



SOCIAL SURVEY REPORT

SUSTAINABLE MANAGEMENT OF HA. BAARAH MANGROVE/WETLANDS

27 June 2018



Report Number:

Environmental Protection Agency

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1. Introduction

Located in the North most Atoll of Maldives, Baarah is on the eastern side of the atoll. The Island has a land area of 256.7 hectares of which 39 hectares are mangrove/wetland areas. Baarah is the 4th most populated Island within the Haa Alif Atoll, with a population of 1215 people. The population has 629 and 586 females and males respectively. The majority of the population uses groundwater for household purposes.



The survey team from Environmental Protection Agency (EPA) met with the island council of Baarah and discuss with them about the sustainable management of the mangrove/wetland areas of the island. The island council was informed about the surveys and how it would be proceeded. It was brought to EPAs attention by the island council of the historical importance of the mangrove/wetland area and the importance of sustainable management of the area. The island council also highlighted the importance of managing the area in a way that could provide economic benefit to the island community.

2. Purpose

The main purpose of this survey is to find out the perspectives of the island community towards sustainable management of the mangrove/wetland area. The survey also focuses on finding the social and economic changes the community will face due to the sustainable management of the mangrove/wetland area and the to be well informed about the expectations and opinion of the island community towards sustainable management of mangrove/wetland areas.



3. Methodology

The survey was done using informed participants who willingly filled out questionnaires that required for them to answer questions about their opinion about mangrove/wetland areas, importance of sustainable management of mangrove/wetland areas as well as the current uses of the mangrove/wetland areas. The questions were answered by 170 participants.

3.1 Survey Team

Surveyors team includes staffs from Environmental Protection Agency (EPA). Below are the surveyors who did the survey for HA.Baarah.

- Ali Nishan: Assistant Environmental Officer
- Mohamed Sujuan: Asst. Oceanographic Observer
- Aminath Shahula: Administrative Officer
- Wafiyya Abdulla: Sanitary Assistant
- Mohamed Aiman: Asst. Research Officer

4 Results

4.1 Survey Participants

The survey was conducted through volunteer participation. Volunteers were found throughout the island and they were well informed about the survey, how the information will be used.

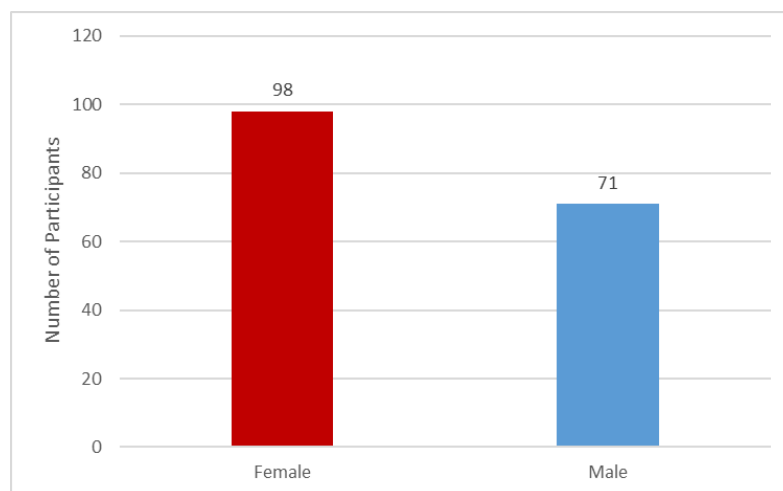


Figure 1: Gender of participants

The survey team attempted to include all gender and age groups equally in the survey. The graph above shows the participant’s gender and it shows that there were 72 males and 98 females in the surveyors.

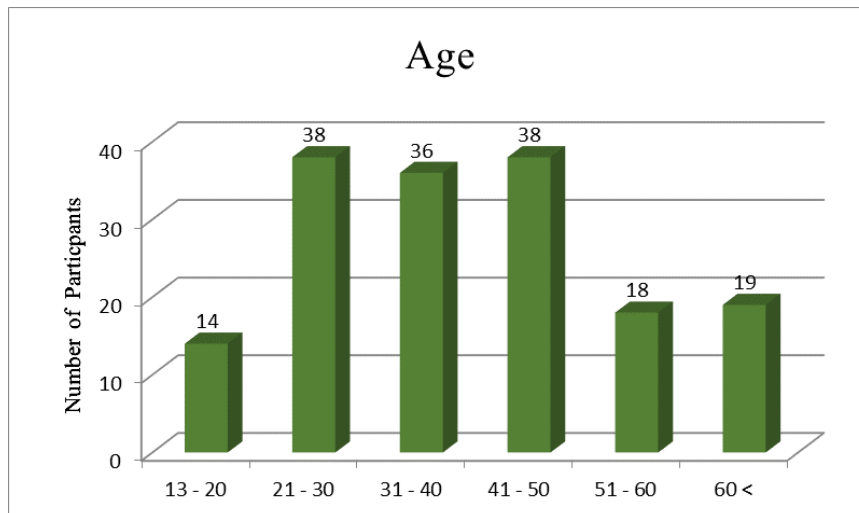


Figure 2: Age of Participants

The majority of surveyors include young adults and middle aged people. The graph above shows that there were 38, 36 and 38 participants, who were between the age of 21-30 years, 31-40 years and 41-50 years respectively. The surveyors also includes of 14 participants who were between the age of 13-20 years, 18 participants between the age of 5-60 years and 19 participants above 60 years of age.

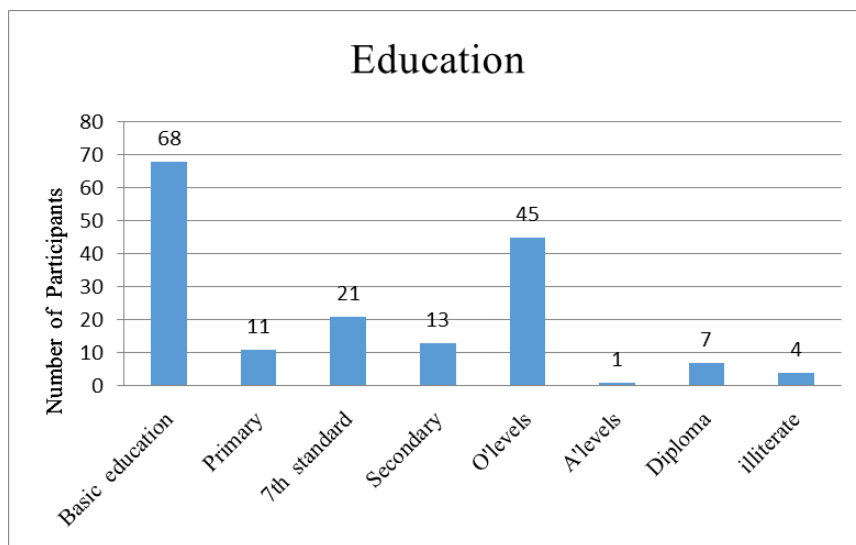


Figure 3: Education standard of Participants

As it can be seen from the above graph majority of the participants have completed basic education, which is 68 participants. 11 participants have primary education, 21 participants have completed up to the 7th grade and 13 participants have secondary education. 45 participants have completed O' levels and 1 participant has completed A'levels. As seen from the graph above 7 participants have a diploma whereas 4 participants are illiterate.



4.2 Mangrove/Wetland

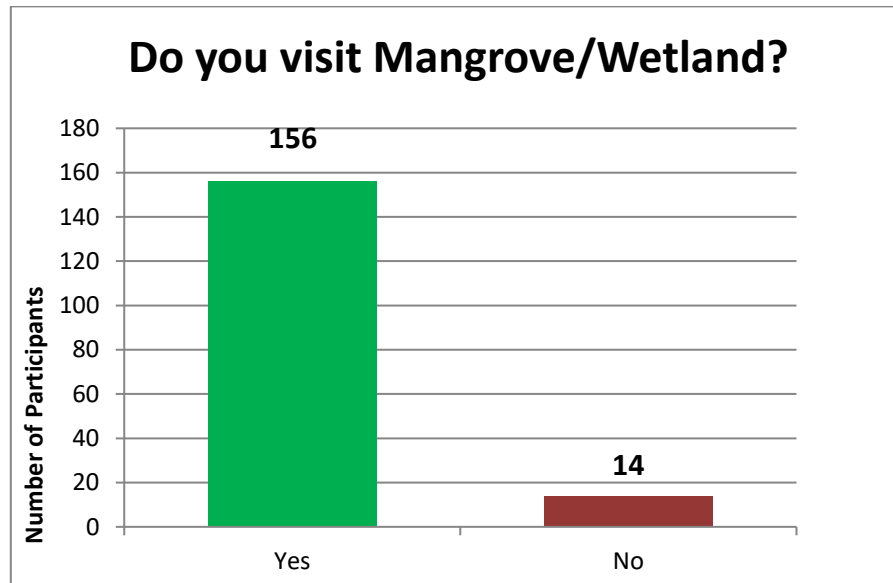


Figure 4: Do you visit Mangrove/Wetland ?

From the 170 participants of this survey 156 participants said that they visit the mangrove/ wetland area of Baarah and 14 participants answered that they do not visit the mangrove/wetland areas for any purpose.

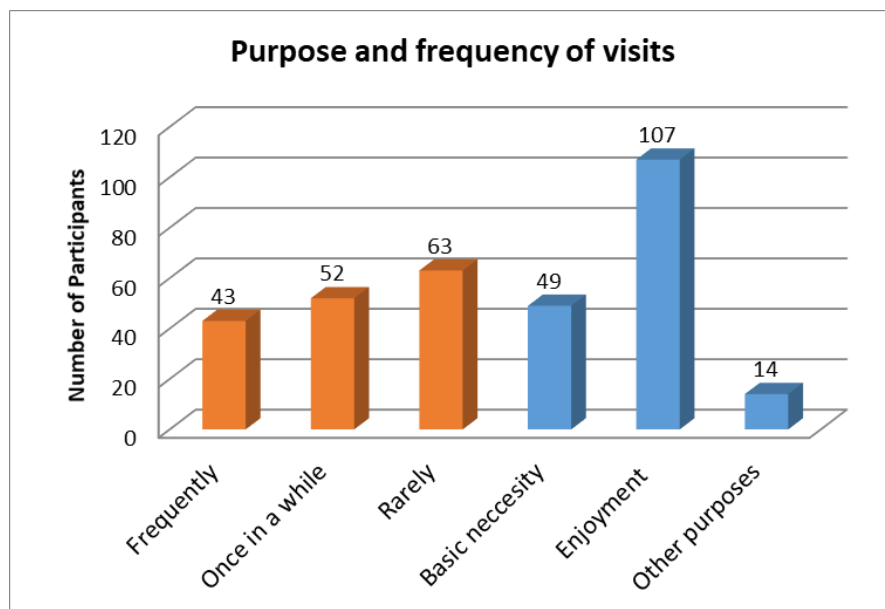


Figure 5: Purpose and frequency of visits

The graph above shows the answers given by survey participants for the question which was to know the purpose and frequency of visits for the participants who answered that they visit the mangrove/wetland area.



43 participants said that they visit mangrove/wetland area of Baarah frequently, 52 people said they go to the area once in a while and 63 people said that they visit the mangrove/wetlands area rarely.

As for the purpose of the visits, majority of the people who visited were for enjoyment which is 107 participants and 49 participants visited for basic necessities. Out of the 156 participants who visited the mangrove/wetland area 14 people visited for other purposes, which includes for the purpose of their jobs and cutting down of trees.

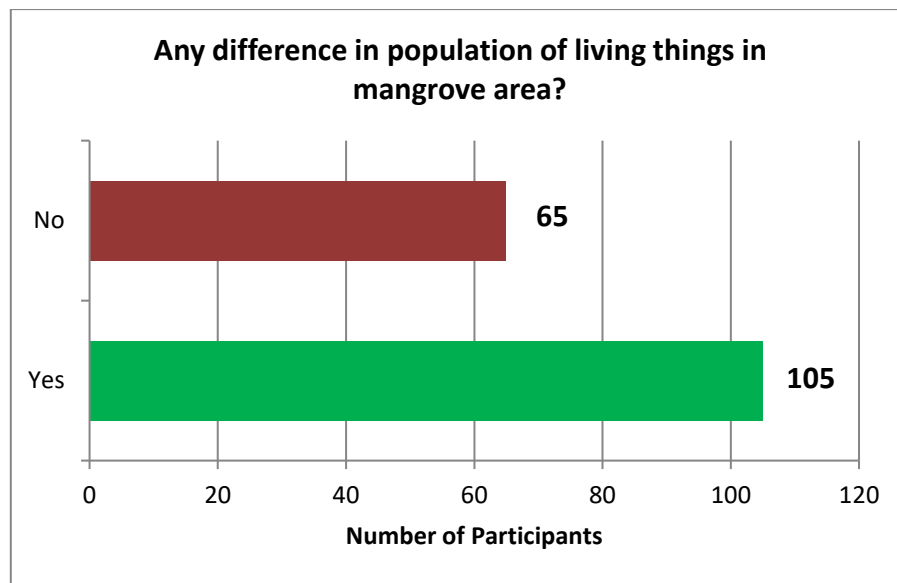


Figure 6: Any difference observed in the population of living things in mangrove/wetland area?

There is a significant change in the population of the living things in the mangrove/wetland area of Baarah according to the 105 participants and the other 66 participants said that there are no significant changes with the population of the living things in the mangrove/wetland area.

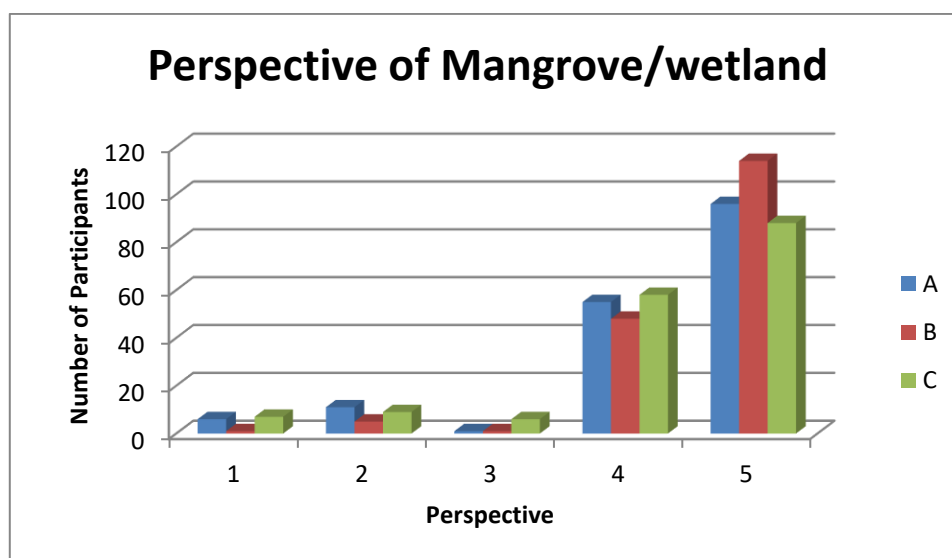


Figure 7: Perspective of participants on mangrove /wetland



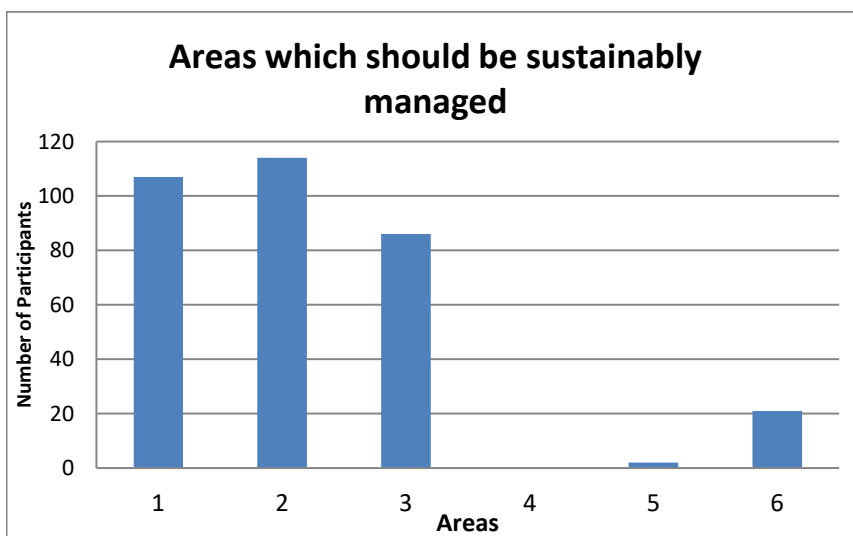
- (5: Strongly Agree, 4: Agree, 3: Neutral, 2: Disagree, 1: Strongly disagree)

A	Mangrove/ wetlands are breeding and nursery grounds for marine animals
B	I believe the future generations should get the opportunity to use the mangrove/wetland resources
C	It is our responsibility to stop development projects within the shore area and preserve mangrove/wetland resources for the future generations

The above graph shows the perspectives of the survey participants regarding mangroves/wetlands. The graph shows that 96 participants strongly agree and 55 participants agree that mangrove/wetlands are breeding and nursery grounds for marine animals. While 1 participant is neutral on the subject, 11 participants disagree and 6 participants strongly disagree respectively, to the statement that mangrove/ wetlands are breeding and nursery grounds for marine animals.

114 participants strongly agree and 48 participants agree that future generations should get the opportunity to use the mangrove/wetland resources. From the total number of participants 5 participants disagree with the statement. And 1 participant strongly disagrees and 1 participant wanted to stay neutral regarding the statement that future generations should get the opportunity to use the mangrove/wetland resources.

The last statement states that it is our responsibility to stop development projects near the shore and preserve the mangrove/wetlands resources for the future generations. While 88 participants strongly agree with the statement, 58 agrees and 6 said that they wanted to be neutral regarding the statement. 9 participants disagree with the statement and 7 participants strongly disagree with the statement that it is their responsibility to stop development projects near the shore and preserve mangrove/wetland resources for the future



Areas:

1	Areas where maximum benefit can be obtained from the natural resources
2	Areas which has rich natural resources
3	Areas with unique features and historical values
4	Areas which are open only for permit holders
5	Strictly closed areas
6	All of the Above areas

Figure 8: Areas which should be sustainably managed

The above graph shows areas according to the participants which should be sustainably managed and participants allowed to give more than one answer if they wish. The main purpose of this question is to find out the awareness level of the participants regarding sustainably managed areas and to know the participant's



perspective regarding the selected areas. 107 participants agreed that the areas which are sustainably managed should be areas where the maximum benefit of natural resources can be extracted. 114 participants believe that areas with rich natural resources should be sustainably managed, and 86 participants believe that such areas should have unique features or historical significance. As seen from the graph above none of the participants agree that sustainably managed areas should be given access to only the permit holders, and 1 participant believes that the areas should be strictly closed. 21 participants said that sustainably managed areas should have all the 5 features above mentioned.

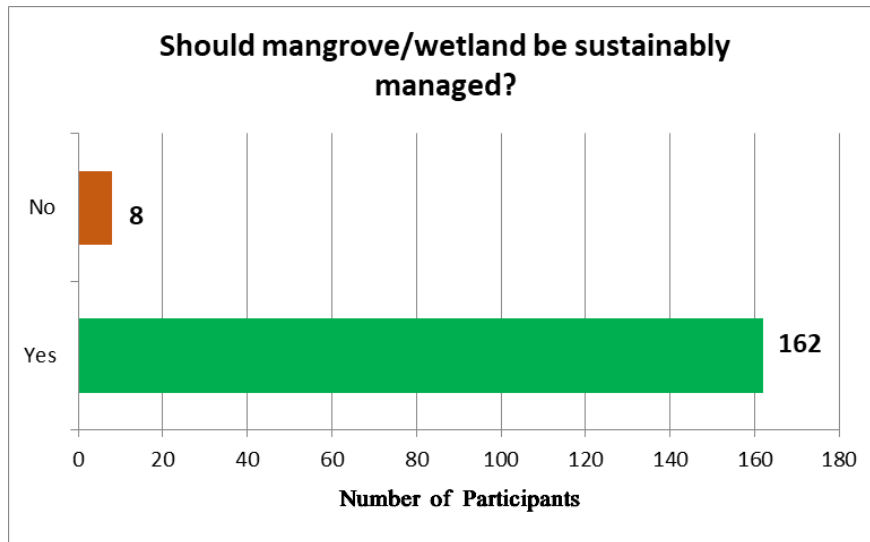


Figure 9: Should mangrove/wetlands be sustainably managed for long term?

Figure 9 shows that 162 participants want to sustainably manage Baarah mangrove/wetland areas for long term while 8 participants do not want the area to be sustainably managed for long term.

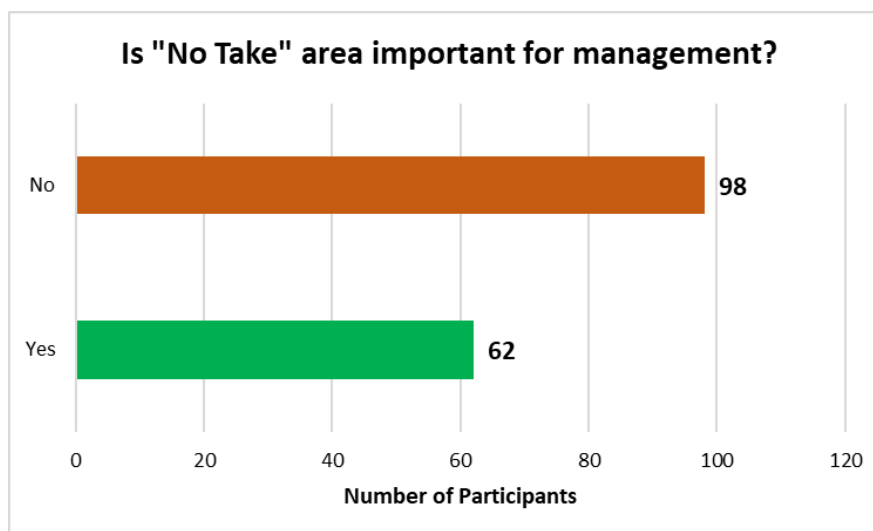


Figure 10: Is "No Take" area important for management?



98 participants said that they do not believe that a “No Take” area is important for sustainable management of mangrove/wetlands and 62 participants said that they believe that it is important to have a “No Take” area for the sustainable management of mangrove/wetlands.

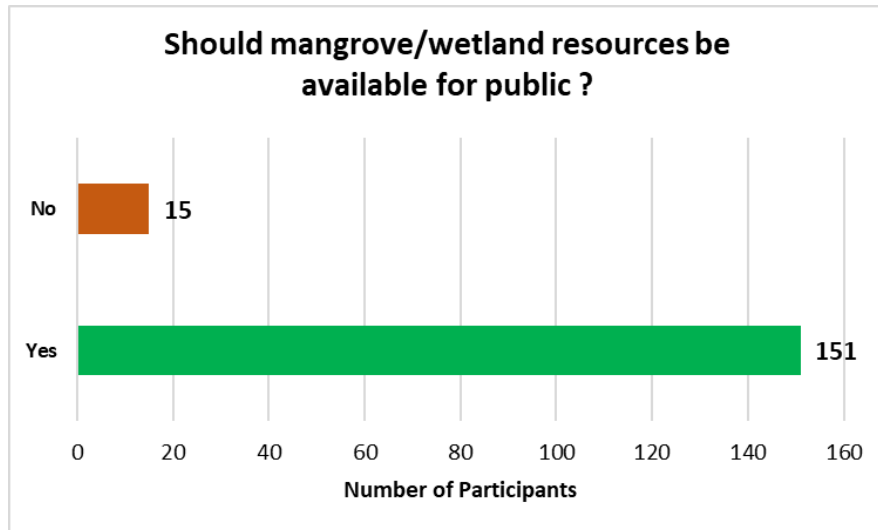


Figure 11: Should mangrove/wetland resources be available for public?

The graph above shows that 151 participants agree that the resources of the mangrove/wetland should be available for the general public but 15 participants said that they do not agree that the resources of mangrove/wetland should be available for the general public.

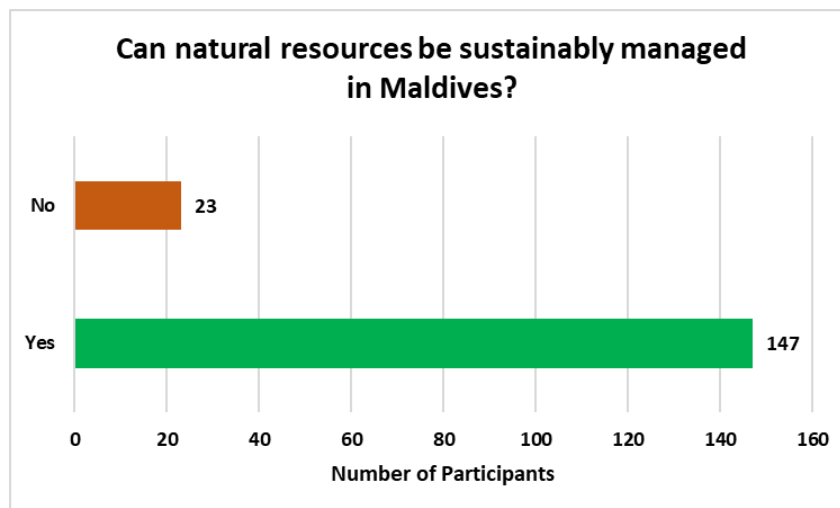


Figure 12: Can natural resources be sustainably managed in Maldives?

147 participants agree that natural resources can be sustainably managed in Maldives while 23 participants do not agree that natural resources can be sustainably managed in the Maldives.

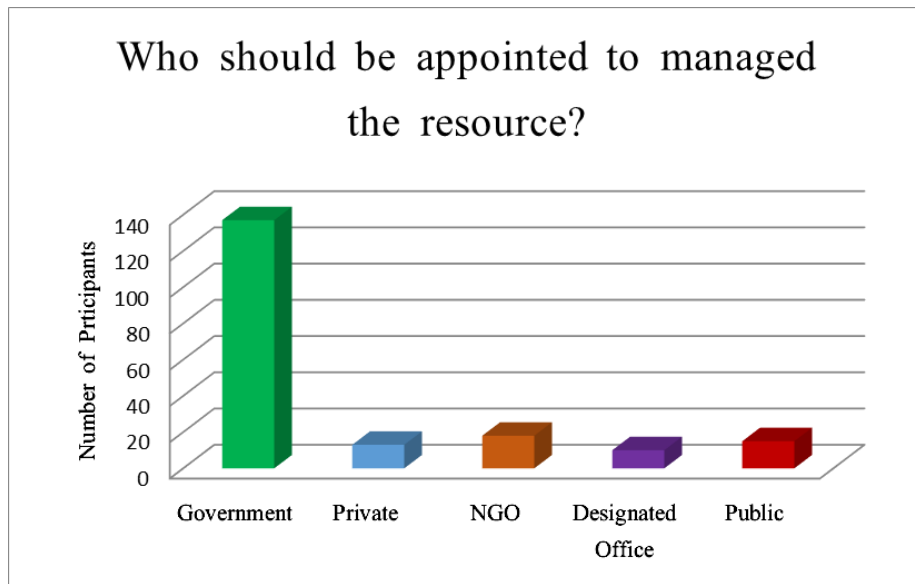


Figure 13: Who should be appointed to manage the resource?

From the survey participants 137 said that they believe that government should manage the mangrove/wetland of Baarah and 1 participants said that they believe the area should be managed by a private party. 18 participants said the mangrove/wetland of Baarah should be managed by NGO's while 10 participants said that it should be managed by a separate office for the purpose only. The rest of the 15 participants said that they believe the best option would be to let the island community manage the area.

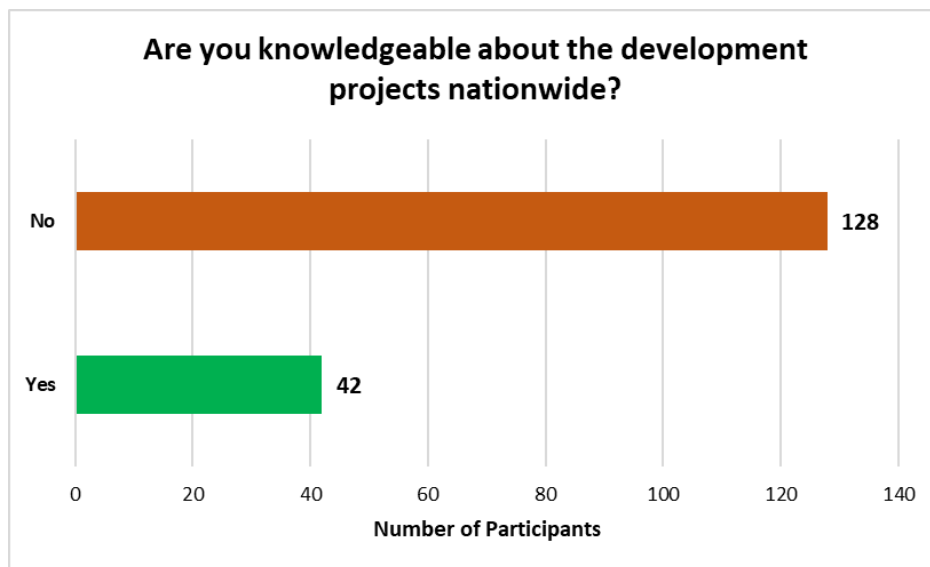


Figure 14: Are you knowledgeable about the development projects nationwide?

It is evident from the survey results that majority of the survey participants are not knowledgeable about the development projects within the country as only 42 participants said that they have knowledge of such development projects and 128 participants said they do not have knowledge of the development projects within the country.



5 Conclusion

This survey was aimed to find the awareness levels and perspectives of the island community of Baarah regarding the mangrove/wetland area of the island and its sustainable management. Apart from the 14 participants, all the survey participants visit the mangrove/wetland areas of the island for different purposes. Figure 5 indicates the frequency of visits and the purpose of the visits. As it is seen from the figure 49 participants visits the mangrove/wetland area for their daily necessities, which includes; firewood collection, farming, burrowing of sand for house building purposes and collecting *Bruguiera cylindrica* for personal consumption. The survey brought to light the importance of sustainable management of the mangrove/wetland area of Baarah as the island community uses the resources and the area for their daily needs as well as for their enjoyment and fun. Majority of the survey participants also wishes to manage the area in a sustainable long term manner, which would also help the island community benefit economically.

Changes are inevitable and it is seen in most of the natural environments, which maybe natural changes or changes due to human intervention. In Baarah 105 participants said that they have noticed changes in the living population of the area, including the limited number of birds in the area as well as limited amount of migratory birds. Also with the increase in number of trees dying, from the area has caused the area to lose its beautiful greenery, which has reduced the biodiversity of the area. While most living things are decreased in number when compared to earlier, the number of crabs seen in the area has significantly increases as per the survey participants.

It was agreed by 114 participants that mangrove/wetland resources should be conserved for the future generations and 16 participants also agrees that development projects within mangrove/wetland areas should be stopped to conserved those areas for the future generations. But 146 participants believe that such development projects should not be stopped just for the conservation purpose, as today's development will also benefit the future generations.

Majority of the participants agreed that areas being managed sustainably should be areas with rich natural resources and areas from where maximum benefits of the resources can be extracted. Few participants said that areas with unique natural features and areas with historical importance should also be sustainably managed. It was agreed by all the participants that, sustainably managed areas should have open-access for the island community. It is also agreed by majority of participants that having "No Take" area within the sustainably managed area is not importance.

As it is evident from figure 12, 147 participants believe that natural resources can be sustainably managed in Maldives, but only if the responsibility is given to an eligible party with strict regulations and thorough monitoring. 137 participants said the responsibility should be given to government while 18 participants and



15 participants said that it would be best to give the responsibility to an NGO and island community respectively.

6 Recommendations

The results of the survey indicate that the community is aware about the benefits of the mangrove/wetland areas, however it shows that more awareness sessions should be conducted for the island community regarding the benefits of mangrove/wetland areas for the island physically and how to use a sustainable approach for the natural resource extraction, either for economic gain or daily needs.

Majority of the island community agrees to sustainable long term management of the mangrove/ wetlands, and they also believe that the island community should have open access to the resources of the mangrove/wetlands of the island. Hence it is very important to incorporate the ideas and opinion of the island community when formulating the regulations and guidelines for the Baarah mangrove/wetland management. Sustainable management can only be achieved when the island community can benefit from the resource economically, and so it is very important to consider the island community when developing the management plan for the mangrove/wetland areas of any given island.