

Science-diplomacy and cooperation

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INTRODUCTION

This thematic entitled: "Science-Diplomacy and Cooperation" that I present to you, as part of this 25th anniversary of the IH.SM, partly contains personal achievements through my professional experiences, and during the 30 years of career in the Institutional Development and North-South International Cooperation within our institute. Madagascar is an old large Island in the Indian Ocean situated between Asia and Africa; and contains huge natural resources due to its geological history closely linked to the formation of the Indian Ocean (*Rifting events of the Gondwana and drifting of Madagascar plate*); and the existence of fairly complex marine currents operating around its territorial waters. And its geographical position could have transformed it into a Maritime Economic Power and Regional Political Leader and the existence of fairly complex marine currents operating around its territorial waters. And its geographical position could have given it opportunities to be a maritime economic Power and Regional Political Leader. The Globalization of the Economy and Trade results in the emergence of the third

economic pole in Asia with leaders like *China, Japan, South Korea, India, Indonesia ...* By creating, beside the traditional waterways, of new Maritime Highway (*Durban- Detroit Malacca axis*), passing near the South coast of Madagascar where is the mineral Ehoala Port in Fort Dauphin, infrequent its large ships containers carriers.

Madagascar is among the marginalized African bloc countries of the Globalization of Trade.

Despite the existence of regional structures (IOC, COMESA), the Big Island has difficulties in integrating in its Regional Space. This situation is expressed by the combination of several factors: *the lack of competence and the lack of geopolitical vision of the servants of the State, structural deficits able to meet the Regional economic and strategic Challenge; the non valorization of the human capital, and the geographical isolation of the different districts of the country*

PROBLEMS OF GOVERNANCE

"How can a country be so rich in natural resources and be so poor in human and physical development?"

1) the Island is the new preferential destination of the predators: it suffers of aggressive greed of the external operators; it is essential to distinguish true Investors from Predators: look at what a leader makes of his income: While the *entrepreneur* invests his income to develop the business in the country, the *predator* "lives of Prey " *because nothing is more profitable than to break down a poorly protected heritage in developing country; accumulates a fortune for his progeny he wishes to aristocrats.*

2) Locking of political & economic Power by a minority of local and foreign elites (Limited Order Access system) through the Economy of life annuity

Governance of Natural Resources – “National Heritage”

As part of the implementation of the Blue Economy program, the government should strengthen the Governance of the Maritime Space by updating **national legal frameworks** in relation to the new context of the globalization of the economy, and by referring to the **United Nations Convention on the law of the sea 1982** (Montego Bay Convention); by enhancing the Capacity Building of the **Malagasy Navy** for monitoring activities at sea, and Recruitment of national Fisheries Expert and Technicians Observers aboard foreign ships for the Sustainable Management of our Marine Resources.

The activities of the CRFIM (Information Fusion Regional Center) must be integrated with the actions of the National Coast Guard, in synergy with the surveillance fleet of the Regional Commission.

In practice, compliance management requirements require concerted efforts on the part of host governments, development partners and foreign companies investing in these countries.

SCIENCE DIPLOMACY AND COOPERATION

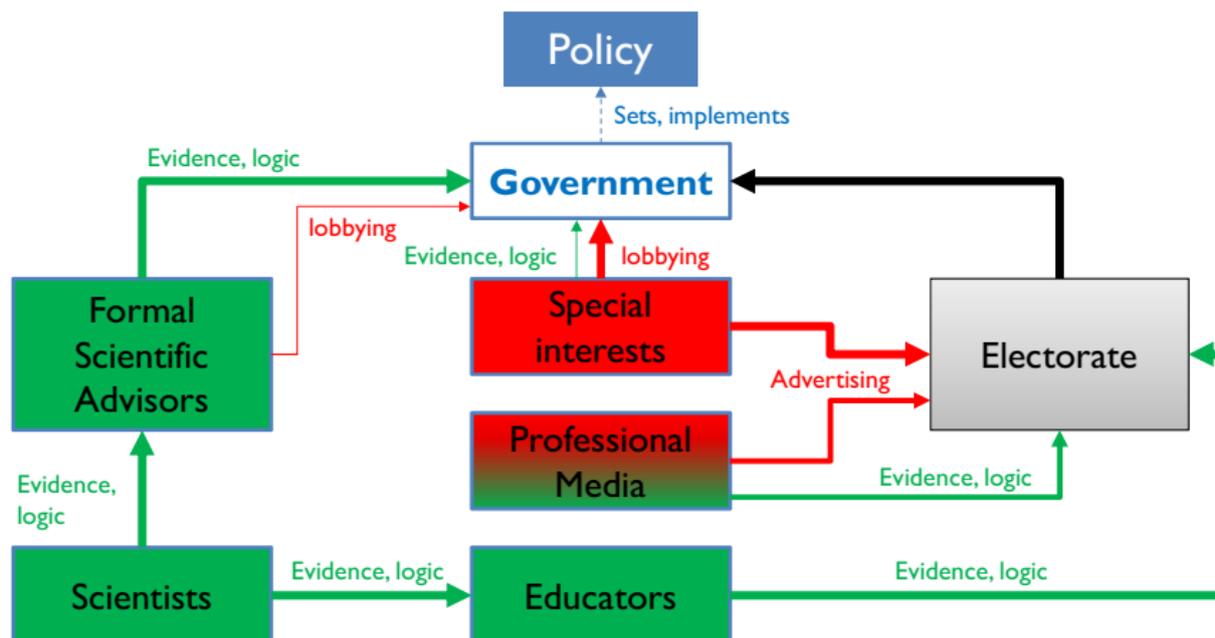
- *Can Science influence national and international politics?*
- *Is Scientific Cooperation a factor of peace?*
- *Are Researchers good ambassadors for their country?*
- *Is Scientific influence a particular form of cultural influence on the world stage?*

Scientific Research is rarely funded by the State and conventional donors as considered **non-priority** in developing countries ... However, provide scientific advice to the Government allows the development of the Programme in the elaboration of Natural Resources Management policies and instant scientific input indispensable in national emergencies.

On a practical level, Applied Research activities of the Fisheries Institute and Marine Sciences of Toliara University are financed from its scientific expertise and its services from private companies; through projects Interuniversity North-South Cooperation (France, Belgium, Norway, Spain ...) and Regional Cooperation (WIOMSA, IOC / IOGOOS / IIEO2, ASCLME, FAO) in the South West Indian Ocean. Seaweed and Seacucumber farming are some examples of applied research results relevant to the needs of communities of fishermen in collaboration with NGOs and fishing enterprises in south west Madagascar.

There is an asymmetry of actions between the different actors: - *politicians, various interest groups, scientists, and officials in charge of public policies* Lobbying by interest groups in the corridors of Power, and the services of the country's parliamentary commission (direct or indirect pressure) could be decisive in political deliberation to defend the *particular interest* to the detriment of *common interest*, and the process of implementing the measures.

The dialogue between scientists and politicians is much more complicated because of the positions and postures of the ones and the others, Indeed when the scientists bring political solutions, they address indistinctly to the officials (*non-decision-makers*) and the politicians (*decision-makers elected*) with their own vision of the world. Besides, they do not consider themselves either, acting. as part of a system or network of allegiance.



SCIENCE DIPLOMACY

Since its creation, efforts have been made by leading members of the IH.SM to foster interpersonal relationships and develop the friendships between scientists and local entrepreneurs. Thus, inter-university North / South Cooperation Agreements have developed the capacity building of young researchers and boosted the multidisciplinary research program (*Oceanography, Stock Assessment of Strategic Fisheries Resources, Marine Biology, Aquaculture, Marine Biochemistry*, etc.) within the Institute.

The Studies of oceanographic phenomena and migrations of large marine mammals, the evaluation of trans-national pelagic resources of the high seas, the study of offshore ecosystems and seamounts, the resources of the deep seabed require high level **Scientific Expertise** and the establishment of effective **Scientific partnerships** between national and international institutions through **diplomatic agreements**.

The Royal Society and the American Association for the Advancement of Science has defined 3-D Scientific Diplomacy.

Diplomacy for science: the Ministry of Foreign Affairs should promote and facilitate bilateral scientific cooperation for national institutions through their diplomatic networks in partner countries; in addition, scientists are encouraged to direct their training in the political and diplomatic sciences to pursue their career.

Science for diplomacy: The close relationship between the scientific communities of the two countries could play a key role in unlocking some of the political differences and easing tensions between countries by facilitating cooperation at the regional geopolitical level.

Science in diplomacy: International scientific cooperation is essential for political decision-makers and diplomats on international scenes to address global issues such as climate change, pandemics, food security, etc.

BUILDING THE WORLD BY SCIENCE

We hear about *Political diplomacy, Economic diplomacy, Defense diplomacy ...* Nations need scientific expertise in the face

of many global challenges such as the Pandemic, Food Security, Climate Change and Polar research

Science helps to give us a better understanding of the world in which we live. This encourages effective Partnerships between *scientists, policy makers and diplomats*

On the other hand, when political relations are tense between two countries, scientific cooperation allows scientists to surpass ideologies and could help promote peace among stakeholders.

Science diplomacy as Soft power

International conferences can promote not only the advancement of science but also world peace through scientific diplomacy.

The scientific citizens of the same planet have *a social responsibility* to collaborate to solve global challenges with governments in order to promote peace in the world.

Scientific diplomacy can be built on a solid foundation. Addressing the scientific aspects of sensitive issues can often be used as a pathway for other forms of political dialogue.

The language of Science can reach what political negotiation can not

Science-Diplomacy & Cooperation

How does to build a Sharing Vision? What are the conditions for building a Sharing vision?

Building a Space of Confidence (dialogue, contradiction, consensus)

Creating Common notions (using the same vocabulary), Sharing the common value

Giving the opportunity or instrument to the partners to act and feel freely to build a sharing dialogue

Knowing at what level of Vision each partner want to invest

Madagascar hotspots

The Origins of the wealth of natural resources (mineral and organic) Island are closely related to the geological formation of the Indian Ocean basin (drift of tectonic plates) and the mechanisms of the various ocean currents and oceanographic phenomena (eddies, upwellings ...) stimulating organic production and the diversity of ecosystems in the South West Region and the southern part of the Ocean considered a biological hotspot (Madagascar Ridge)...

The great cultural diversity of Madagascar is the result of migration waves series of African origin populations and Southeast islands of Asia from the late first millennium After J.C.

Madagascar ratifies the Convention for the Protection of the World Cultural and Natural Heritage on 19 July 1983; It is full of diverse cultural traditions, and protected natural sites. So many treasures have been classified as UNESCO World Heritage. so it remains an exceptional destination for naturalist researchers and tourist operators from all over the world.

The wealth of Madagascar's Natural resources and the high rate of their **endemicity** (fauna and flora) are no longer to be demonstrated. **International Scientific Cooperation** is essential to have a **High Scientific Expertise** of this National heritage or even Universal heritage. The scientific community and national universities / academic institutions should mobilize and

promote **win-win cooperation agreements** with international scientific institutions in various disciplines and build synergies with political and economic diplomacy through the networks of embassies abroad. Strengthening National Capacities Building for institutions by training young people in various areas remains a **Priority** of Priorities for the Sustainable Management of capital resources.