Review of coastal aquaculture development in Mozambique

Mombasa October 29, 2014

Presented by: Rafael Rafael.

INTRODUCTIOM

- Aquaculture reached around 603 tons per year (de Graaf and Garibaldi, 2014);
- Provided 1000 jobs Omar, 2005; de Graaf and Garibaldi, 2014).
- Started in early 50's with freshwater species (Omar, 2005; MF, 2010; Vicente, 2011);

INTRODUCTIOM

- Around 120,300 ha of coastal area are eligible for shrimps, finfish, seaweeds and bivalves culture (MF, 2010).

- Coastal aquaculture projections in 2009 indicated that by 2019 the country will produce:
  - Shrimp from 634 Mt to 7,500 Mt;
  - Marine finfish from almost zero to 70,500 Mt (MF, 2010)

CRUSTACEANS

- Site surveying in 80's of Maputo, Sofala and Zambézia. It was identified 30,000 ha for commercial shrimp culture (Rafael & Ribeiro, 2002; Omar & Hecht, 2011).

- A UNDP and Government of Mozambique funded pilot project at Coast de Sol, Maputo (Rafael & Ribeiro, 2002; Omar & Hecht, 2011).

Scylla serrata

AQUAPESCA around 1000 ha

SOL & MAR around 500 ha

Indian Ocean Aquaculture around 980 ha was closed due to financial and technical reasons.

All were using semi-intensive culture systems in earthen ponds ranging from 5 to 10 ha (Omar & Hecht, 2011).

The feed from South Africa, Seychelles or Asian countries (Omar, 2005).

CRUSTACEANS

2005 was a pick period.

The market dominated by the larger producers, pushing the prices down and leading to reduction of production (Omar, 2005).

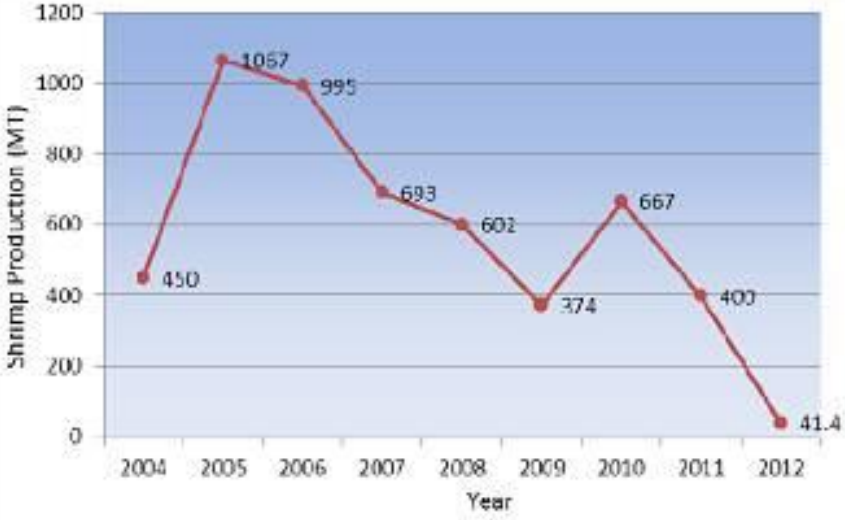

Figure 1. Mozambique shrimp aquaculture production 2004-2012. (RAF, 2014)

WSSV killed the industry.

CRUSTACEANS

Aquapesca Hatchery
September, 2011

Aquapesca farm **September, 2011**

Sol y Mar farm & hatchery **April, 2012**

Marbar broodstock facility - Beira

Marbar broodstock facility - Vilankulos
November, 2012

The WSSV genotypes are similar to the Saudi Arabia (RAF, 2014).

CRUSTACEANS

Laws and regulations: Banning the transport of live and frozen crustaceans between provinces (RAF, 2014).

Aquatic Animal Health Plan and enforcement of OIE Aquatic Animal Health Code.

Competent Authority will be the Veterinary Services (RAF, 2014).

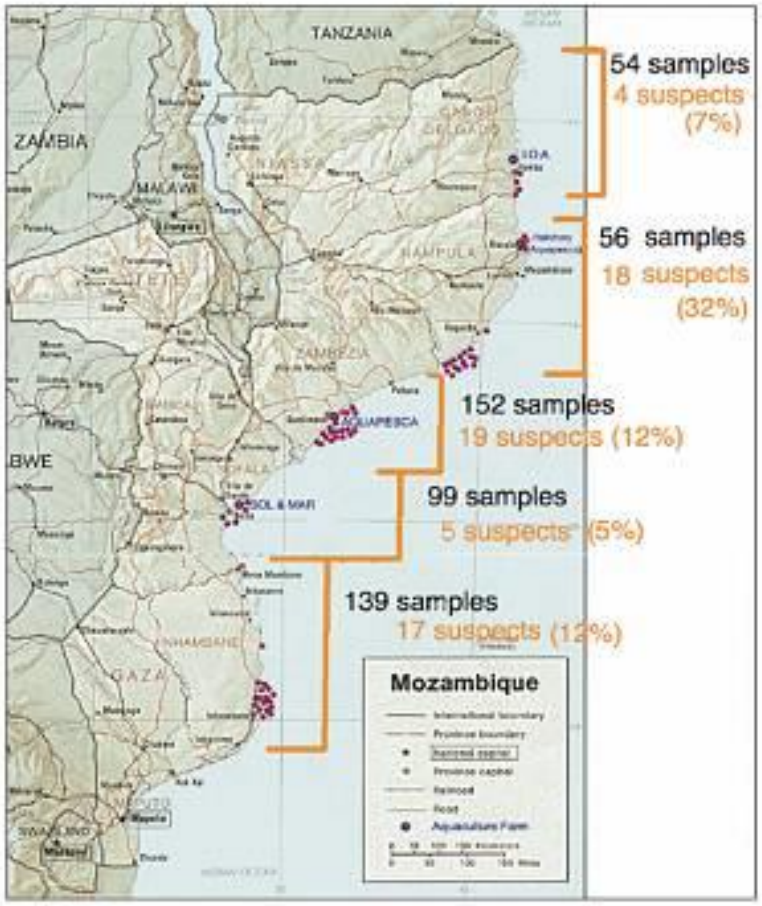

Figure 2. Prevalence of WSSV in crustacean samples, Sept. 28-Oct.10, 2011.(RAF, 2014)

FISH CULTURE

- Subsistence under policulture system mullet, milkfish and tilapia (Omar & Hecht, 2011).

- Commercial fish farming was based on Cobia, *Rachycentron canadum* and Dusky kob, *Argyrozomus japonicus* in cages at Pemba bay, Cabo Delgado (Omar & Hecht, 2011; Vicente, 2011)

- Juveniles imported from Reunion and dusky kob from South Africa (Omar & Hecht, 2011).

BIVALVES

- The is a potential for farming are mussels, oysters and others (INFOSA, 2009; Vicente, 2011).

- Later 70's beginning of 80's National Fisheries Research Institute (IIP) did experimental farm at Inhaca Island of *Perna perna* (Omar, 2005)

SEAWEEDS

- Were cultured in Cabo Delgado, from Pemba to Macomia including some islands in the Quirimba archipelago , 700 to 1500 ha is suitable for pole and line farming (Omar & Hecht, 2011); and

- Nampula, between Angoche and Nacala (830 ha for off bottom shallow water culture and 700 ha for raft and pole as well as line culture (Omar & Hecht, 2011).

- Species are *Eucheuma spinosum* and *Kappaphycus alvarezzi* (Omar, 2005).

MOZAMBICAN POLICY

- Approved several acts and regulations for aquaculture.

- Involvement of Government Institutions and public and government Universities and institutes.

ENVIRONMENTAL IMPACTS

- No negative impacts of aquaculture in Mozambique

CONCLUSIONS

- Mozambique it is not exploited despite favourable environment for investment and climatic conditions, low population pressure in coastal areas and identified locations for aquaculture practices.

- The identified areas are free of any conflicting with conservation and traditional users and respect the mangroves regulations.

THANK YOU!!!!!!

References

- **de Graaf, G. and Garibaldi, L.** 2014. *The value of African fisheries*. FAO Fisheries and Aquaculture Circular. N°1093. Rome, FAO. 76 pp.
- **FAO** 2014. *The State of World Fisheries and aquaculture 2014*. Rome. 223 pp.
- **INFOSA**, 2009. *Small scale aquaculture plan development for Mozambique*. Windhoek, Namibia. 136 pp.
- **MF (Ministry of Fisheries)** 2010. *Fisheries Master Plan 2010-19*. Maputo
- **MICOA (Ministério Para a Coordenação da Acção Ambiental)** 2007. *Relatório Nacional sobre Ambiente Marinho e Costeiro*. Maputo. 66pp.
- **Omar, I. 2005**. *National aquaculture sector overview. Mozambique*. National Aquaculture Sector Overview Fact Sheets. In: FAO Fisheries and Aquaculture Department (online). Rome. http://www.fao.org/fishery/country sector/naso mozambique/en accessed 13/08/2014
- **Omar, I. and Hecht, T. 2011**. *A synopsis of the current status of mariculture in Mozambique*. In:troell, M., Hecht, T., Beveridge, M., Stead, S., Bryceson, I., Kausky, N., Mmochi, A., Ollevier, F. (eds.). (2011) Mariculture in the WIO region. Challenges and Prospects. WIOMSA Book Series N°11. VIII+59 pp.
- **Rafael, R. and Ribeiro, F.L. 2002**. *Shrimp Aquaculture in Mozambique*. In: Sadek, S., R. Rafael, M. Shakouri, G. Rafamanana, F.L. Ribeiro and J. Clay. 2002. Shrimp Aquaculture in Africa and the Middle East: The current Reality and Trends for the Future. Report prepared under the World Bank, NACA, WWF and FAO consortium program on Shrimp farming and the Environment. Work in Progress for Public Discussion. Published by the Consortium. 42 pp.
- **RAF (Responsible Aquaculture Foundation)** 2014. *Case Study of the outbreak of white spot syndrome virus at shrimp farms in Mozambique and Madagascar: Impacts and management recommendations*. 33 pp.
- **Vicente, E. C. I.** 2011. *An overview of the status of aquaculture in the western Indian ocean region: A review*. University of Kwazulu Natal, Durban. MSc thesis.