Journal of Ecosystem & Ecography

Isaac et al., J Ecosys Ecograph 2016, 6:3
DOI:10.4172/2157-7625.1000208

Research Article Open Access

Keywords Hon Mun; Biodiversity; Management; Transect; Coral reef; Island

Lifeform Codes STN: Stone; SND Sand; R: Rubble; ODC Old Dead Coral; FAV Favia species; MON: Montipora species; GAL: Galaxea species; ACR: Acropora species; FUN: Fungia species; POR: Porites species; SOD: Natural and anthropogenic Threats

2. To brie y analyze data using Line transect measurement of some diversity in the area

3. To give a gen<</Acwd9 (n)4 (d a)9 (n)4 (d t)10 (ube)-4.e (in)-3 g

Marine Protected Areas in Vietnam

posed on the ecosystems at the Hon

Objectives

e main objectives of this study were to:

1. Give an overview of the current status of biodiversity at the Hon Mun Island and its marine environment

the topographic basis for a wide range of coastal and marine habitat types, developed in relation to prevailing oceanographic conditions and gradients in mainland - oceanic in uences (Figure 1). e diverse array of tropical habitats includes coral reefs, so bottom communities, sea grass beds, mangroves, sandy beaches and rocky shores.

Materials and Methods

Materials for data collection

Use of cellular phones, measuring tape for transects measurement, ruler, slate, pencil, thread and snorkeling masks.

Methods for data analysis

Personal and direct observations were made at the study area. Informal interviews were conducted with some personnel at the area to get more insight about the area. Secondary data from the internet and other literature were used to give detailed information on biodiversity of species and management of the ecosystem at the Hon Mun Islands. Use of Microso o ce tools like; Microso word and excel worksheet as well as Shannon Weiner's index to calculate for the diversity of species in the area in quantitative analysis and formulation of charts.

Research strategy

e strategy used for this research was both qualitative and quantitative approach. Some quantitative tools were used in the collection and analyzing of data. No laboratory test or analyses were made to establish a logical base except quantitative tools outlined in section 6.2.

Research design

e research design adapted for this study is a case study design. A single case study was adapted to explore more world about the nature and management of ecosystems at the Hon Mun Islands, taking into consideration some areas that were measured for this study. Since, this study is a single case study, results or ndings cannot be generalized for the entire islands in Vietnam or other islands at Nha Trang.

Limitation of the study

Limited funds did not enable us to visit the place more o en to engage the most of the local people who are mainly farmers and shermen, thus, participatory/action based research to delve more and broaden the objectives of this study. is limitation does not in the validity and credibility of this study since, engagement of the people is not a main objective although it would have helped establish and give us more information. Language barrier also hindered our ability to engage most of the indigenous or local inhabitants although the primarily mode of data collection was through primary data as well as use of secondary data on the internet and from the site as well as engaging some few sta at the site.

Results

$$\text{Percentage Cover (\%)} = \frac{\text{Area Covered by Life-form x 100\%}}{\text{Total Distance}}$$

(Tables 1-6) In calculating for the variables in the tables above; Di erence in transitional Life-form Code in the area measured by the Life-form at that given area up to the next area or zone being measured. Hence zones with the same life-form have their distance summed up (i.e., Sand (SND) covered in two or three areas are summed up; L1i+L1ii….L1n). Using Shannon Weiner's mode of calculating for diversity of species in a given area;

$$Pi = \frac{\text{Life - Form Value / Distance covered}}{\text{Total Distance}}$$

In (Pi) = Natural log (LN) of value attained f fi/GS1056.6(an5756(an31126di)-9.2 (f) q 56.e- q 56.693 21rm C.2 9al)12.2 1 BT /GS10

- To enable local island communities to improve their livelihoods and in partnership with other stakeholders to e ectively protect and manage the marine biodiversity at Hon Mun as a model for collaborative marine protected area management.

Enforcement plan: e enforcement plan is aimed at eliminating illegal shing in the area which destroys sh larvae and coral reefs, as well as enforcement of gear and no shing restricted zones. Some zones have been demarcated for snorkeling, diving, boat settlement and so on, basically recreational activities [5] in the area. Marine protected areas village committees liaising with personnel from the government.

All stakeholders have been brought on deck to help manage the Hon Mun Island. Village committees have been set up in each village to represent the interest of their people, teaming up with Mun Island MPA Authority as well as provincial agencies in management of this zone.

Discussion

Line transects measurement of species at Site A and Site B

e survey was conducted to measure diversity of species at the bottom zone at the Mun Island as well as to enable students to describe

w i t h

Figure 7: Observation of inputs from land like; nutrients and sediment run off (Source: Field Data/Survey).

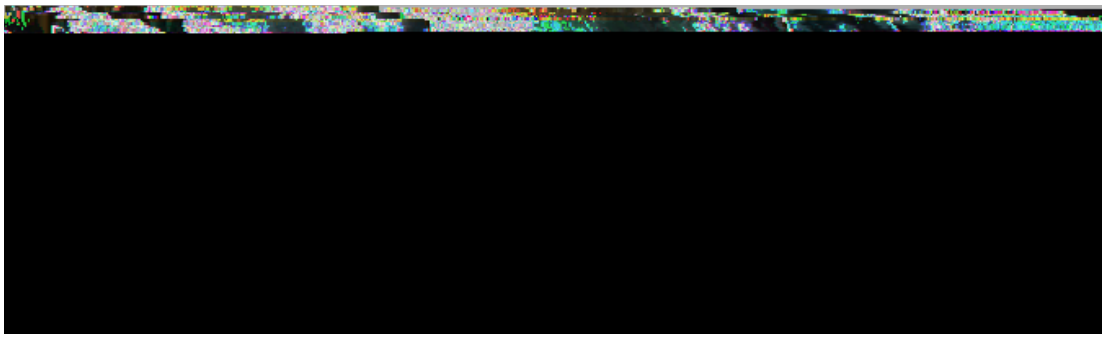

Figure 8: Invasion of some species thereby causing some corals to die off or bleach.

programs which have been implemented are meant to conserve or keep the resources in its pristine nature.

5. Support community involvement through; Collection of user fees of which a percentage is returned to local communities. Local people are involved in monitoring the change in biodiversity. Local people are rewarded for improvements in the local marine environment.

Conclusion

In nut-shell, participatory or action based approach as well as conservation, are two main approaches, which can be adhered to ensure sustainable use of resources if the right policy framework and monitoring mechanisms are properly structured through institutional capacity [7]. e factors spelt above delves into biodiversity of species at the Hon Mun Island, who manages the site, support, threats which degrade the site's pristine ecosystem and proposed measures which can be adapted to ensure sustainability of resources in that marine environment.

Acknowledgement

We would like to express our profound gratitude to God Almighty for giving us strength to embark on this study thereby making this study fruitful. We would also like to thank the management at the Hon Mun Island for their time and information they gave to us as well as Norhed and management of Nha Trang University for the resources they provided in making this study a success.

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