

SEASID: Study on Enforcement of Amended Fisheries Law Specific at Verde Island Passage: Input to Improvement and Development of Policy Alternatives

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Abstract

This study was designed to understand the enforcement of amended Fisheries Law Specific at Verde Island Passage (VIP). The study described the situation in the VIP and the efforts to solve the Illegal, Unreported and Unregulated (IUU) Fishing in VIP Batangas Marine Key Biodiversity Areas (MKBA) toward formulation of policy alternatives. Data were gathered through interviews among stakeholders. The data went through two-level coding and were further analyzed. The amended Fisheries Law were analyzed by its performance with stakeholders as participants. Results showed that issues on amended Fisheries Law enforcement in VIP MKBA are associated in the enforcement associated with the use of force; enforcement will always involve conflict; enforcement always involves risk; and enforcement is often costly and complex. In fact, it also reveals that the weak implementation roots from the local governance who is influenced by politics. The two policy alternatives identified were: 1) Pursuance of Policy on Deployment of Permanent Maritime Police Enforcers in the Verde Island Passage Marine Key Biodiversity Areas to report to Bureau of Fisheries and Aquatic Resources as the lead enforcer of RA 10654; and 2) Pursuance of Policy on the Establishment of Social Enterprises as Alternative Livelihood for Fisherfolk in the Verde Island Passage Marine Key Biodiversity Areas. Based on the developed criteria levels of risk and uncertainty, the two policy alternatives were evaluated in an aim to solve the continuous increase illegal, unreported, and unregulated fishing in VIP MKBA. Between the two alternatives, "Policy on Deployment of Permanent Maritime Police Enforcers in the Verde Island Passage Marine Key Biodiversity Areas to report to Bureau of Fisheries and Aquatic Resources as the lead enforcer of RA 10654" generated the greater percentage.

Keywords: Amended Fisheries Law, Verde Island Passage, Policy Alternatives

Article Publication

 Published Online: 30-Jun-2023

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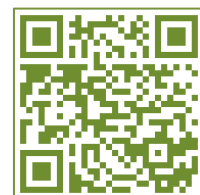
 [10.31305/rjss.2023.v03.n01.005](https://doi.org/10.31305/rjss.2023.v03.n01.005)

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Introduction

One of these days, people will have no more fish to eat nor marine species to benefit from. The state of the country's resources in municipal waters is lightly to heavily destructed, exploited and overfished. Increasing number of fishers and the open access to fisheries is common to both municipal and commercial fisheries and the use of destructive fishing methods (e.g. dynamite and cyanide fishing, and the use of fine mesh net and active fishing gears) continuously contributes to the rapid decline of fish stocks and marine habitat degradation. The worst thing, this scenario is evident in what marine scientists described as the "center of the center of marine shore fish biodiversity in the world," --- the Verde Island Passage (VIP).

Background of the problem

The exploration of the scientists, Kent Carpenter of the International Union for Conservation of Nature and Victor Springer of the Smithsonian Institution, revealed that the Philippines sits at the heart of the coral triangle, the global center of marine biodiversity. A vast expanse of water that separates Batangas on the main island of Luzon on one side, and the island provinces of Mindoro, Marinduque and Romblon on the other, is the Verde Island Passage. Based from their study, VIP boasts the highest concentration of marine species in the planet as it records a total of 1,736 overlapping marine species found over a 10-kilometer area in 2005. Moreover, marine studies show that its underwater reef formations and rock canyons are home to nearly 60% of the world's known fishes, as well as over 300 species of corals.

Conservation International also reported that “more than half of the Philippines” documented fish species can be found here. Numerous studies continue to yield discoveries of species that are new to science, further underscoring the global biological significance of this area. In a 2013 study, entitled “State of Coast Report for Verde Island,” marine biologists recorded a total of 117 species of reef fish belonging to 35 families in just six small study sites around VIP.

While this rich marine biodiversity indicates a biological significance, continuous destructive human activities devastate it and its future state. Overpopulation, pollution, overfishing, illegal and destructive fishing, and harvesting of marine wildlife and habitat destruction have been identified as some of the serious threats to the strait. Yet above all these, the continuous increase of Illegal, Unreported and Unregulated Fishing in VIP Batangas Marine Key Biodiversity Areas (MKBAs) surfaces as the prevalent threat to this marine sanctuary ecological balance and to the society at large.

A 2004 study documented a staggering 1,736 marine species, including many globally threatened ones, in just a small section of the VIP. Carpenter and Springer warn that habitat degradation and probably mass extinctions of unique marine biotic communities are inevitable if marine conservation is not prioritized. Due to destructive human activities, its priority level in terms of conservation was elevated from high to extremely high.

The Verde Island Passage Situation

The Philippines is one of the top fish producing countries in the world. According to the 2017 Philippines Fisheries Country Profile by Napoleon Salvador J. Lamarca, the Philippines had a population of about 103 million, and mean per capita consumption of fish and fishery products of 40 kg/year or 109 grams/day with the percent of fish and fishery products intake to the total intake at 12.8%. In 2015, the fishing industry contributed 1.5% and 1.7% at current and constant prices, respectively, to the country's gross domestic products (GDP) with the fisheries sector providing employment to over 1.6 million people, 85% of whom were from the municipal fisheries and 1% from commercial fisheries, while the aquaculture sector employed 14%.

However, these figures do not imply good marine indications at a large spectrum. For the past years, the total volume of fisheries production in the Philippines showed a great decline. The data from Bureau of Agricultural Statistics show a massive deteriorating municipal fisheries production of the Philippines whereas from the 2011 data of 1,138,949 metric tons it shrunk down to 1,011,793 metric tons in 2015. In the data spectrum for VIP MKBAs, this decline was characterized by 1.065 metric tons in 2015, 0.84 metric tons in 2016, and 0.65 metric tons in 2017 according to the data from BFAR IV-A. Unfortunately, as based from the data of the State of World's Fisheries and Aquaculture by the Food and Agriculture Organization of the United Nations, it is predicted that the demand for fish may reach 180 million tonnes in 2030 and neither aquaculture nor any terrestrial food production could supplement the protein production provided by wild marine ecosystems.

Where these decline root from recognizes the chief problem which is the continuous increase of Illegal, Unreported and Unregulated Fishing in VIP and this has been emerging since the 90s. Moreover, in 2006, the Department of Environment and Natural Resources (DENR) Secretary Angelo Reyes admitted that "on the Verde Passage marine

corridor, a lot of the issues affecting the biodiversity there are issues of weak law enforcement. Overfishing in Batangas Bay, illegal fishing including encroachment of commercial fishers in Calatagan, Nasugbu, Lian and Balayan Bay, squatting, and solid waste and waste water pollution could all be addressed by a strengthened, unified and fully coordinated law enforcement effort." In a greater sense, this is further associated to the **Poor Fisheries Law Enforcement in the Municipalities of MKBAs**. These VIP MKBAs can be found in Balayan Bay which consists of the Municipalities of **Balayan, Bauan, Calaca, Calatagan, Lemery, Mabini, Taal, San Luis, and Tingloy**. However, over the years, illegal, unreported, and unregulated fishing still remains as one of the greatest threats to marine ecosystems due to its potent ability to undermine national and regional efforts to manage fisheries sustainably as well as endeavors to conserve marine biodiversity. In the VIP local situation, these activities take advantage of corrupt administrations and exploits weak management regimes lacking the capacity and resources for effective monitoring, control, and surveillance. For the past 20 years, illegal, unreported, and unregulated fishing has continuously escalated in the country including the VIP. From July 2016 to June 2017, Bureau of Fisheries and Aquatic Resources (BFAR) has filed 863 cases against fishing operators over illegal, unreported and unregulated (IUU) fishing activities nationwide. In the 2016 conducted Assessment of Fisheries Law Enforcement in VIP MKBAs by ECOFISH, it reveals that the rate of human activities harming our waters constantly increases. In effect, issues and threats continuously surface to VIP MKBA through the years. Based from the assessment spearheaded by ECOFISH, use of dynamite, noxious substances, active gears, fine mesh nets, and compressors, commercial fishing, poaching, and fishing inside Marine Protected Areas (MPAs) are among the violations recorded from 2015-2017 in VIP MKBAs. Results thereof, however, were damage on coral reef formation/marine habitat destruction and decrease in fish stocks, coastal pollution, poverty and low fish catch, water pollution, siltation and soil erosion, poor sanitation, MPA pollution, and resource use conflict.

The existence of issues on enforcement triggered most of today's concern on safeguarding VIP MKBAs. Among the most considered issues were: enforcement is always associated with the use of force; enforcement will always involve conflict; enforcement always involves risk; enforcement is often costly; and enforcement is complex. Moreover, focus on the following challenges is strictly call for: Coastal and Fishery Law Enforcement must be an integral part of the resource management program of the local government units, promoting voluntary compliance is the first step to enforcement, preventive and pre-emptive enforcement is better than corrective enforcement, transparency and accountability of enforcers must be consciously pursued, and frequency of Batangas Environment Response Team operations and corresponding financial budget/support.

The Efforts to Solve the Problem

It has been more than a decade since VIP was declared of global importance. However, it still remains "unprotected" from serious threats to its rich biological diversity. While the lives of over 2 million people from at least five provinces — Batangas, Oriental Mindoro, Occidental Mindoro, Marinduque and Romblon — are inextricably connected to the VIP, their main source of livelihood, initiatives and reforms are continuously attempting to combat these threats to save the marine biodiversity and therefore sustain the lives of these people.

According to the National Oceanic and Atmospheric Administration, six countries--Malaysia, Indonesia, Philippines, Timor-Leste, Solomon Islands, and Papua New Guinea--have joined forces in a multi-lateral partnership, the "Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security (CTI-CFF)", to address significant threats to the marine resources of the most biologically diverse marine ecosystem in the world—the Coral Triangle. The Philippines initiative came with a policy reform. Republic Act 8550 was the response to address the trend of blind marine resource exploitation. This Act, otherwise known as the Fisheries Code of 1998, has been the governing law in Philippine fisheries to address the interconnected issues of resource degradation and unrelenting poverty among municipal fishers. It calls for management of fishery and aquatic resources in a manner that is consistent with the concept of an integrated coastal area management in specific natural fishery management areas. However, the Aquino government amended the Fisheries Code of the Philippines (RA 8550) into RA 10654, "An Act to Prevent, Deter and Eliminate Illegal, Unreported, and Unregulated Fishing." The law now has more teeth and the necessary mechanisms to curb illegal, unreported and unregulated fishing.

Various government initiatives have also been in place to address the destructive human fishing activities. The data from DENR show that there are 240 protected areas, including 32 marine-protected areas (MPAs), established under Republic Act 7586, or the National Integrated Protected Areas System (Nipas) Act of 1992, which provides the legal framework for the establishment of MPAs. There is also a total of 1,620 MPAs created through local ordinances by virtue of the Fisheries Code of 1998, which mandates that 15 percent of coastal waters be set aside as marine reserves, some of which are situated within the VIP. In 2013 Sen. Loren Legarda, chairman of the Senate Committee on Environment and Natural Resources, filed a measure seeking to declare the entire region as a marine-protected area and ecological tourism zone. Senate Bill 1898, however, remains at the committee level.

On December 18, 2006, President Gloria Macapagal Arroyo issued Executive Order 578 – “establishing the national policy on biological diversity, prescribing its implementation throughout particularly in Sulu Sulawesi Marine Ecosystem and the Verde Island Passage Marine Corridor.” It reiterates the constitutional provision protecting and advancing the right of the people to a balanced and healthful ecology, and emphasizes that the Philippines is a party to various multilateral environmental agreements to conserve biological diversity.

While the VIP is not a declared protected area under Nipas Act 1992, its being a marine key biodiversity area (KBA) calls for its protection from destructive human activities. The VIP site is among those identified by the DENR CALABARZON as models under Republic Act 7586 or the law which provides for the establishment and management of national integrated protected areas system (NIPAS). The DENR-BMB has identified all of 32 Nipas marine -protected areas and the VIP as priorities for coral-reef mapping and associated marine-habitat assessments “for the recovery of our coastal and marine ecosystems.”

RA 7160 or the Local Government Code of 1991 was also enacted to provide the local government units (municipal and city governments) the jurisdiction and responsibility to manage the fisheries within their jurisdiction (municipal waters within 15 km from the shoreline), and grants preferential use of municipal waters to municipal or small-scale fishers.

For Fisheries Protection and Management, Basic training on Fishery Law Enforcement for deputation by BFAR and LGU, Advance training on Fishery Law Enforcement for Bantay Dagat, Paralegal Training, Local Deputation Training, Advanced Fishery Law Enforcement, Orientation on RA 8550 and Municipal Fishery Ordinance, and Coastal Law Enforcement Training for Batangas Bantay Dagat Network were among the initiatives pursued by the Provincial Government of Batangas for VIP conservation.

Creation of Batangas Environment Response Team (BERT) thru Executive Order 2011-02, dated January 11, 2011, amended EO 2012-05 was also issued by Governor Vilma Santos Recto entitled “Adopting and Incorporating Marine Law Enforcement Strategies in the Integrated Coastal Management (ICM) Plan of the Province of Batangas Series of 2007 and Creating Batangas Environmental Response Team (BERT) for Coastal, Marine and Inland Waters Environmental Protection”.

To identify the institutional gaps and demonstrate the knowledge and skills needed to enforce coastal and marine environmental laws, Training Needs Assessment for Batangas PNP was also conducted on February 12, 2014 where a common course of action and indicative schedule of activities were developed for tasking of PGENRO, PNP and ECOFISH. On the other hand, to identify doable set of actions, provide means for multi-sectoral involvement, and produce accurate and tangible results to sustain the conservation and protection of aquatic and coastal resources, Batangas Environment Summit was also conducted on March 26-28, 2014. The First inter local government-initiated seasonal closure (fisheries management) in the Philippines was also carried out in VIP Balayan Bay dubbed as “Pagpapahinga ng Look Balayan”. All of these initiatives are aimed to solve the problem on illegal, unreported and unregulated fishing and conserve the center of the center of marine shorefish biodiversity in the world at the utmost expanse.

The Policy Performance

The recent fisheries law enforcement assessment conducted by ECOFISH and participated by Philippine National Police of the 9 Municipalities of MKBAs, Philippine Coast Guard of the 9 sites of operation, Philippine National Police – Maritime Group, BFAR - Law Enforcement Quick Response Team, Bantay Dagat of the MKBAs, LGUs of the MKBAs, and PGENRO revealed that a continuous increase in the violation of RA 10654. From 7 in 2013, types of violations incurred in VIP MKBAs raised to 11 in 2016. Among the eleven (11) identified common violations in VIP, use of fine mesh net is the most common.

Commercial fishing has also recorded the most number in the list of identified common violations in VIP. Since commercial fishing is a big business and being involved in such a huge business which is bound to be known by small communities such as LGUs in Batangas, it seemed that through the years it is constantly growing. The data from ECOFISH also reveals that commercial fishing has also the highest number of records in the violations practiced in VIP in the past years. Sanctions were not applied due to interventions of local officials who manipulate the pursuance of cases. Politics also influenced the enforcement. The third most common violation identified was the use of compressor. Areas where it actually happens were identified.

Policy performance in the VIP MKBAs was poor in view of these premises. Issues found on enforcement in VIP MKBAs include enforcement associated with the use of force; enforcement will always involve conflict; enforcement always involves risk; and enforcement is often costly and complex. In fact, it also reveals that the weak implementation roots from the local governance who is influenced by politics. To PGENRO, Coastal and Fishery Law Enforcement must be an integral part of the resource management program of the local government units.

The Need for Analysis

The coastal resources and marine ecosystem play an important role in the health and living condition of the people in Balayan bay. The resources like fisheries, coral reefs, shellfishes, sea grasses/seaweeds and mangroves provide direct and indirect benefits to the coastal communities in Balayan Bay. Unfortunately, due to uncontrolled human and economic activities and less transparent, uncoordinated and inefficient governance have resulted in threatened biodiversity and coastal/marine productivity. Resource conflicts are also common between small-scale and commercial fishers and between tourist resorts and local fishing communities. Yet behind all these, a strong need to reform the policy emerges to address the problem on illegal, unreported and unregulated fishing.

According to the study of Mary A. Palma on the Analysis of the adequacy of the Philippine legal, policy, and institutional framework to combat illegal, unreported and unregulated fishing, it is estimated that the Philippines loses PhP50 billion or almost USD1 billion dollars annually due to illegal fishing activities. The World Resource Institute estimates the total net loss from blastfishing alone as USD1.2 billion or around PhP67.2 billion. Moreover, an assessment conducted by the DENR provides an idea on the economic loss from the impact of an illegal fishing activity to fish habitat. The DENR disclosed that the net loss solely from blastfishing to Philippine reefs is estimated to be USD1.64 billion over the next 20 years. The net benefits to blast fishers over the same time period is estimated at USD170 million which is only a very small portion of the total loss resulting from such a destructive fishing method.

The illegal, unreported and unregulated fishing encompasses most of the issues described as contributing to the decline of fisheries resources and is also regarded as one of the factors that can lead to the collapse of fisheries resources or that which can seriously affect efforts to rebuild fish stocks which have already been depleted. This is much threatening in the situation of the VIP which is pronounced as the center of the center of marine shorefish biodiversity in the world. If no policy intervention will be pursued to aid these problems, the world fisheries resources will surely collapse in a speed time.

According to the Report of the United Nations Secretary General, illegal, unreported and unregulated fishing is considered as “one of the most severe problems affecting world fisheries” and the “main obstacle in achieving sustainable fisheries in both areas under national jurisdiction and the high seas.”

A need to improve the enforcement of RA 10654, Executive Order No. 578 s. 2006, RA 7160 and to pursue local initiatives in the local governance with MKBAs, is but necessary to prevent the marine biodiversity collapse soon. Actions must commensurate the number of problems. It must address the main problem which is the illegal, unreported and unregulated fishing through pursuance of Marine Biodiversity Conservation Initiatives and improvement local governance in MKBAs.

The Stakeholders

Stakeholders were identified according to their functions and involvement to the fisheries law enforcement in the VIP MKBAs. These are as follows:

Table 1. The Stakeholders and their Description

Stakeholder	Description
Local Government Units of the Marine Key Biodiversity Areas	Refers to the local authorities, the local executive head and members of the Sangguniang Bayan, responsible in enacting ordinances that will be of support to the strengthening of fisheries law enforcement in the MKBAs and appropriating funds for conservation initiatives.
Bureau of Fisheries and Aquatic Resources Batangas Provincial Office and CALABARZON Regional Office	Refers to the government agency responsible for the development, improvement, management and conservation of the country's fisheries and aquatic resources and as the lead law enforcer by virtue of Republic Act No. 8550.
Batangas Provincial Government Environment and Natural Resources Office	Refers to the local authority responsible for the enforcement of pollution control and environmental protection laws, rules and regulations aimed for effective and efficient management of environment and natural resources.
Philippine National Police – Maritime Group	Refers to the primary PNP Unit responsible in law enforcement for the security and the sustainable development of the maritime environment.
Philippine Coast Guard in the MKBAs	Refers to the government agency mandated and responsible to perform maritime search and rescue, maritime law enforcement, maritime safety, marine environmental protection and maritime security.
MKBA's Bantay Dagat	Refers to the community-based, volunteer organizations in the VIP MKBAs that work with local and national government officials and within 15 kilometers of the shore to protect the marine environment, especially patrolling against illegal fishing, and to provide assistance in rescue operations.

The Policy Alternatives

To ensure the achievability of providing policy alternatives to improve the enforcement of RA 10654 or the “Act to Prevent, Deter and Eliminate Illegal, Unreported, and Unregulated Fishing,” in the VIP MKBAs, representatives from these stakeholders were interviewed.

The two policy alternatives identified were: **1) Pursuance of Policy on Deployment of Permanent Maritime Police Enforcers in the Verde Island Passage Marine Key Biodiversity Areas to report to Bureau of Fisheries and Aquatic Resources as the lead enforcer of RA 10654;** and **2) Pursuance of Policy on the Establishment of Social Enterprises as Alternative Livelihood for Fisherfolk in the Verde Island Passage Marine Key Biodiversity Areas.**

On Pursuance of Policy on Deployment of Permanent Maritime Police Enforcers in the Verde Island Passage Marine Key Biodiversity Areas to report to Bureau of Fisheries and Aquatic Resources as the lead enforcer of RA 10654:

Strengthened fisheries law enforcement will be more significant when permanent marine police enforcers will be deployed and be visible in the MKBAs where illegal and unregulated fishing take place. Their visibility in the areas will help fisherfolk observe fisheries law. Also, while being deployed at the areas, they can help educate the fisherfolk about the stipulations of the law which may not be known or clear. Increased maritime police visibility in fishing

areas will really help address the conduct of illegal, unreported, and unregulated fishing. In fact, as according to BFAR – Batangas, it would be much efficient if permanent marine police enforcers will be deployed in the MKBAs since there are incidents that are not given actions because of the absence of notices of violations from the Maritime Group and Coast Guard. To them, if there will be enforcers directly reporting to them, efficient processing of actions would be facilitated. In fact, since local chief executives among these municipalities occasionally intervene whenever their constituents got caught, their interaction must also be limited, in this case, administration will be under BFAR.

On Pursuance of Policy on the Establishment of Social Enterprises as Alternative Livelihood for Fisherfolk in the Verde Island Passage Marine Key Biodiversity Areas:

A reduction in overfishing can be achieved by providing alternative economic activities to those directly participating in the sector, which in turn will reduce the threats to biodiversity. Social enterprise development is now emerging as a biodiversity conservation tool, although initially designed as a poverty reduction strategy, primarily because of its triple bottom line approach by its creation of wealth, social equity in the ownership of enterprise, and the very least harm to the natural ecosystem thereby serving conservation objectives even further. This could also pave way for the amendment of the RA 7160 or the Local Government Code of 1991 appropriating funds thereof for the establishment of social enterprises as alternative livelihood for fisherfolk as a conservation initiative to strengthen management of the marine biodiversity.

On the contrary of the benefits of these policy alternatives are the consequences, spillovers and externalities. Forecast consequences of these alternatives are as follows:

On Pursuance of Policy on Deployment of Permanent Maritime Police Enforcers in the Verde Island Passage Marine Key Biodiversity Areas to report to Bureau of Fisheries and Aquatic Resources as the lead enforcer of RA 10654:

Potential consequences of the pursuance of this policy alternative include: 1) Undistinguishable delineation of tasks between the permanent Marine Police Enforcers, the Maritime Group, and the Coast Guard; 2) Dishonest or fraudulent conduct by the permanent Marine Police Enforcers who will be given power; 3) Brutality and Use of Excessive Force during Enforcement; and 4) False Arrest or Wrongful Imprisonment of Fisherfolk. However, spillover effect can also be present in the pursuance of this policy alternative. Marine Key Biodiversity Areas improvement and production are spillovers of this alternative. Marine sanctuary production, conservation, and protection, increased fish catch, maintained, healthy, and passive reefs, increased number of rare species, saved money of fisherfolk from not paying fines and long term fish and marine biodiversity resource are among the positive externalities this policy bear. Meanwhile, negative externalities that may potentially occur are continuous decrease of fish catch when dishonest or fraudulent permanent Marine Police Enforcers acquit violators and permit their continuous practice of illegal fishing in exchange of bribe.

On Pursuance of Policy on the Establishment of Social Enterprises as Alternative Livelihood for Fisherfolk in the Verde Island Passage Marine Key Biodiversity Areas:

Potential consequences of the pursuance of this policy alternative include: 1) Corruption in favor of local authorities implementing the project; 2) Exploitation of political motives to selected beneficiaries; 3) Undeserving beneficiaries chosen by local executives/implementers; 4) Beneficiaries becoming dependent on the grants/subsidies of the government; and 5) Emergence of bogus fisherfolk organizations. Spillover effect is also present in the pursuance of this policy alternative. Increased fish and marine species population are spillovers of this alternative. Increased fisherfolk income, saved money of fisherfolk from not paying fines, built participatory community enterprise, marine sanctuary production, conservation, and protection, and decreased illegal fishing rate are the positive externalities of this alternatives. On the other hand, the negative externalities that may potentially occur are misuse

and loss of resources favoring authorities who benefitted in the implementation and prevalence of fraudulence in the government.

The Constraints of Policy Alternatives

Constraints mapping was conducted to identify and classify the limitations and obstacles that stand in the way of achieving the two policy alternatives presented.

Table 2. The Constraints of Policy Alternative Number 1

On Pursuance of Policy on Deployment of Permanent Maritime Police Enforcers in the Verde Island Passage Marine Key Biodiversity Areas to report to Bureau of Fisheries and Aquatic Resources as the lead enforcer of RA 10654	
Physical Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by the low technology developed for remote sensing systems to locate where illegal fishing (i.e., dynamite) exactly occurred, frequency of violations, and where the violators escape; facilities to hold violators; and patrol boats with advanced detecting mechanisms among others.
Legal Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by reporting requirements, notice of violations processing, and legal functions performance.
Organizational Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by abuse of power, poor management, conflict of interest, and low morality among enforcers.
Political Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by thrusts of the local chief executive in positioned, interests and priorities of the local governance, and political agenda of the implementers.
Distributional Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by the need to ensure that benefits and costs are equitably distributed among targets.
Budgetary Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by the availability of funds and resources to sustain the implementation.

Table 3. The Constraints of Policy Alternative Number 2

On Pursuance of Policy on the Establishment of Social Enterprises as Alternative Livelihood for Fisherfolk in the Verde Island Passage Marine Key Biodiversity Areas	
Physical Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by the low technology developed for social enterprises; availability of product development technology; and knowledge of fisherfolk on social enterprise development.
Legal Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by status reporting requirements and business development and sustainability requirements
Organizational Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by abuse of power, poor management, conflict of interest, and low morality among enforcers.
Political Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by thrusts of the local chief executive in positioned, interests and priorities of the local governance, and political agenda of the implementers.
Distributional Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by the need to ensure that benefits and costs are equitably distributed among targets.
Budgetary Constraints	The Deployment of Permanent Marine Police Enforcers in the VIP MKBAs is constrained by the availability of funds and resources to sustain the implementation.

The Criteria and Decision Rule

A criterion was developed to help estimate levels of risk and uncertainty of the two policy alternatives presented in an aim to solve the continuous increase illegal, unreported, and unregulated fishing in VIP MKBAs and evaluate therefore the best alternative to solve the problem. The criteria considered for evaluation included effectiveness (20%), cost (20%), ease of implementation (20%), cost-benefit (20%), acceptability (10%), and responsiveness and appropriateness (10%). Ratings were in a scale of 1-5, 5 being the highest and 1 as the lowest.

Table 4. The Criteria for Evaluation of Policy Alternatives

Criteria	Ratings				
	1	2	3	4	5
Effectiveness (20%)	0% to 5% Decrease in Rate of Illegal, Unreported, and Unregulated Fishing in VIP MKBAs.	6% to 10% Decrease in Rate of Illegal, Unreported, and Unregulated Fishing in VIP MKBAs.	11% to 15% Decrease in Rate of Illegal, Unreported, and Unregulated Fishing in VIP MKBAs.	16% to 20% Decrease in Rate of Illegal, Unreported, and Unregulated Fishing in VIP MKBAs.	21% and above Decrease in Rate of Illegal, Unreported, and Unregulated Fishing in VIP MKBAs.
Cost (20%)	2,000,000 and above actual implementation cost	1,500,000 to 1,999,999 and above actual implementation cost	1,000,000 to 1,499,999 and above actual implementation cost	500,000 to 999,999 and above actual implementation cost	499,999 and below actual implementation cost
Ease of Implementation (20%)	Can be adapted within 16 months or more	Can be adapted within 12 to 15 months	Can be adapted within 8 to 11 months	Can be adapted within 4 to 7 months	Can be adapted within 0 to 3 months
Cost-Benefit (20%)	0% return of investment (Actual Implementation vs. Funds Acquired)	5% return of investment (Actual Implementation vs. Funds Acquired)	10% return of investment (Actual Implementation vs. Funds Acquired)	15% return of investment (Actual Implementation vs. Funds Acquired)	20% return of investment (Actual Implementation vs. Funds Acquired)
Acceptability (10%)	None of the stakeholders is amenable to the policy	At least 2 of the 6 stakeholders are amenable to the policy	3 to 4 out of the 6 stakeholders are amenable to the policy	5 out of the 6 stakeholders are amenable to the policy	All stakeholders are amenable to the policy
Responsiveness and Appropriateness (10%)	Not responsive to the problem and not appropriate to the VIP MKBAs situation	Responsive to the problem but not appropriate to the VIP MKBAs situation	Not responsive to the problem but appropriate to the VIP MKBAs situation	Slightly responsive to the problem and appropriate to the VIP MKBAs situation	Strongly responsive to the problem and appropriate to the VIP MKBAs situation

Results and Discussion

Based on the developed criteria levels of risk and uncertainty, the two policy alternatives were evaluated in an aim to solve the continuous increase illegal, unreported, and unregulated fishing in VIP MKBAs. The table below presents the result of evaluation.

Table 5. Policy Alternatives Evaluation Distribution

Policy Alternatives	Effective-ness (20%)	Cost (20%)	Ease of Impleme-nt-ation (20%)	Cost Benefit (20%)	Accept-ability (10%)	Responsive-ness and Appropriate-ness (10%)	Total
Policy on Deployment of Permanent Maritime Police Enforcers in the Verde Island Passage Marine Key Biodiversity Areas to report to Bureau of Fisheries and Aquatic Resources as the lead enforcer of RA 10654	(5) 1.0	(1) 0.2	(2) 0.4	(5) 1.0	(4) 0.4	(5) 0.5	3.5
Policy on the Establishment of Social Enterprises as Alternative Livelihood for Fisherfolk in the Verde Island Passage Marine Key Biodiversity Areas	(4) 0.8	(1) 0.2	(2) 0.4	(4) 0.8	(3) 0.3	(5) 0.5	3

Note: The figures in parentheses are derived from evaluation criteria in Table 4: The Criteria for Evaluation of Policy Alternatives.

Based from the results shown in Table 5, between the two alternatives, “*Policy on Deployment of Permanent Maritime Police Enforcers in the Verde Island Passage Marine Key Biodiversity Areas to report to Bureau of Fisheries and Aquatic Resources as the lead enforcer of RA 10654*” generated the greater percentage. It is therefore recommended the pursuance of this policy. Strengthened fisheries law enforcement is indeed deemed more significant when permanent marine police enforcers will be deployed and be visible in the MKBAs where illegal and unregulated fishing take place. Their visibility in the areas is believed to help fisherfolk observe fisheries law. Also, while being deployed at the areas, they can help educate the fisherfolk about the stipulations of the law which may not be known or clear. Increased maritime police visibility in fishing areas will really help addressed the conduct of illegal, unreported, and unregulated fishing. In fact, it would be much efficient if permanent marine police enforcers will be deployed in the MKBAs since there are incidents that are not given actions because of the absence of notices of violations from the Maritime Group and Coast Guard.

The premise of the identified consequences, spillovers and externalities also provides us the same policy alternative to recommend since estimating the strengths and weaknesses of both alternatives presented gives us an understanding that with inputs in deploying permanent Maritime Police Enforcers in the Verde Island Passage Marine Key Biodiversity Areas will provide us greater output such as decrease in the rate of illegal, unreported and unregulated fishing in the VIP MKBAs. But more than that, potential positive externalities are to surface such as marine sanctuary production, conservation, and protection, increased fish catch, maintained, healthy, and passive reefs, increased number of rare species, saved money of fisherfolk from not paying fines and long term fish and marine biodiversity resource. This policy could further create a domino effect in behavior change of fisherfolk that could now be more threatened of the sanctions they could suffer with once they continue practicing illegal fishing. This being the best approach to achieve benefits while preserving savings, is really the best alternative.

The Policy Implementation Strategy

An Implementation Strategy was developed to serve as guiding principle in achieving the main objective of the recommended policy alternative, “*Policy on Deployment of Permanent Maritime Police Enforcers in the Verde Island Passage Marine Key Biodiversity Areas to report to Bureau of Fisheries and Aquatic Resources as the lead enforcer of RA 10654*,” which is to decrease/eradicate illegal, unreported, and unregulated fishing in VIP MKBAs. The table below presents the matrix of the implementation strategy.

Table 6. Policy Implementation Strategy

Action Plan	Responsible	Duration	Budget in Pesos	Budget Chargeability
Enactment of local ordinances among LGUs in the VIP with MKBAs on the Deployment of Permanent Maritime Police Enforcers and patrol gears, gadgets and equipment to report to Bureau of Fisheries and Aquatic Resources as the lead enforcer of RA 10654 and appropriating funds thereof	Local Government Units of the Marine Key Biodiversity Areas	3-4 weeks	N/A	N/A
Delineation of functions, patrol areas, and fishing sites among the Permanent Marine Police Enforcers	LGUs, BFAR, PNP-Maritime Group, Philippine Coast Guard, PGENRO, Bantay Dagat	3-4 weeks	N/A	N/A
Hiring/Selection of Competent Maritime Police Enforcers	BFAR, PNP-Maritime Group, Philippine Coast Guard	2-3 months	N/A	N/A

Capacity Building/Training of Hired Maritime Police Enforcers with BFAR	BFAR, PNP-Maritime Group, Philippine Coast Guard	3-6 months	2,000,000.00-3,000,000.00	Department of Agriculture – MKBAs LGU Operations and BFAR IV-A
Coordination with other stakeholders working for VIP MKBAs	LGUs, BFAR, PNP-Maritime Group, Philippine Coast Guard, PGENRO, Bantay Dagat	2-3 weeks	N/A	N/A
Identification and Acquisition of Patrol gears, gadgets and equipment		3-6 months	3,000,000.00-5,000,000.00	Department of Agriculture – MKBAs LGU Operations and BFAR IV-A
Deployment of Permanent Maritime Police Enforcers and patrol gears, gadgets and equipment			P480.00 per day (at P10,560 monthly wage of enforcer)	Department of Agriculture – MKBAs LGU Operations and BFAR IV-A
Monitoring of Performance of Permanent Maritime Police Enforcers and patrol gears, gadgets and equipment			N/A	N/A
Monitoring of the Rate of Illegal, Unreported and Unregulated Fishing in VIP MKBAs			N/A	N/A
Policy Updating/Tailor fitting		3-4 weeks	N/A	N/A
Project Sustainability Programming and Management			500,000.00	Department of Agriculture – MKBAs LGU Operations and BFAR IV-A

Monitoring and Evaluation Framework

A Monitoring and Evaluation Framework was developed to describe relationships between the recommended policy alternative, “Policy on Deployment of Permanent Maritime Police Enforcers in the Verde Island Passage Marine Key Biodiversity Areas to report to Bureau of Fisheries and Aquatic Resources as the lead enforcer of RA 10654,” and their outcomes. Presented below is the monitoring and evaluation framework for the recommended policy.

Table 7. Policy Implementation Strategy

ISSUE AREA	POLICY ACTIONS		POLICY OUTCOMES	
	Inputs	Processes	Outputs	Impacts
Deployed Permanent Marine Police Enforcers in VIP MKBAs	Expenditures for salaries, equipment, gears, gadgets, maintenance	Marine Police Enforcers Patrolling and Arresting Violators	Violators arrested per 10 known and recorded crimes	Violators convicted per 10 known and recorded crimes; Decreased in the number of Illegal, Unreported, and Unregulated Fishing
Fisheries Operations and Services	Expenditures for salaries, equipment, gears, gadgets, maintenance	Updating Database of Detected/ Confirmed Violations, Violators, and Case Status	Active Database of Detected/ Confirmed Violations, Violators, and Case Status	Monitored fishing violations and operations
Marine Biodiversity	Expenditures for bouy and artificial habitats (depends on necessity)	Establishment of Marine Protect Areas and Fish Sanctuaries	Fish Production per Marine Key Biodiversity Areas	Increased number of marine species

Pre-Conditions and Unforeseen Events

Strengthened fisheries law enforcement will be more significant when permanent marine police enforcers will be deployed and be visible in the MKBAs where illegal and unregulated fishing take place. However, this policy intervention bears pre-conditions and unforeseen events such as 1) Undistinguishable delineation of tasks between the permanent Marine Police Enforcers, the Maritime Group, and the Coast Guard; 2) Dishonest or fraudulent conduct by the permanent Marine Police Enforcers who will be given power; 3) Brutality and Use of Excessive Force during Enforcement; and 4) False Arrest or Wrongful Imprisonment of Fisherfolk. Budget restrictions may also prevent the enactment of this policy most importantly that government has a present problem on staff hiring because of the attempt to end contractualization. Duplication of functions may also surface between the PNP-Maritime Group, the Philippine Coast Guard and the PGENRO regarding the enforcement in VIP MKBAs. Therefore, this policy may be strengthened on the aforementioned constraints.

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How to Cite this Article?

Hernandez, J. M. (2023). SEASID: Study on Enforcement of Amended Fisheries Law Specific at Verde Island Passage: Input to Improvement and Development of Policy Alternatives. *Research Review Journal of Social Science*, 3(1), 31–43.
<https://doi.org/10.31305/rrjss.2023.v03.n01.005>