a "Shrimp culture training course" was held at AquaPesca prawn farm near Quelimane for government extension workers and artisanal farmers. This course, in cooperation with Aquapesca and INAQUA, focused on training and encouragement for aquaculture production in small scale. Many subjects were addressed such as: practical demonstrations on larvae reception, handling, transferring, stocking grow out and nursery ponds as well as general information on aquaculture and activities carried out by Aquapesca[73].

During the various field trips, the Team was informed of numerous stakeholder meetings by INAQUA and to a lesser extend INIP addressing mainly issues of prawn farming development and food safety issues. These meetings were described to the Team by local counterparts as being informal in nature.

Weaknesses:

- No consultations are taking place regarding AAH

[72] E.54
[73] http://web.uvic.ca/~soed/news

III-3. Official representation	Levels of advancement
The capability of the AAHS to regularly and actively participate in, coordinate and provide follow up on relevant meetings of regional and international organisations including the OIE (and Codex Alimentarius Commission and WTO SPS Committee where applicable).	1. The AAHS do not participate in or follow up on relevant meetings of regional or international organisations.
	2. The AAHS sporadically participate in relevant meetings and/or make a limited contribution.
	3. The AAHS actively participate[74] in the majority of relevant meetings.
	4. The AAHS consult with stakeholders and take into consideration their opinions in providing papers and making interventions in relevant meetings.
	5. The AAHS consult with stakeholders to ensure that strategic issues are identified, to provide leadership and to ensure coordination among national delegations as part of their participation in relevant meetings.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **EM.1, EM.3:**

Findings:

The Team was informed that INIP regularly and actively participates in, coordinates and provides follow up on relevant meetings of regional and international organisations such as:

- Southwest Indian Ocean Fisheries Commission (SWIOFC)
- 2008 OIE Aquatic Meeting Maputo
- OIE General Assembly (as part of the DNSV delegation)
- SADC meetings

INIP personnel also attended numerous training courses and workshops during 2010 (summary provided in EM.1 & EM.3).

[74] *Active participation* refers to preparation in advance of, and contributing during the meetings in question, including exploring common solutions and generating proposals and compromises for possible adoption.

III-4. Accreditation / authorisation / delegation *The authority and capability of the public sector of the AAHS to accredit / authorise / delegate the private sector (e.g. private veterinarians, other aquatic animal health professionals and laboratories), to carry out official tasks on its behalf.*	Levels of advancement
	1. The public sector of the AAHS has neither the authority nor the capability to accredit / authorise / delegate the private sector to carry out official tasks.
	2. The public sector of the AAHS has the authority and capability to accredit / authorise / delegate to the private sector, but there are no current accreditation / authorisation / delegation activities.
	3. The public sector of the AAHS develops accreditation / authorisation / delegation programmes for certain tasks, but these are not routinely reviewed.
	4. The public sector of the AAHS develops and implements accreditation / authorisation / delegation programmes, and these are routinely reviewed.
	5. The public sector of the AAHS carries out audits of its accreditation / authorisation / delegation programmes, in order to maintain the trust of their trading partners and stakeholders.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.54, EM.1**

Findings:

According to existing legal provisions no accreditations of, delegation of official functions or authorizations of the private sector is undertaken.

Under the French project (Support to the shrimp farming sector[75]) it is expected that the project will enhance capacity within INAQUA and INIP, as well as it will, through APCM, build private sector actors' capacities. The set-up of a public/private partnership forum will improve public/private dialogue.

During October to December 2010, INIP trained district directors, SDAE technicians, community leaders and other stakeholders, in basic knowledge about the fisheries and fish inspection sectors (see III.6 below). The objective is to establish partnerships with SDAEs for fish inspections. Memoranda of understanding are expected to be signed as to delegate competencies onto these services, against the retention of a percentage of revenue[76].

[75] E.54
[76] EM.1

III-6. Participation of producers and other stakeholders in joint programmes *The capability of the AAHS and stakeholders to formulate and implement joint programmes in regard to aquatic animal health and food safety.*	Levels of advancement
	1. Producers and other stakeholders only comply and do not actively participate in programmes.
	2. Producers and other stakeholders are informed of programmes and assist the AAHS to deliver the programme in the field.
	3. Producers and other stakeholders are trained to participate in programmes and advise of needed improvements, and participate in early detection of diseases.
	4. Representatives of producers and other stakeholders negotiate with the AAHS on the organisation and delivery of programmes.
	5. Producers and other stakeholders are formally organised to participate in developing programmes in close collaboration with the AAHS.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.6, EM.1**

Findings:

No evidence presented to the Team that there are any aquatic animal health programmes in existence, nor that producers and other stakeholders participate in the formulation and implementation of joint programmes.

There is little involvement of stakeholders. Even in the *Aquaculture Strategy Plan 2008-2013*[77] the involvement of stakeholders is barely present. Private enterprises are one of the pillars in this strategy and should be actively involved to establish a realistic implementation of the plan.

INIP is not present or represented in every strategic point within the country (ports, airports, borders) to monitor the domestic movement of food products of aquatic origin. Thus, from October to December 2010, a number of teams travelled to provincial and district capitals to provide district directors, SDAE technicians, community leaders and other stakeholders, with basic knowledge about the fisheries and fish inspection sectors, the issuance of health certification documents, namely the Verification Declaration (VD) and the Inspections Checklists (IC). This training included 108 trainees from 56 districts of the country, and is now possible to establish partnerships with SDAEs for fish inspections. Memoranda of understanding are expected to be signed as to delegate competencies onto these services, against the retention of a percentage of revenue[78].

To investigate and control the present outbreak of WSD at AquaPesca, a Technical Team was appointed, comprising the MoF institutions, APCM and the DNSV. However, the control and destroying activity is at present solely driven by the affected producer.

[77] E.6
[78] EM.1

III.4 Fundamental component IV: Access to markets

This component of the evaluation concerns the authority and capability of the VS to provide support in order to access, expand and retain regional and international markets for animals and animal products. It comprises nine critical competencies.

Critical competencies:

Section IV-1	**Preparation of legislation and regulations**
Section IV-2	**Implementation of legislation and regulations and stakeholder compliance**
Section IV-3	**International harmonisation**
Section IV-4	**International certification**
Section IV-5	**Equivalence and other types of sanitary agreements**
Section IV-6	**Transparency**
Section IV-7	**Zoning**
Section IV-8	**Compartmentalisation**

Aquatic Code Reference(s):

Points 6, 7 and 8 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / General organisation / Procedures and standards.

Chapter 4.1. on Zoning and compartmentalisation.

Chapter 4.2. on Application of compartmentalisation.

Chapter 5.1. on General obligations related to certification.

Chapter 5.2. on Certification procedures.

Article 2.1.2. on The Agreement on the Application of Sanitary and Phytosanitary Measures and role responsibility of the OIE.

Chapter 5.10. on Model health certificates for international trade in live aquatic animals and products of aquatic animal origin.

Terrestrial Code Reference(s):

Points 1 and 2 of Article 3.2.7. on Legislation and functional capabilities: Animal health, animal welfare and veterinary public health / Export/import inspection.

Points 1 and 3 of Article 3.2.8. on Animal health controls: Animal health status / National animal disease reporting systems.

Sub-point g) of Point 4 of Article 3.2.10. on Veterinary Services administration: Trade performance history.

Article 3.2.11. on Participation in OIE activities.

Points 6 and 10 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities / Membership of the OIE.

Chapter 5.3. on OIE procedures relevant to the Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization.

IV-1. Preparation of legislation and regulations *The authority and capability of the AAHS to actively participate in the preparation of national legislation and regulations in domains that are under their mandate, in order to guarantee its quality with respect to principles of legal drafting and legal issues (internal quality) and its accessibility, acceptability, and technical, social and economical applicability (external quality).*	Levels of advancement
	1. The AAHS have neither the authority nor the capability to participate in the preparation of national legislation and regulations, which result in legislation that is lacking or is outdated or of poor quality in most fields of AAHS activity.
	2. The AAHS have the authority and the capability to participate in the preparation of national legislation and regulations and can largely ensure their internal quality, but the legislation and regulations are often lacking in external quality.
	3. The AAHS have the authority and the capability to participate in the preparation of national legislation and regulations, with adequate internal and external quality in some fields of activity, but lack formal methodology to develop adequate national legislation and regulations regularly in all domains.
	4. The AAHS have the authority and the capability to participate in the preparation of national legislation and regulations, with a relevant formal methodology to ensure adequate internal and external quality, involving stakeholder participation in most fields of activity.
	5. The AAHS regularly evaluate and update their legislation and regulations to maintain relevance to evolving national and international contexts.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.1; E.42**

Findings:

The Fisheries Law (Law 3/90 of 26 September 1990) and subsequent regulations form the legal basis for the fisheries sector. The Fisheries Law defines the role and responsibility of the fisheries administration and the principles which guide the fishing activities. The maritime regulation (Decree 43/2003 of December 10th) deals with fisheries administration and management (licensing procedures, fishing regimes and gears, quality control, management measures etc).

There is a general aquaculture regulation that defines all rights and obligations of all stakeholders in Mozambique (Decree 35/2001 of 13 of November). The legislation defines specific norms and requirements for aquaculture farms and establishes procedures for licensing and parameters for each farming system[79]

The Team was informed that the finalization of a new Fisheries Act is in its final stages, with INIP, and all other MoF institutions, having actively participated.

The "General Regulation for hygiene control in foodstuffs of aquatic origin" was drafted by active participation of INIP, taking due note of relevant international food safety and hygiene regulations.

INIP initiates legislation and regulatory requirements in close coordination with other relevant MoF institutions. After the respective drafts have been handed to the MoF legal division, however, INIP has no further direct role in the internal and external quality assurance of the draft legal instruments.

[79] E.1 FAO MOZ Fishing Sector 2006

IV-2. Implementation of legislation and regulations and stakeholder compliance *The authority and capability of the AAHS to ensure that stakeholders are in compliance with legislation and regulations under the AAHS mandate.*	Levels of advancement
	1. The AAHS have no or very limited programmes or activities to ensure stakeholder compliance with relevant legislation and regulations.
	2. The AAHS implement a programme or activities comprising inspection and verification of compliance with legislation and regulations and recording instances of non-compliance, but generally cannot or do not take further action in most relevant fields of activity.
	3. Aquatic animal health legislation is generally implemented. As required, the AAHS have a power to take legal action / initiate prosecution in instances of non-compliance in most relevant fields of activity.
	4. Veterinary legislation is implemented in all domains of veterinary competence and the AAHS work with stakeholders to minimise instances of non-compliance.
	5. The compliance programme is regularly subjected to audit by the AAHS or external agencies.

Terrestrial and Aquatic Code reference(s): Annexe 1

Findings:

In terms of the INIP empowering regulations, stakeholder compliance with laid-down export directives is regularly controlled by inspections carried out by INIP inspectors.

Non-compliances are recorded in special and dedicated registers – *Caderno de Visitoria* – and corrections and compliance have to be met within specified timeframes.

In cases of serious transgressions all export certification is suspended, until corrective measures have been found – upon a renewed inspection visit – as being satisfactory.

INIP does not initiate prosecutions in a court of law, however the suspension – or even cancellation – of establishment licences are effective measures to ensure stakeholder compliance.

It must be emphasized that all these measures only apply to the veterinary public health sector, as there exists no governmental mandate in Mozambique to address AAH issues.

Strengths:

- Comprehensive and effective inspection and monitoring programme for compliance with INIP regulations for the export of aquatic products for human consumption.

IV-3. International harmonisation *The authority and capability of the AAHS to be active in the international harmonisation of regulations and sanitary measures and to ensure that the national legislation and regulations under their mandate take account of relevant international standards, as appropriate.*	Levels of advancement
	1. National legislation, regulations and sanitary measures under the mandate of the AAHS do not take account of international standards.
	2. The AAHS are aware of gaps, inconsistencies or non-conformities in national legislation, regulations and sanitary measures as compared to international standards, but do not have the capability or authority to rectify the problems.
	3. The AAHS monitor the establishment of new and revised international standards, and periodically review national legislation, regulations and sanitary measures with the aim of harmonising them, as appropriate, with international standards, but do not actively comment on the draft standards of relevant intergovernmental organisations.
	4. The AAHS are active in reviewing and commenting on the draft standards of relevant intergovernmental organisations.
	5. The AAHS actively and regularly participate at the international level in the formulation, negotiation and adoption of international standards80, and use the standards to harmonise national legislation, regulations and sanitary measures.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.44, EM.14**

Findings:

Maritime fishing, aquaculture, health, commerce, customs and international food safety regulations (Codex, WHO, importing markets, EU, USA and others) have been harmonized under the Regulation for Inspection and Quality Assurance of Fishery Products (RIGO) under decree 17/2001 of June 12th[81] .

The INIP General Regulations on Hygiene of Foodstuffs[82] have been compiled with due consideration of international norms and standards, including issues relating to animal welfare.

[81] E.44
[81] E.44
[82] EM.14

IV-4. International certification[83] *The authority and capability of the AAHS to certify aquatic animals, aquatic animal products, services and processes under their mandate, in accordance with the national legislation and regulations, and international standards.*	Levels of advancement
	1. The AAHS have neither the authority nor the capability to certify aquatic animals, aquatic animal products, services or processes.
	2. The AAHS have the authority to certify certain aquatic animals, aquatic animal products, services and processes, but are not always in compliance with the national legislation and regulations and international standards.
	3. The AAHS develop and carry out certification programmes for certain aquatic animals, aquatic animal products, services and processes under their mandate in compliance with international standards.
	4. The AAHS develop and carry out all relevant certification programmes for any aquatic animals, aquatic animal products, services and processes under their mandate in compliance with international standards.
	5. The AAHS carry out audits of their certification programmes, in order to maintain national and international confidence in their system.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **EM.1, EM.14, field visits to INIP offices and licensed establishments**

Findings:

The Team recognizes the high standard and level of veterinary health attestations for aquatic products for human use.

INIP carries out all relevant certification programmes for aquatic animal products, services and processes under their mandate in compliance with international standards.

INIP has no regulatory functions in respect to certification of live aquatic animals.

Number of Health Certificates and Exports in 2009 and 2010, by Province[84]

Health Certificates and Exported Quantities, by Province				
	2009		2010	
Province	# HC	Quantity (tonnes)	# HC	Quantity (tonnes)
Nampula	18	444.10	20	353.00
Zambézia	81	755.00	150	1,550.00
Tete	349	3,281.30	421	3,863.18
Sofala	608	4,805.20	829	4,528.12
Inhambane	51	158.00	41	64.83
Maputo	503	1,776.80	525	1,600.00
Total	**1,610**	**11,220.40**	**1,986**	**11,959.13**

NB: #HC – number of health certificates

Strengths:

- Veterinary health certification for aquatic products for human use carried out in full compliance with relevant international standards.

[84] EM.1
[84] EM.1

IV-5. Equivalence and other types of sanitary agreements *The authority and capability of the AAHS to negotiate, implement and maintain equivalence and other types of sanitary agreements with trading partners.*	Levels of advancement
	1. The AAHS have neither the authority nor the capability to negotiate or approve equivalence or other types of sanitary agreements with other countries.
	2. The AAHS have the authority to negotiate and approve equivalence and other types of sanitary agreements with trading partners, but no such agreements have been implemented.
	3. The AAHS have implemented equivalence and other types of sanitary agreements with trading partners on selected aquatic animals, aquatic animal products and processes.
	4. The AAHS actively pursue the development, implementation and maintenance of equivalence and other types of sanitary agreements with trading partners on all matters relevant to aquatic animals, aquatic animal products and processes under their mandate.
	5. The AAHS actively work with stakeholders and take account of developments in international standards, in pursuing equivalence and other types of sanitary agreements with trading partners.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.2, EM.1**

Findings:

Mozambique has several fisheries partnership agreements, such as with the EU. This fisheries agreement allows community vessels mainly from Spain, Portugal, Italy and France to fish in the Mozambican waters and is part of the tuna network fisheries agreements in the Indian Ocean.

Following requests from the fisheries industry for wider market access, INIP prepared and submitted applications requesting access of Mozambican products to the Brazilian and Russian markets.

INIP is in the process of finalizing a Memorandum of Understanding with South Africa and Namibia to facilitate trade in aquatic animal products with reference to sanitary and traceability requirements.

Strengths:

- Mozambique has entered into a trade agreement with the EU under the provisions of the Exclusive Partnership Agreement facility.

IV-6. Transparency *The authority and capability of the AAHS to notify the OIE of their sanitary status and other relevant matters (and to notify the WTO SPS Committee where applicable), in accordance with established procedures.*	Levels of advancement
	1. The AAHS do not notify.
	2. The AAHS occasionally notify.
	3. The AAHS notify in compliance with the procedures established by these organisations.
	4. The AAHS regularly inform stakeholders of changes in their regulations and decisions on the control of relevant diseases and of the country's sanitary status, and of changes in the regulations and sanitary status of other countries.
	5. The AAHS, in cooperation with their stakeholders, carry out audits of their transparency procedures.

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.47, OIE website**

Findings:

Mozambique notifies the OIE in compliance with laid down procedures.

However, due to institutional constraints, timely reporting by INIP (this includes the OIE Focal Point on AAH) is not always accomplished. The reason being, that INIP has to report AAD through the OIE Delegate and WAHIS contact point, based at the Directorate of Veterinary Services (DNSV). An example is the present outbreak report of WSD, which was transmitted 8 days following the confirmation of the test results due to communication constraints between the 2 government institutions involved (INIP & DNSV).

Weaknesses:

- Institutional and administrative constraints in the aquatic animal disease reporting pathway.

Recommendations

- The Team recommends that INIP and the OIE Delegate optimize the internal coordination mechanisms to facilitate the timely reporting of aquatic animal disease outbreaks from the OIE Focal Point for Aquatic Animal Health, through the OIE Delegate, to the OIE WAHIS data management

IV-7. Zoning *The authority and capability of the AAHS to establish and maintain disease free zones, as necessary and in accordance with the criteria established by the OIE (and by the WTO SPS Agreement where applicable).*	Levels of advancement
	1. The AAHS cannot establish disease free zones.
	2. As necessary, the AAHS can identify aquatic animal sub-populations with distinct health status suitable for zoning.
	3. The AAHS have implemented biosecurity measures that enable it to establish and maintain disease free zones for selected aquatic animals and aquatic animal products, as necessary.
	4. The AAHS collaborate with their stakeholders to define responsibilities and execute actions that enable it to establish and maintain disease free zones for selected aquatic animals and aquatic animal products, as necessary.
	5. The AAHS can demonstrate the scientific basis for any disease free zones and can gain recognition by trading partners that they meet the criteria established by the OIE (and by the WTO SPS Agreement where applicable).

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.60**

Findings:

Under present circumstances of a legal void with respect to AAH in Mozambique, the establishment of aquatic disease free zones is not possible.

In the opinion of the Team there is at this stage neither the capability nor sufficient knowledge of the sanitary status in the country to establish disease free zones.

Weaknesses:

- No legal framework for AAH

IV-8. Compartmentalisation *The authority and capability of the AAHS to establish and maintain disease free compartments as necessary and in accordance with the criteria established by the OIE (and by the WTO SPS Agreement where applicable)*	Levels of advancement
	1. The AAHS cannot establish disease free compartments.
	2. As necessary, the AAHS can identify aquatic animal sub-populations with a distinct health status suitable for compartmentalisation.
	3. The AAHS have implemented biosecurity measures that enable it to establish and maintain disease free compartments for selected aquatic animals and aquatic animal products, as necessary.
	4. The AAHS collaborate with their stakeholders to define responsibilities and execute actions that enable it to establish and maintain disease free compartments for selected aquatic animals and aquatic animal products, as necessary.
	5. The AAHS can demonstrate the scientific basis for any disease free compartments and can gain recognition by other countries that they meet the criteria established by the OIE (and by the WTO SPS Agreement where applicable).

Terrestrial and Aquatic Code reference(s): Annexe 1

Evidence: **E.60**:

Findings:

The establishment of aquatic disease free compartments, being normally a private sector driven initiative, could offer a viable option for the export of aquatic sub-populations such as prawn and tilapia.

In view of the present outbreak of WSD and the urgent need to ensure economic survival and sustainability for the few existing aquatic animal farming establishments (brood stock and aquatic products) the possibility to establish and maintain disease free compartments is considered by the Team as a very high implementation priority.

Weaknesses:

- No legal framework for AAH

Recommendations

- Investigate possibilities; formulate necessary guidelines and procedures, to implement in close cooperation with private sector aquatic animal disease free compartments in identified localities in Mozambique.

PART IV: CONCLUSIONS

The OIE Aquatic Animal Health Code 2011[85] defines "aquatic animal health services" as:

> *the governmental and non-governmental organizations that implement animal health and welfare measures and other standards and recommendations in the Aquatic Code in the territory. The Aquatic Animal Health Services are under the overall control and direction of the Competent Authority. Private sector organizations, veterinarians, aquatic animal health professionals or veterinary paraprofessionals are normally accredited or approved by the Competent Authority to deliver the delegated functions*

Based on the OIE Code Standard and the results of this OIE-PVS Evaluation of the AAHS of Mozambique, the summary conclusions follow:

- There is no legislation to deal with aquatic animal health and aquatic animal diseases;
- None of the five specialized institutions, nor any other part of the Ministry of Fisheries has an aquatic animal health mandate;
- The Directorate of Veterinary Services (DNSV) has no aquatic animal health mandate;
- No legal or administrative procedures or regulations are in place to deal with aquatic animal health emergencies;
- There exists minimal professional and institutional capacity to address:
  - preventative,
  - diagnostic,
  - curative,
  - control and
  - eradication

  needs within the aquatic animal health sector;
- The outbreak of White Spot Disease in late August 2011 demonstrated the inability of Mozambique fisheries institutions, due to the absence of an aquatic animal health mandate, to deal promptly with an aquatic animal disease emergency and to take immediate and decisive remedial actions;
- A high level of professional and technical expertise, aided by an appropriate chain of command, has been implemented for post-harvest veterinary public health, food safety and traceability regarding aquatic animal products for human use;
- Existing laboratory infrastructure and proven institutional capacity at INIP could serve as a framework for developing the diagnostic and surveillance needs and requirements for an Aquatic Animal Health Service for Mozambique.

[85] E.60

PART V: APPENDICES

Appendix 1: Terrestrial and Aquatic Code references for critical competencies

Critical Competences	Terrestrial Code references	Aquatic Code reference
I.1.A **I.1.B** **I.2.A** **I.2.B**	Article 3.2.5. on Evaluation criteria for human resources. Article 3.2.12. on Evaluation of the veterinary statutory body. Points 1-2 and 5 of Article 3.2.14. on Organisation and structure of Veterinary Services / National information on human resources / Laboratory services.	Points 1-5 of Article 3.1.2. on Fundamental principles of quality: Professional judgement / Independence / Impartiality / Integrity / Objectivity. Points 7 and 14 of Article 3.1.2. on Fundamental principles of quality: General organisation / Human and financial resources.
I.3	Article 3.2.5. on Evaluation criteria for human resources. Sub-point d) of Point 4 of Article 3.2.10. on Veterinary Services administration: In-service training and development programme for staff. Point 9 of Article 3.2.14. on Performance assessment and audit programmes.	Points 1, 7 and 14 of Article 3.1.2. on Fundamental principles of quality: Professional judgement / General organisation / Human and financial resources.
I.4		Point 2 of Article 3.1.2. on Fundamental principles of quality: Independence.
I.5	Point 1 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services. Point 9 of Article 3.2.14. on Performance assessment and audit programmes.	
I.6.A **I.6.B**	Article 3.2.2. on Scope. Points 1 and 2 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services. Point 4 of Article 3.2.10 on Performance assessment and audit programmes.	Points 6, 7, and 9 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / General organisation / Procedures and standards.
I.7	Point 2 of Article 3.2.4. on Evaluation criteria for quality system: "Where the Veterinary Services undergoing evaluation… than on the resource and infrastructural components of the services". Points 2 and 3 of Article 3.2.6. on Evaluation criteria for material resources: Administrative / Technical. Point 3 of Article 3.2.10. on Performance assessment and audit programmes: Compliance. Point 4 of Article 3.2.14. on Administration details.	
I.8 **I.9** **I.10**	Point 1 of Article 3.2.6. on Evaluation criteria for material resources: Financial. Point 3 of Article 3.2.14. on Financial management information.	Point 6 and 14 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / Human and financial resources.
I.11	Point 4 of Article 3.2.1. on General considerations. Point 1 of Article 3.2.2. on Scope. Article 3.2.6. on Evaluation criteria for material resources. Article 3.2.10. on Performance assessment and audit programmes.	Points 7, 11 and 14 of Article 3.1.2. on Fundamental principles of quality: General organisation / Documentation / Human and financial resources.
II.1 **II.2**	Point 1 of Article 3.2.4. on Evaluation criteria for quality systems. Point 3 of Article 3.2.6. on Evaluation criteria for material resources: Technical. Point 5 of Article 3.2.14. on Laboratory services.	Point 9 of Article 3.1.2. on Fundamental principles of quality: Procedures and standards.
II.3		Chapter 2.2. on Import risk analysis.
II.4	Point 2 of Article 3.2.7. on Legislation and functional capabilities: Export/import inspection. Points 6 and 7 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities / Animal health and veterinary public health controls.	Point 6 and 9 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / Procedures and standards.
II.5.A **II.5.B** **II.6** **II.7**	Points 1-3 of Article 3.2.8. on Animal health controls: Animal health status / Animal health control / National animal disease reporting systems. Sub-points a) i), ii) and iii) of Point 7 of Article 3.2.14. on Animal health: Description of and sample reference data from any national animal disease	Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / General organisation / Procedures and standards.

	reporting system controlled and operated or coordinated by the Veterinary Services / Description of and sample reference data from other national animal disease reporting systems controlled and operated by other organisations which make data and results available to Veterinary Services / Description and relevant data of current official control programmes including:… or eradication programmes for specific diseases.	
II.8	Points 1-5 of Article 3.2.9. on Veterinary public health controls: Food hygiene / Zoonoses / Chemical residue testing programmes / Veterinary medicines/ Integration between animal health controls and veterinary public health. Points 2, 6 and 7 of Article 3.2.14. on National information on human resources / Veterinary legislation, regulations and functional capabilities / Animal health and veterinary public health controls. Chapter 6.2. on Control of biological hazards of animal health and public health importance through ante- and post-mortem meat inspection.	Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / General organisation / Procedures and standards.
II.9	Points 3 and 4 of Article 3.2.9. on Veterinary public health controls: Chemical residue testing programmes / Veterinary medicines. Sub-point a) ii) of Point 6 of Article 3.2.14. on Animal health and veterinary public health: Assessment of ability of Veterinary Services to enforce legislation. Chapters 6.6. to 6.10. on Antimicrobial resistance.	Point 6 and 9 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / Procedures and standards. Chapter 6.2. Introduction to the recommendations for controlling antimicrobial resistance.
II.10	Points 3 and 4 of Article 3.2.9. on Veterinary public health controls: Chemical residue testing programmes / Veterinary medicines. Sub-points b) iii) and iv) of Point 7 of Article 3.2.14. on Veterinary public health: Chemical residue testing programmes / Veterinary medicines. Chapters 6.6. to 6.10. on Antimicrobial resistance.	Chapter 6.2. Introduction to the recommendations for controlling antimicrobial resistance.
II.11	Point 1 of Article 3.2.7. on Functional capabilities and legislative support: Animal health and veterinary public health.	Points 7 and 9 of Article 3.1.2. on Fundamental principles of quality: General organisation / Procedures and standards.
II.12	Point 3 of Article 3.2.8. on Animal health controls: National animal disease reporting systems. Sub-point f) of Point 4 of Article 3.2.10. on Veterinary Services administration: Formal linkages with sources of independent scientific expertise. Points 6 and 7 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities / Animal health and veterinary public health controls.	Points 7 and 9 of Article 3.1.2. on Fundamental principles of quality: General organisation / Procedures and standards.
II.13	Chapter 4.1. on General principles on identification and traceability of live animals. Chapter 4.2. on Design and implementation of identification systems to achieve animal traceability.	Point 6 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation.
II.14	Chapter 7.6. Killing of animals for disease control purposes	Chapter 7.1. Introduction to the recommendations for the welfare of farmed fish. Chapter 7.2. Welfare of farmed fish during transport. Chapter 7.3. Welfare aspects of stunning and killing of farmed fish for human consumption.
III.1	Sub-point b) of Point 2 of Article 3.2.6. on Administrative resources: Communications. Point 4 of Article 3.2.14. on Administration details.	Point 13 of Article 3.1.2. on Fundamental principles of quality: Communication.
III.2	Point 2 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services. Point 4 and Sub-point g) of Point 9 of Article 3.2.14. on Administration details and on Sources of independent scientific expertise.	Point 13 of Article 3.1.2. on Fundamental principles of quality: Communication.
III.3	Article 3.2.11. on Participation on OIE activities. Point 4 of Article 3.2.14. on Administration details.	
III.4	Point 7 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services	Points 6, 7 and 8 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / General organisation / Procedures and standards.
II.5	Points 2 and 7 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services. Point 7 of Article 3.2.14. on Animal health and veterinary public health controls.	Point 6 and 13 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / Communication.

IV.1	Points 1 and 2 of Article 3.2.7. on Legislation and functional capabilities: Animal health, animal welfare and veterinary public health / Export/import inspection. Point 6 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities.	Points 6, 7 and 8 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / General organisation / Procedures and standards.
IV.2	Points 1 and 2 of Article 3.2.7. on Legislation and functional capabilities: Animal health, animal welfare and veterinary public health / Export/import inspection. Point 6 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities.	Points 6, 7 and 8 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / General organisation / Procedures and standards.
IV.3	Article 3.2.11. on Participation in OIE activities. Points 6 and 10 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities / Membership of the OIE.	Point 6 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation.
IV.4	Point 2 of Article 3.2.7. on Legislation and functional capabilities: Export/import inspection. Sub-point b) of Point 6 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities: Export/import inspection.	Points 6, 7 and 8 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / General organisation / Procedures and standards. Chapter 5.2. on Certification procedures. Chapter 5.10. on Model health certificates for international trade in live aquatic animals and products of aquatic animal origin.
IV.5	Sub-point g) of Point 4 of Article 3.2.10. on Veterinary Services administration: Trade performance history. Chapter 5.3. on OIE procedures relevant to the Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization.	Point 6 and 7 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation / General organisation. Article 2.1.2. on The Agreement on the Application of Sanitary and Phytosanitary Measures and role responsibility of the OIE.
IV.6	Points 1 and 3 of Article 3.2.8. on Animal health controls: Animal health status / National animal disease reporting systems.	Point 6 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation. Chapter 5.1. on General obligations related to certification.
IV.7		Point 6 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation. Chapter 4.1. on Zoning and compartmentalisation.
IV.8		Point 6 of Article 3.1.2. on Fundamental principles of quality: Aquatic animal health legislation and regulation. Chapter 4.1. on Zoning and compartmentalisation. Chapter 4.2. on Application of compartmentalisation.

Appendix 2: Glossary of terms

Terms defined in the Aquatic Animal Health Code that are used in this publication are reprinted here for ease of reference.

Aquaculture

means the farming of aquatic animals with some sort of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators, etc.

Aquaculture establishment

means an establishment in which fish, molluscs or crustaceans for breeding, stocking or marketing are raised or kept.

Aquatic animal health status

means the status of a country, zone or compartment with respect to an aquatic animal disease, according to the criteria listed in the relevant chapter of the Aquatic Code dealing with the disease.

Aquatic Animal Health Services

means the governmental and non-governmental organisations that implement animal health and welfare measures and other standards and recommendations in the Aquatic Code in the territory. The Aquatic Animal Health Services are under the overall control and direction of the Competent Authority. Private sector organisations, veterinarians, aquatic animal health professionals or veterinary paraprofessionals are normally accredited or approved by the Competent Authority to deliver the delegated functions.

Aquatic animal products

means non-viable aquatic animals and products from aquatic animals.

Aquatic animals

means all life stages (including eggs and gametes) of fish, molluscs, crustaceans and amphibians originating from aquaculture establishments or removed from the wild, for farming purposes, for release into the environment, for human consumption or for ornamental purposes.

Aquatic Code

means the OIE Aquatic Animal Health Code.

Aquatic Manual

means the OIE Manual of Diagnostic Tests for Aquatic Animals.

Basic biosecurity conditions

means a set of conditions applying to a particular disease, and a particular zone or country, required to ensure adequate disease security, such as:

a) the *disease*, including suspicion of the *disease*, is compulsorily notifiable to the *Competent Authority*; and
b) an *early detection system* is in place within the *zone* or country; and
c) import requirements to prevent the introduction of *disease* into the country or *zone*, as outlined in the *Aquatic Code*, are in place.

Biological products

means:

a) biological reagents for use in the diagnosis of certain diseases;
b) sera for use in the prevention and treatment of certain diseases;
c) inactivated or modified vaccines for use in preventive vaccination against certain diseases;
d) genetic material of infectious agents;
e) endocrine tissues from fish or used in fish.

Biosecurity plan

means a plan that identifies significant potential pathways for the introduction and spread of disease in a zone or compartment, and describes the measures which are being, or will be, applied to mitigate the risks to introduce and spread disease, taking into consideration the recommendations in the Aquatic Code. The plan should also describe how these measures are audited, with respect to both their implementation and their targeting, to ensure that the risks are regularly re-assessed and the measures adjusted accordingly.

Certifying official

means a person authorised by the Competent Authority to sign health certificates for aquatic animals.

Commodity

means aquatic animals, aquatic animal products, biological products and pathological material.

Compartment

means one or more aquaculture establishments under a common biosecurity management system containing an aquatic animal population with a distinct health status with respect to a specific disease or diseases for which required surveillance and control measures are applied and basic biosecurity conditions are met for the purpose of international trade. Such compartments must be clearly documented by the Competent Authority(ies).

Competent Authority

means the Veterinary Authority or other Governmental Authority of a Member having the responsibility and competence for ensuring or supervising the implementation of aquatic animal health and welfare measures, international health certification and other standards and recommendations in the Aquatic Code in the whole territory.

Contingency plan

means a documented work plan designed to ensure that all needed actions, requirements and resources are provided in order to eradicate or bring under control outbreaks of specified diseases of aquatic animals.

Diagnosis

means determination of the nature of a disease.

Disease

means clinical or non clinical infection with one or more of the aetiological agents of the diseases referred to in the Aquatic Code.

Disinfectants

means chemical compounds capable of destroying pathogenic microorganisms or inhibiting their growth or survival ability.

Disinfection

means the application, after thorough cleansing, of procedures intended to destroy the infectious or parasitic agents of diseases of aquatic animals, including zoonoses; this applies to aquaculture establishments (i.e. hatcheries, fish farms, oyster farms, shrimp farms, nurseries, etc.), vehicles, and different equipment/objects that may have been directly or indirectly contaminated.

Early detection system

means an efficient system for ensuring the rapid recognition of signs that are suspicious of a listed disease, or an emerging disease situation, or unexplained mortality, in aquatic animals in an aquaculture establishment or in the wild, and the rapid communication of the event to the Competent Authority, with the aim of activating diagnostic investigation by the Aquatic Animal Health Services with minimal delay. Such a system will include the following characteristics:

a) broad awareness, e.g. among the personnel employed at aquaculture establishments or involved in processing, of the characteristic signs of the listed diseases and emerging diseases;
b) veterinarians or aquatic animal health professionals trained in recognising and reporting suspicions of disease occurrence;
c) ability of the Aquatic Animal Health Services to undertake rapid and effective disease investigation based on a national chain of command;
d) access by the Aquatic Animal Health Services to laboratories with the facilities for diagnosing and differentiating listed diseases and emerging diseases;
e) the legal obligation of private veterinarians or aquatic animal health professionals to report suspicions of disease occurrence to the Competent Authority.

Egg

means a viable fertilised ovum of an aquatic animal. 'Green eggs' means newly fertilised ova of fish. 'Eyed eggs' means eggs of fish where the eyes of the embryo are visible and that the eggs may be transported.

Emerging disease

means a newly recognised infection resulting from the evolution or change of an existing pathogenic agent, a known infection spreading to a new geographic area or population, or a previously unrecognised pathogenic agent or a disease diagnosed for the first time and which has a significant impact on aquatic animal or public health.

Epidemiological unit

means a group of animals that share approximately the same risk of exposure to a pathogenic agent with a defined location. This may be because they share a common aquatic environment (e.g. fish in a pond, caged fish in a lake), or because management practices make it likely that a pathogenic agent in one group of animals would quickly spread to other animals (e.g. all the ponds on a farm, all the ponds in a village system).

Eviscerated fish

means fish from which internal organs, excluding the brain and gills, have been removed.

Fallowing

means, for disease management purposes, an operation where an aquaculture establishment is emptied of aquatic animals susceptible to a disease of concern or known to be capable of transferring the pathogenic agent, and, where feasible, of the carrying water. For aquatic animals of unknown susceptibility and those agreed not to

be capable of acting as carriers of a disease of concern, decisions on fallowing should be based on a risk assessment.

Feed

means any material (single or multiple), whether processed, semi-processed or raw that is intended to be fed directly to aquatic animals.

Feed ingredient

means a component, part or constituent of any combination or mixture making up a feed, including feed additives, whether or not it has a nutritional value in the animal's diet. Ingredients may be of terrestrial or aquatic, plant or animal origin and may be organic or inorganic substances.

Free compartment

means a compartment that fulfils the requirements for self-declaration of freedom from disease with respect to the disease(s) under consideration, according to the relevant chapter(s) in the Aquatic Code.

Free country

means a country that fulfils the requirements for self-declaration of freedom from disease with respect to the disease(s) under consideration according to the relevant chapter(s) in the Aquatic Code.

Free zone

means a zone that fulfils the requirements for self-declaration of freedom from disease with respect to the disease(s) under consideration according to the relevant chapter(s) in the Aquatic Code.

Frontier post

means any international airport or any port, railway station or road post open to international trade.

Gametes

means the sperm or unfertilised eggs of aquatic animals that are held or transported separately prior to fertilisation.

Importing country

means a country that is the final destination to which aquatic animals, aquatic animal products, biological products or pathological material are sent.

Incidence

means the number of new outbreaks of disease within a specified period of time in a defined aquatic animal population.

Infected zone

means a zone in which a disease has been diagnosed.

Infection

means the presence of a multiplying or otherwise developing or latent pathogenic agent in a host. This term is understood to include infestation where the pathogenic agent is a parasite in or on a host.

International aquatic animal health certificate

means a certificate, issued in conformity with the provisions of Chapter 5.10., describing the aquatic animal health and/or public health requirements that should be fulfilled prior to export of commodity.

International trade

means import, export or transit of aquatic animals, aquatic animal products, biological products and pathological material.

Live feed

means live farmed or wild caught animals and algae used as feed for aquatic animals. Live feed is often fed to aquatic animal species at an early life-stage and to aquatic animal species that have been cultured for a relatively short time.

Meal

means a product derived from an aquatic animal that has been ground and heat processed to reduce the moisture content to less than 10%.

Notification

means the procedure by which the Veterinary Authority informs the Headquarters, the Central Bureau inform Veterinary Authorities of Members of the occurrence of a disease, according to the provisions of Section 1. of the Aquatic Code.

OIE listed diseases

means diseases that are referred to in Chapter 1.3. of the Aquatic Code. (Synonym: diseases listed by the OIE.)

Pathogenic agent

means an organism that causes or contributes to the development of a disease referred to in the Aquatic Code.

Protection zone

means a zone established to protect the health status of aquatic animals in a free country or free zone, from those in a country or zone of a different aquatic animal health status, using measures based on the epidemiology of the disease under consideration to prevent spread of the pathogenic agent into a free country or free zone. These measures may include, but are not limited to, vaccination, movement control and an intensified degree of surveillance.

Quarantine

means maintaining a group of aquatic animals in isolation with no direct or indirect contact with other aquatic animals, in order to undergo observation for a specified length of time and, if appropriate, testing and treatment, including proper treatment of the effluent waters.

Risk analysis

means the complete process composed of hazard identification, risk assessment, risk management and risk communication.

Risk assessment

means the evaluation of the likelihood and the biological and economic consequences of entry, establishment and spread of a hazard within the territory of an importing country.

Risk communication

is the interactive exchange of information and opinions throughout the risk analysis process concerning risk, risk-related factors and risk perceptions among risk assessors, risk managers, risk communicators, the general public and other interested parties.

Risk management

means the process of identifying, selecting and implementing measures that can be applied to reduce the level of risk.

Sanitary measure

means a measure, such as those described in various chapters of the Aquatic Code, destined to protect aquatic animal or human health or life within the territory of the OIE Member from risks arising from the entry, establishment and/or spread of a hazard.

Self-declaration of freedom from disease

means declaration by the Competent Authority of the country concerned that the country, zone or compartment is free from a listed disease based on implementation of the provisions of the Aquatic Code and the Aquatic Manual. The Veterinary Authority of the country may wish to transmit this information to the OIE Central Bureau, which may publish the information.

Stamping-out policy

means the carrying out under the authority of the Competent Authority, on confirmation of a disease, of preventive aquatic animal health measures, consisting of killing the aquatic animals that are affected, those suspected of being affected in the population and those in other populations that have been exposed to infection by direct or indirect contact of a kind likely to cause the transmission of the pathogenic agent. All these aquatic animals, vaccinated or unvaccinated, on an infected site should be killed and the carcasses destroyed by burning or burial, or by any other method that will eliminate the spread of infection through the carcasses or products of the aquatic animals destroyed.

This policy should be accompanied by cleansing and disinfection procedures as defined in the Aquatic Code. Fallowing should be for an appropriate period determined by risk assessment.

Surveillance

means a systematic series of investigations of a given population of aquatic animals to detect the occurrence of disease for control purposes, and which may involve testing samples of a population.

Susceptible species

means a species of aquatic animal in which infection has been demonstrated by natural cases or by experimental exposures to the pathogenic agent that mimics the natural pathways for infection. Each disease chapter in the Aquatic Code and the Aquatic Manual contains a list of currently known susceptible species.

Target population

means, for the purposes of demonstrating freedom from infection, the population of interest, usually made up of all aquatic animals of species susceptible to a specified pathogenic agent in a defined country, zone or aquaculture establishment.

Targeted surveillance

means surveillance targeted at a specific disease or infection.

Vehicle

means any method of transport by land, air or water.

Veterinarian

means a person registered or licensed by the relevant veterinary statutory body of a country to practise veterinary medicine/science in that country.

Veterinary Authority

means the Governmental Authority of an OIE Member, comprising veterinarians, other professionals and para-professionals, having the responsibility and competence for ensuring or supervising the implementation of aquatic animal health and welfare measures, international aquatic animal health certification and other standards and recommendations in the Aquatic Code in the whole territory.

Veterinary Services

means the governmental and non-governmental organisations that implement animal health and welfare measures and other standards and recommendations in the Terrestrial and Aquatic Codes in the territory. The Veterinary Services are under the overall control and direction of the Veterinary Authority. Private sector organisations, veterinarians, veterinary paraprofessionals or aquatic animal health professionals are normally accredited or approved by the Veterinary Authority to deliver the delegated functions.

Water catchment

means an area or basin of land bounded by natural features such as hills or mountains, into which all run-off water flows.

Zone

means a portion of one or more countries comprising:

a) an entire water catchment from the source of a waterway to the estuary or lake, or
b) more than one water catchment, or
c) part of a water catchment from the source of a waterway to a barrier that prevents the introduction of a specific disease or diseases, or
d) part of a coastal area with a precise geographical delimitation, or
e) an estuary with a precise geographical delimitation,

that consists of a contiguous hydrological system with a distinct health status with respect to a specific disease or diseases. The zones must be clearly documented (e.g. by a map or other precise locators such as GPS co-ordinates) by the Competent Authority(ies)

Appendix 3. List of persons met or interviewed

MAPUTO - 18th September 2011

OIE-PVS Programme Discussion and Planning

Dr. H. Schneider
Dr. E. Brun
Dr. R. Lewis

Opening meeting

MAPUTO - 19th September 2011

Institute of Fisheries Inspection – INIP - Competent Authority

Dr. Florência Cipriano	OIE Delegate for Mozambique & DVS DNSV
Mrs Ana Paula Baloi	Director of INIP and OIE Focal Point Aquatic
Lucia Sumbana Santos	INIP Delegate Maputo
Jovita Bangalane	INIP Fish Inspector Maputo
Argentina Cossa	INIP Fish Inspector Maputo
Maria Luis Fernandes	INIP: Head: Laboratories Department
Carlos Riquixo	INIP: Head: Quality Control
Baltasar Macucule .	DNSV: Head Epidemiology
José Murama	IIP: Head of Dept Aquaculture
Filipe Januário	INIP Fish Inspector & Team Resource Person
Francisco Bomba	Fisheries School (EP): Director

Field visits, meetings and interviews

MAPUTO - 19th September 2011

INIP – Provincial Delegation Maputo Province

Lucia Sumbana Santos	Delegate
Jovita Bangalane	Fish Inspector
Argentina Cossa	Fish Inspector

INIP – Fisheries Laboratory Maputo (LIP)

Maria Luis Fernandes	Head: laboratories Department
Carlos Riquixo	Head: Quality Control

MAPUTO - 20th September 2011

Fisheries Research Institute (IIP)

Atanasio Brito	Deputy Director
José Murama	Head of Dept Aquaculture

Institute for Small Scale Fishery Development (IDPPE)

João Gomes	Technician

Açucena Jamisse	Assistant

Facility: Prestige Processing Establishment (Private Company)

Unknown	Head: Quality Control

Facility: Maputo Harbour Ice Factory (Private Company)

Lucia Sumbana Santos	INIP Maputo Delegate

MATOLA - 20th September 2011

Facility: Fisheries School (EP)

Francisco Bomba	Director
Cremildo Luciano Ngulele	Head of Pedagogic Department
Venancio Nhavoto	Lecturer
Maria de Fatima A. Soto	Lecturer

MAPUTO - 21st September 2011

Facility: National Veterinary Faculty (University E.Mondlane = UEM)

Custodio Bilo	Dean: Veterinary Faculty

Facility: Biotechnology Laboratory - National University

Luiz Neves	Director

Facility: Institute of Animal Sciences – Instituto de Investigacao Agraria de Mocambique (IIAM)

Paula Travassos Dias	Director: Animal Sciences
Sara Achá	Head: Central Veterinary Laboratory

Facility: Pathology section – Central Veterinary Laboratory (CVL) - Animal Science Directorate

Alfonso Henriques Sussuro	CVL: Head: Pathology Laboratory

Facility: Microbiology section – Central Veterinary Laboratory (CVL) - Animal Science Directorate

Head: Serology Section

Facility: Private sector Representation – Association of shrimp producers in Mozambique (APCM & AMAPIC)

Moises Rafael Massinga	President
Sergio Wiliamo	Project assistant
Pierre Philippe Blanc	Technical assistant
João Marcos Mangave	General Secretary: Association of Industrial Fleet of Prawn Producers (AMAPIC)

Facility: Institute for Aquaculture in Mozambique (INAQUA)

José Halafo	Deputy Director

Elvira Xerinda	Head of Production Department

BEIRA - 22nd September 2011

Facility: INIP – Provincial Delegation Sofala Province

Rosário Hermínio	INIP Delegate Sofala Province
Narciso José Zita	Inspector: Veterinary graduate
Sacramento Phiri	Inspector: Veterinary graduate
Cristolino Clemente Rufino	Technologist

Facility: INIP – Fisheries Laboratory Sofala (LIP)

Carlos Alberto Morais	Technician
Helena Selsa Matola	Technician
Lourenço Caetano	Technician

Facility: PRAPESCA – non-operational EU approved processing facility

General Manager

Facility: Beira Fishing Harbour

Port Director

Facility: Sol & Mar shrimp aquaculture farm and processing

Chan Hui Zhao	General Manager
Américo Duarte	Quality Control Manager

VILANCULO - 23rd September 2011

Facility: MARBAR – private, commercial brood stock establishment for tilapia

XIBAHA – private, commercial brood stock establishment for prawns

Andrisa Schnell	Owner & Manager Xihaba
Dr Chris Schnell	Owner & Manager Marbar
Desmond James	Technician
Arménio Domingues	Fish Inspector
Sérgio Bobuane Manjate	Fish Inspector
Agostinho da Gloria	Fish Inspector

LAGOA DI GOMBENI - 24th September 2011

Facility: MARBAR Tilapia brood establishment (private, commercial)

Dr Chris Schnell	Owner & Manager Marbar
Servogel Eduardo Brandão	Technician
Adelson Ventura	Technician
Arménio Domingues	Fish Inspector
Sérgio Manjate	Fish Inspector
Agostinho da Gloria	Fish Inspector

VILANCULO - 24th September 2011

Facility: INIP – Provincial Delegation Inhambane Province

Arménio Domingues	Fish Inspector
Sérgio Manjate	Fish Inspector
Agostinho da Gloria	Fish Inspector

QUELIMANE - 26th September 2011

Facility: INIP – Provincial Delegation Zambezia Province

Ricardina Ah-Fuy Pereira	INIP Delegate Zambezi Province
Pedro Sabado	Fish Inspector
Sónia Esperança Gemo	Fish Inspector
Dário Narciso	Fish Inspector

Facility: INIP – Fisheries Laboratory Zambezia (LIP)

Maria Isabel Manga	Laboratory Analyst
Ana Lurdes Coana	Laboratory Analyst

Facility: KRUSTAMOZ - export approved cold store

Quality Control Manager

Facility: Quelimane Fishing Harbour

Port Director

INHASSUNGE - 27h September 2011

Facility: AQUAPESCA – shrimp farm and processing establishment under closed for export due to disease outbreak

Francois Grosse	Managing Director
Carlos Marcos Bacainane	Supervisor: Incineration action
Mathieu Meralikan	Zootechnician
Anna Auré	Scientist: Mangrove Crab Project

QUELIMANE - 27h September 2011

Facility: INIP – Provincial Delegation Zambezia Province

Ricardina Ah-Fuy Pereira	INIP Delegate Zambezi Province
Pedro Sabado	Fish Inspector.
Sónia Esperança Gemo	Fish Inspector
Dário Narciso	Fish Inspector
Maria Isabel Manga	Laboratory Analyst
Ana Lurdes Coana	Laboratory Analyst

MAPUTO - 28th September 2011

Facility: MINISTRY OF FISHERIES – OFFICE OF VICE-MINISTER

Vice- Minister of Fisheries	Ministry of Fisheries
Mrs Ana Paula Baloi	Director of INIP and OIE Focal Point Aquatic

Closing meeting

MAPUTO - 29th September 2011

Institute of Fisheries Inspection – INIP - Competent Authority

Mrs Ana Paula Baloi	Director of INIP and OIE Focal Point Aquatic
Maria Luis Fernandes	INIP: Head: Laboratories Department
Baltasar Macucule .	DNSV: Head Epidemiology
José Murama	IIP: Head of Dept Aquaculture
Filipe Januário	INIP Fish Inspector & Team Resource Person

Appendix 4: Timetable of the mission and sites/ facilities visited

18th September 2011

Place: **MAPUTO**
Team arrival

Facility: **Girassol Bahia Hotel** - Meeting Director of INIP
TOPIC: Discussion of needs and programme

19th September 2011

Place: **MAPUTO**

Facility: **Institution of Fisheries Inspection – INIP - Competent Authority**
TOPIC: Opening meeting of OIE-PVS AQUATIC ANIMAL HEALTH evaluation
Discussion and finalisation of programme
General information and discussion with Director, Deputy Directors and Senior Management personnel

Facility: **INIP – Provincial Delegation Maputo Province**
TOPIC: General information regarding the OIE-PVS Aquatic Mission and levels of authority

Facility: **INIP – Fisheries Laboratory Maputo (LIP)**
TOPIC: Laboratory investigations performed

20th September 2011

Place: **MAPUTO**

Facility: **Fisheries Research Institute (IIP)**
TOPIC: Services rendered and research (stock assessments) performed

Facility: **Institute for Small Scale Fishery Development (IDPPE)**
TOPIC: Services rendered and level of extension services

MATOLA

Facility: **Fisheries School (EP)**
TOPIC: Curriculum of courses offered & details in respect of the aquaculture course

Place: **MAPUTO**

Facility: **Prestige Processing Establishment (Private Company)**
TOPIC: Food hygiene and compliance with EU & USDA requirements & INIP controls

Facility: **Maputo Harbour Ice Factory (Private Company)**
TOPIC: Aspects of food hygiene and INIP controls

21st September 2011

Place: **MAPUTO**

Facility: **National Veterinary Faculty (University E.Mondlane = UEM)**

TOPIC: Pre- and post graduate veterinary training in aquatic animal health
- curriculum content

Visit to Histopathology and serology laboratories

Facility: **Biotechnology Laboratory - National University**
TOPIC: Laboratory capacity and functions performed for the AAHS – PPR
Co-operation with AquaPesca (commercial shrimp farm)

Facility: **Institute of Animal Sciences – Instituto de Investigacao Agraria de Mocambique (IIAM)**
TOPIC: General Information

Facility: **Pathology section – Central Veterinary Laboratory (CVL) - Animal Science Directorate**
TOPIC: Laboratory tests – histopathology on shrimp samples ex AquaPesca

Facility: **Microbiology section – Central Veterinary Laboratory (CVL) - Animal Science Directorate**
TOPIC: Laboratory tests – histopathology on shrimp samples ex AquaPesca

Facility: **Private sector Representation – Association of shrimp producers in Mozambique (APCM & AMAPIC)**
TOPIC: General discussion – feedback on the current WSS outbreak at AquaPesca

Facility: **Institute for Aquaculture in Mozambique (INAQUA)**
TOPIC: Functions and responsibilities – role in aquatic animal health

22nd September 2011

Flight TM 212 from Maputo to Beira –0700-0835

Place: **BEIRA**

Facility: **INIP – Provincial Delegation Sofala Province**
TOPIC: General administrative and financial issues – inspection and approval of vessels/ establishments procedures. Aquatic animal health certification

Facility: **INIP – Fisheries Laboratory Sofala (LIP)**
TOPIC: Laboratory investigations performed

Facility: **PRAPESCA – non-operational EU approved processing facility**
TOPIC: Food hygiene re processing and packaging

Facility: **Beira Fishing Harbour**
TOPIC: Fishing vessels and new, to be inaugurated, processing facility

Facility: **Sol & Mar shrimp aquaculture farm and processing**
TOPIC: Coastal, semi-intensive commercial operation - Aquatic animal health issues – preventative measures in view of WSS outbreak in Mozambique

Flight TM 107 from Beira to Maputo – 2105-2240

Place: **MAPUTO**
Overnight

23rd September 2011

Flight TM 2120 from Maputo to Vilanculo – 1200-1315

Place: **VILANCULO**

Facility: **MARBAR – private, commercial brood stock establishment for tilapia &**
XIBAHA – private, commercial brood stock establishment for prawns
TOPIC Prawn brood stock facility and fish farming (Tilapia):

Overnight Vilanculo

24th September 2011

Place: **LAGOA de GOMBENI**

Facility: **MARBAR Tilapia brood establishment (private, commercial)**
TOPIC: Aquatic animal health and food hygiene

Place: **VILANCULO**

Facility: **INIP – Provincial Delegation Inhambane Province**
TOPIC: General administrative and financial issues – inspection and approval of vessels/ establishments procedures. Aquatic animal health certification

Flight TM 2122 from Vilanculo to Maputo – 1410-1525

Place: **MAPUTO**
Overnight

25th September 2011

Flight TM 142 from Maputo to Quelimane – 1245-1445

Place: **QUELIMANE**
Team discussions and report writing

Overnight

26th September 2011

Place: **QUELIMANE**

Facility: **INIP – Provincial Delegation Zambezia Province**
TOPIC: General administrative and financial issues – inspection and approval of vessels/ establishments procedures. Health certification

Facility: **INIP – Fisheries Laboratory Zambezia (LIP)**
TOPIC: Laboratory investigations performed

Facility: **CRUSTAMOZ - export approved cold store**
TOPIC: Export certification and food hygiene

Facility: **Quelimane Fishing Harbour**
TOPIC: Export certification – shallow water prawn fishery vessels

27th September 2011

Place: **INHASSUNGE**

Facility: **AQUAPESCA – shrimp farm and processing establishment under closed for export due to disease outbreak**
TOPIC: "White spot syndrome" outbreak investigation – epidemiology – aquatic animal health – surveillance and sampling plan – incineration of prawns

Place: **QUELIMANE**

Facility: **INIP – Provincial Delegation Zambezia Province**
TOPIC: Round table discussion on the AquaPesca situation, general measures taken and the way forward

Place: **ZALALA**

Facility: **ARTISANAL FISHERIES**
TOPIC: Landing of fresh fish and frozen by-catch ex deep-sea trawlers – local distribution of fish

Flight TM 147 from Quelimane to Maputo – 2100-2300

Place: **MAPUTO**
Overnight

28th September 2011

Place: **MAPUTO**

TOPIC: Report compilation and writing

Facility: **MINISTRY OF FISHERIES – OFFICE OF VICE-MINISTER**
TOPIC: General feedback on the Mission and concerns re WSD outbreak

29th September 2011

Place: **MAPUTO**

Facility: **INIP**
TOPIC: Closing meeting

OIEPVS-AAH Team departure

Appendix 5: Air travel itinerary

ASSESSOR	DATE	From	To	Flight No.	Departure	Arrival
BRUN, Edgar	17.9.11	Oslo	Frankfurt	LH0863	1910	2110
	17.9.11	Frankfurt	Addis Ababa	ET 707	2315	0725 **+**
	18.9.11	Addis Ababa	Maputo	ET 819	0900	1320
	29.9.11	Maputo	Addis Ababa	ET 818	1410	2035
	29.9.11	Addis Ababa	Brussels	ET 708	2345	0845**+**
	30.10.11	Brussels	Oslo	SK 4744	1105	1300
LEWIS, Ronald	16.9.11	Vancouver, BC	London	AC854	1815	1125**+**
	17.9.11	London	Johannesburg	VS601	2030	0835**+**
	18.9.11	Johannesburg	Maputo	SA144	1350	1455
	29.9.11	Maputo	Johannesburg	SA145	1555	1705
	7.10.11	Johannesburg	London	SA234	2000	0625**+**
	8.10.11	London	Vancouver	AC855	1025	1155
SCHNEIDER Herbert	17.9.11	Windhoek	Johannesburg	SA 77	1630	1815
	18.9.11	Johannesburg	Maputo	SA 142	0945	1050
	29.9.11	Maputo	Johannesburg	SA 145	1555	1705
		Johannesburg	Windhoek	SA 78	1820	2020

+ next day

Appendix 6: List of documents used in the Aquatic PVS evaluation

E = Electronic version H = Hard copy version PP = PowerPoint Presentation C=Disk

Ref	Title	Author / Date / ISBN / Web	Related critical competences
	PRE-MISSION DOCUMENTS		
E.1	2006 FAO-MOZ Aquaculture Sector Overview	*FAO – www.fao.org*	**PART 2; II.4; IV.1**
E.2	EU-MOZ Fisheries Partnership Agreement	*http://ec.europa.eu/fisheries/cfp/international/agreements/mozambique/index_en.htmMozambique*	**IV.2**
E.3	EU relations with MOZ	*http://www.eeas.europa.eu/mozambique/index_en.htm*	**PART 2**
E.4	EU – MOZ environmental profile	*http://ec.europa.eu/development/icenter/repository/CEP_Mozambique_200607.pdf*	**PART**
E.5	2004 FAO Country review	*FAO – www.fao.org (Paula F. Afonso)*	**PART 2**
E.6	EU-MOZ Strategy Paper 2008-2013	*http://ec.europa.eu*	**PART 2**
E.7	2009 AfDB & Mozambique	*www.afdb.org*	**PART 2**
E.8	AfDB MOZ Mid term review 2006-2009	*www.afdb.org*	**PART 2**
E.9	2011 MOZ revises fisheries legislation	*http://allafrica.com/stories/201106221264.html*	**IV.1**
E.10	2011 IFAD-MOZ ProPesca	http://www.ifad.org/operations/pipeline/pf/moz.htm	**PART 2; II.8**
E.11	2008-2009 African Dev. Report	*www.afdb.org*	**PART 2**
E.12	2010 African Statistics Pocketbook	*www.afdb.org*	**PART 2**
E.13	2011 African Statistical Yearbook	*www.afdb.org*	**PART 2**
E.14	2011 African Statistical Yearbook p.251	*www.afdb.org*	**PART 2**
E.15	EU and SADC Economic Partnership Agreements	*http://ec.europa.eu/trade/wider-agenda/development/economic-partnerships/negotiations-and-agreements/#_sadc*	**PART 2; II.8 A & B; IV.4**
E.16	2008 AfDB review fisheries portfolio	*www.afdb.org*	**PART III**
E.17	2011 IMF and MOZ	*www.imf.org*	**PART III**
E.18	2011 UNDP MOZ Quick Facts	*www.undp.org*	**PART III**
E.19	AfDB 2010-2014 Agric Sector Strategy	*www.afdb.org*	**PART III**
E.20	2011 Africa Competitiveness Report	*www.worldbank.org*	**PART III**
E.21	2010 USAID MOZ Fisheries Sector Competitiveness	www.usaid.gov	**II.8 A & B; IV.1**
E.22	Illegal fishing activities	*http://www.illegal-fishing.info/sub_approach.php?subApproach_id=71*	**PART 2**
E.23	2011 Maintaining the Fisheries Sector's Access to the EU Market in Mozambique	*http://www.oecd.org/dataoecd/28/3/47407097.pdf*	**PART 2, I.2, I.7**
E.24	1998 FVOEU MOZ Fishery Products	*http://ec.europa.eu/food/fvo/index_en.htm*	**PART III**
E.25	2001 FVOEU MOZ Fishery Products	*http://ec.europa.eu/food/fvo/index_en.htm*	**PART III**
E.26	2006 FVOEU MOZ Fishery Products & Public Health	*http://ec.europa.eu/food/fvo/index_en.htm*	**PART III**
E.27	2007 FVOEU MOZ Fishery Products & Public Health & Aquaculture	*http://ec.europa.eu/food/fvo/index_en.htm*	**PART III**
E.28 **E.28 a**	2011 FVOEU MOZ Approved establishments (MAR & JUL)	*http://ec.europa.eu/food/fvo/index_en.htm*	**PART III**

E.29	Worldfish & MOZ Fisheries	*www.worldfish.org*	**PART 2**
E.30	2007 ICEIDA	*http://www.iceida.is/media/pdf/Status-Evaluation-Assistance-to-Fisheries-Laboratories-2007.pdf*	**II.7**
E.31	2008 Status Evaluation of the Cooperation between ICEIDA and INIP in Mozambique, April 2008	*http://www.iceida.is/media/pdf/A_Status_Evaluation_Report_of_the_Assistance_to_the_Fish_Quality_System_of_Mozambique_-_2008.pdf*	**II.1, II.2**
E.32	2008 Overview of SPS needs – STDF WTO	*http://www.standardsfacility.org/Files/CountryBrief/Final_Mozambique.pdf*	
E.33	2011 UNIDO ToR-LabAccreditation	*http://www.unido.org/fileadmin/media/documents/pdf/Procurement/Notices/1107/16002395/16002395%20716000586_ToR-LabAccreditation.pdf*	**II.2**
E.34	Zavora Marine Lab. - Research and Conservation in Mozambique	*http://www.zavoralab.com/fishing-monitoring.html*	**II.1**
E.35	**Mozambique Fisheries Exports: Standards Compliance and the Role of the Regional Standards Programme**	*http://www.mmw4p.org/dyn/bds/docs/703/RSP_Mozambique_Fisheries_Feb08.pdf*	**PART III**
E.36	2009 Current status of Mariculture Isabel Omar	*http://www.beijer.kva.se/ftp/WIOAQUA/Omar.pdf*	**PART III**
E.37	Marine sciences in Mozambique	*http://www.aaas.org/international/africa/moz/hoguane.html*	**PART III**
E.38	2011 SAMI & Mozambique	*http://www.samarineinstitute.org/?p=9*	**PART III**
E.39	2005 INFOSA doc Moz Fisheries data	*http://www.infosa.org.na/dloads/restrict/country%20profile/Mozambique.pdf*	**PART III**
E.40	2004 Artisanal Fisheries Co-management in Mozambique: Quirimbas Archipelago	*http://www.mcs-sadc.org/Publications/WP22Quirimb%20report.pdf*	**PART III**
E.41	2002 Future Management And Rehabilitation Of Maputo Fishing Port In Mozambique	*http://www.unuftp.is/static/fellows/document/tomas02prf.pdf*	**PART III**
E.42	ACP Fish II INIP	*http://acpfish2-eu.org/index.php?page=mozambique&hl=en*	**PART III**
E.43	2007 FAO MOZ Fishery Profile	*http://www.worldfish.org/GCI/gci_assets_moz/Mozambique%20Fishery%20Overview%20-%20FAO.pdf*	**PART III**
E.44	2008 "*OIE international standards, a lever for growth in the fisheries and aquaculture sector in Southern Africa*"	*http://www.rr-africa.oie.int/docspdf/en/2008/OIE-AAH-Maputo-June2008.pdf*	**I.2.A & B, IV.3**
E.45	2008-2012 Institutional Capacity Development for Sustainable Aquaculture in Mozambique	*http://www.iceida.is/media/verkefnagagnabanki/Mozambique-Institutional-Capacity-Building-Aquaculture-II-project-Document-2008-2012.pdf*	**III.1, I.2**
E.46	Mozambique's Public Sector Perspectives and Experiences in the Implementation of the OIE Aquatic Animal Health Standards	*Balhoi, Cipriano & Januario at www.oit.int*	**PART 2.3.B**
E.47	2010 WAHID OIE MOZ Aquatic Animal Disease data	*www.oie.int*	**PART 2.3C; IV.7**
E.48	2011 SEP Baseline info ex MOZ		**PART III**
E.49	Fisheries data ex E.48		**PART 2**
E.50	Personnel data ex E.48	*Excel sheet*	**I.1 & 2**
E.51	Organisational data compiled	*various addresses*	**PART 2**
E.52	MOZ Fisheries development & master plans	*various addresses*	**PART III**

E.53	Stakeholder organisations in MOZ	*various addresses*	**III.1, III.2**
E.54	2011 FEB Support to Shrimp Farming in Mozambique Trade Capacity Building Programme (PRCC)	*http://www.afd-kenya.org/webdav/site/afd/shared/PORTAILS/PAYS/MOZAMBIQUE/projets/PRCC%20Crevettes%20-%2002%202011%20-%20engl.pdf*	**I.2, III.1, III.4**
E.55	2005 NEPAD Hidden Harvests – Fish for Africa	*http://www.beijer.kva.se/ftp/WIOAQUA/HiddenHarvests.pdf*	
E.56	2010 FAO World Fisheries & Aquaculture	*http://www.fao.org/docrep/013/i1820e/i1820e.pdf*	**PART 2, II.3, II.7, II.9, II.10, II.11, II.13**
E.57	2010 Brief Information on the Fisheries Sector in Mozambique	*http://www.worldfishcenter.org/wfcms/file/SF0959SID/Benin/Mozambique%20fisheries%20-%20Mr.%20Amos%20Chamussa.pdf*	**PART 2**
E.58	MOZ Country Report – Global Finance	*http://www.gfmag.com/gdp-data-country-reports/215-mozambique-gdp-country-report.html#axzz1XqgHVeQg*	**PART 2**
E.59	MoF 2011 Production data	*http://www.mozpesca.gov.mz/index.php?option=com_content&view=article&id=6&Itemid=17*	**PART 2**
E.60	2011 OIE Aquatic Code	*www.oie.int*	**Whole report**
E.61	2008 MOZ OIEPVS Report		**Whole report, II.9**
E.62	2009 MOZ GAP Report		**Whole report**
MISSION DOCUMENTS			
EM.1	INIP 2010 Annual Report	*Electronically ex INIP 19 SEP*	**PART III**
EM.2	INIP Organogramme	*Electronically ex INIP 19 SEP*	**PART2,I.1 A&B**
EM.3	INIP Training courses & lab info	*Electronically ex INIP 19 SEP*	**PART III**
EM.4	INIP 2010 Budget	*Electronically ex INIP 19 SEP*	**I.8**
EM.5	AQUAVET Plan for White spot disease	*INIP 20 SEP*	**II.6, II.7**
EM.6	White spot disease IRAN 2009	*Internet*	**II.6, II.7**
EM.7	EUS Mozambique	*INIP 20 SEP*	**II.6, II.7**
EM.8	Management Strategies for shrimp diseases		**II.6, II.7**
EM.9	Staff details	*Ana Baloi 20 SEP 11*	**I.1**
EM.10	Folder re INAQUA legislation	*jhalafo@yahoo.com INAQUA*	**IV.1**
EM.11	Sampling plan ex ACPM	*PPhB [pphblanc@gmail.com]*	**II.6, II.7**
EM.12	2009 Proposal for a National Aquaculture Animal Health Strategy for Mozambique	*PPhB [pphblanc@gmail.com]*	**Whole doc**
EM.13	2001 INAQUA Regulations 45/2001	*Electronically ex INAQUA 21 SEP*	**II.4, II.9**
EM.14	*INIP 76 of 2009* General regulation for hygiene control on foodstuffs of aquatic origin	*www.inip.gov.mz*	**Component II, II.4 to 8**
PP. 1	Opening presentation by OIEPVS Aquatic Team		
PP.2	Aquaculture em MOZ	ex INAQUA 21 SEP	**Whole doc**
PP.3	WSS in prawns MoF 20 SEP 2011	ex INAQUA 21 SEP	**II. 5, 6, & 7**

Appendix 7: Organisation of the Aquatic PVS evaluation of the AAHS of Mozambique

Assessors Team:

- Dr Herbert Schneider: Team leader
- Dr Edgar Brun : Technical expert
- Dr Ronald Lewis : Technical expert:

References and Guidelines:

- Terrestrial Animal Health Code (especially Chapters 3.1. and 3.2.)
- Aquatic Animal Health Code (especially Chapter 3.1.)
- OIE PVS Tool for the Evaluation of Performance of VS
  - → Human, financial and physical resources,
  - → Technical capability and authority,
  - → Interaction with stakeholders,
  - → Access to markets.

Dates: 19th – 29th September 2011

Language of the audit and reports: English

Subject of the evaluation: AAHS as defined in the Aquatic Animal Health Code

- Not included in the country's VS
- Not inclusive of other institutions / ministries responsible for activities of VS

Activities to be analysed:

All activities related to animal and veterinary public health:

- Field activities:
  - → Aquatic Animal health (epidemiological surveillance, early detection, disease control, etc)
  - → Quarantine (sea ports)
  - → veterinary public health (food safety, veterinary medicines and biologicals, residues, etc)
  - → Control and inspection
- Data and communication
- Diagnostic laboratories
- Initial and continuous training
- Organisation, physical resources and finance

Persons met and consulted: see Appendix 3

Sites visited: see Appendix 4

Procedures:

- Consultation of data and documents
- Comprehensive field trips
- Interviews and meetings with AAHS staff and stakeholders,
- Analysis of practical processes

Provision of assistance by the evaluated country

- Completion of missing data as possible
- Translation of relevant document if required
- Administrative authorisation to visit designated sites
- Logistical support if possible

Reports:

- a MS Powerpoint® summary is presented at the opening session
- a report will be sent to the OIE for peer-review no later than one month after the mission
- the current levels of advancement with strengths, weaknesses and references for each critical competence will be described,
- general recommendations may be made.

Confidentiality and publishing of results

The results of the evaluation are confidential between Mozambique and the OIE and may only be published with the written agreement of Mozambique.