

SUSTAINABLE VILLAGE: CASE STUDY GOODLANDS, MAURITIUS

Y. Baguant-Moonshiram, V. Bhujun, and M.D. Nowbuth

Abstract—The Maurice Ile Durable project was launched in 2008 and the ‘Green Paper’ in 2011. This paper analyses some sustainability indicators which have been developed with the help of Mauritians – from ministries, local authorities, non-governmental organizations, different sectors, academia and students. In 2010, the government of Mauritius announced its intention of investing in nine eco-villages. This paper explains how problems occurring in a village can be identified and it proposes some solutions which can be used to solve these problems. A case study was carried out in Goodlands, a village in the North of Mauritius. A survey was carried out among the inhabitants of the village in order to assess the problems and to propose solutions in view of promoting a sustainable village.

Keywords—Bottom-up approach, Eco-village, Small Island Developing States, Sustainable development

I. INTRODUCTION

SUSTAINABLE development has been defined by the World Commission on Environment in 1987, in its report ‘Our Common Future’ – most commonly known as the Brundtland Commission. It is the “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [3]. In other words, sustainable development refers to the economic paradigm which promotes economic growth without harming the environment, while ensuring its long-term gains. In 2008, the Maurice Ile Durable concept [8] was launched with a long-term vision aimed at promoting sustainable development in Mauritius. Moreover, in 2010, the government decided to implement the ‘Eco-village Project’ in nine coastal villages, namely: Pointe aux Piments, Panchavati, Vieux Grand Port, Vuillemin, La Gaulette/Le Morne, Poudre d’Or, Clémentia, Souillac and Rivière Coco in Rodrigues[4]. This paper will assess the sustainability of the village of Goodlands, which can also be converted into an eco-village. This will be considered as a pilot case for the other villages in the Small Island Developing States (SIDS).

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II. SUSTAINABLE DEVELOPMENT

Sustainability is built on four pillars – society, economy, environment and governance.

- Social development consists of improving the lifestyle of people by providing them with all the basic needs, for instance water and sanitation. It also promotes equality and education.
- The generation of wealth through economic activities, also need to be sustainable so that people can have a good standard of living.
- Protection of the environment on which we depend for survival, is important (UNEP).
- Governance is concerned with the participation of community members in decision making and the acquisition of information which affect their lives.

Sustainable projects can be promoted only if their benefits can be measured [7] and to make it possible, the initial conditions need to be assessed first. Sustainability of buildings was the first to be assessed. Since buildings only form part of a larger system such as towns and cities, assessment systems for urban areas were then developed.

III. SUSTAINABLE DEVELOPMENT IN MAURITIUS

Mauritius is one of the Small Island Developing States (SIDS) which are known to be more vulnerable to environmental degradation, climate change, overexploitation of fisheries, land and sea pollutions and natural disasters compared to larger countries (UNEP).

The small size and the geographical isolation of Mauritius, make it extremely vulnerable to natural disasters, food security and rising fossil fuel cost [9]. Mauritius depends highly on imports to meet its needs, for instance: 70% of the food consumed is imported [9] and fossil fuels which are also imported, meet 82% of its primary energy requirements [10]. It therefore, might not have sufficient resources to resist post-disaster effects which may occur in the future. Proper planning and sustainability interventions will certainly help to mitigate these effects. As stated by Abidin [1], the environment must not be sacrificed for economic benefits

A survey was carried out among the ministries, local authorities, NGOs, different sectors such as the construction, fisheries and health sectors, and academia and students. The overall result of the survey showing themes (or indicators)

which are important for sustainable development in Mauritius is shown in the chart below [9].

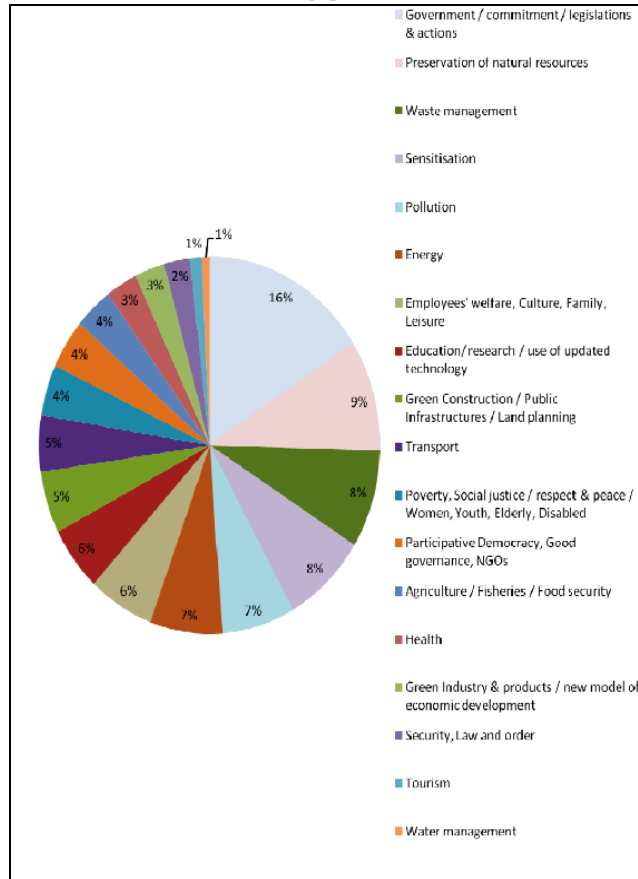


Fig 1: Percentage breakdown of overall main themes (Data source: Green paper 2011, p.29)

IV. CASE STUDY – VILLAGE OF GOODLANDS

Goodlands is one of the busiest villages in the North of the island, found in the Riviere du Rempart District. Its approximate population size is 21,200 [4]. It is a mixed-use village consisting of residential buildings, commercial buildings and textile and manufacturing enterprises which provide jobs to mainly the local. Moreover, almost all the basic facilities and services are available. Most probably, conflicts may arise due to the multi-purpose characteristic of the village. This paper will assess the effects of the MID concept implementation on these conflicts – and how these issues can be addressed.

The village is surrounded by agricultural lands which have been classified as highly suitable to moderately suitable by the Mauritius Sugar Industry Research Institute (MSIRI) [11]. Due to recent development, there have been demands for land for the expansion of residential areas around the settlement boundary, for industrial expansion and for retail development. The village centre has been developed linearly along the main road which crosses the village. As such, traffic congestion is very recurrent, especially during week-ends and market days.

V. METHODOLOGY

A survey was found to be a more convenient method to obtain the information about the knowledge of the inhabitants about sustainability, community needs and problems and the importance of the MID indicators according to the residents of Goodlands.

A sampling frame is a list of all the members of the population from which the sample will be drawn [12]. For the purpose of this study, the population is the inhabitants of Goodlands. It was however difficult to obtain a list of all the residents of Goodlands; instead, a list of households in Goodlands was obtained. The type of sampling chosen was the systematic sampling. Initially a postal questionnaire, together with a covering letter was designed.

However, with postal questionnaires, the response rate is known to be relatively low [2] and the cost of postage is quite high. Hence interview questionnaire was opted, but a few questionnaires were filled by the respondents themselves. The questionnaire design was based on the information obtained from the literature review and more emphasis was put on the MID indicators. Only those indicators having a relative importance of greater than 5% were taken into consideration; otherwise working on all the indicators will require additional time.

VI. RESULTS AND ANALYSIS

The chart below shows the comparison of the 'relative percentages of the MID indicators' obtained from the survey and from the literature.

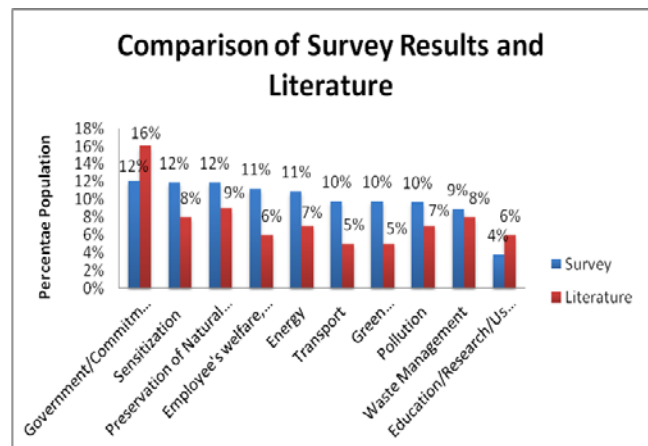


Fig.2: Comparison of the results of the survey & literature

As it can be seen, there are variations between the results of the survey and literature.

Possible explanations are:

- The use of indicators for Goodlands depends on its prevailing conditions – they are specific to the village, while the study carried out by the MIDF was an island-wide one.
- The populations targeted are not the same. In the case for the MID study, people with minimum sustainability knowledge – people from ministries, parastatal bodies, secondary schools and special interest groups – participated in

the study; while in this case, ordinary people have been targeted.

- Themes (from the literature) having a relative importance of less than 5% have been ignored, thus, explaining the larger percentages obtained for some themes (for example: sensitization and energy) in the survey.

The study has shown that 57.8% of the population has heard about sustainability and/or MID, but only 12.6% of the population could really understand the meaning of these terms and this might confirm the argument of Manteaw [6], stating that the meaning of 'sustainable development' is still unclear and it has not been communicated to the audience in a meaningful way. 73.9% of the population thinks that congestion is a major problem in Goodlands. The main activity on the Main Road of Goodlands is commerce and due to a lack of parking areas, people tend to park their vehicles by the roadside, hence, causing congestion. Moreover, there are distributor roads in Goodlands are also congested in the same way as the Main Road.

VII. MAJOR ISSUES AND RECOMMENDATIONS

- Sustainable development can be made possible in Goodlands through the right vision and political will. Both have helped Singapore in the move towards sustainable development [5] and they can therefore work for Goodlands as well. Examples of steps which can be taken are: the development of sustainable development plans, guidelines and code of practice; the establishment of new policies and provision of incentives to organizations and the public.
- The bottom up approach in the development of the sustainable development goals for the village must be promoted, for instance, through community meetings – they allow the government to listen and better respond to the needs of the public. The inhabitants will feel their importance in the whole process; they will in turn be more willing to participate in adopting sustainable pathways.
- Sensitization can help people to unlearn their old and unsustainable lifestyles and to explore more sustainable ones. It must also be pointed out that immediate effects of sustainability are rarely seen; instead it brings about long-term benefits.
- The inhabitants must be encouraged to make judicious use of all resources, whether natural or man-made, in order to increase efficiency and promote sustainability.
- Old vehicles tend to consume more fuel and emit more greenhouse gases. It would have been a good idea for Mauritius to control vehicles' energy consumption and emissions by phasing out old vehicles – as being done in Singapore [5]). A study must be carried to define an age limit for vehicles which can operate in Mauritius.
- In order to reduce traffic congestion in the centre, the centre should be reserved for public transport or non-car modes of transport.

- The sustainability/MID concept must not only be incorporated in school curriculums, but must also be implemented at working places, so that people can make efficient use of available resources and decrease the effect of their activities on the environment.

VIII. CONCLUSION

The use of MID indicators can provide the very much needed means to restructure Goodlands into a sustainable one. However, sustainable development is a long term process which requires commitment from all concerned parties – government and inhabitants. As such, a bottom-up approach must be promoted in order to encourage public participation in decision-making.

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