

## Benefits and Stakeholders' Role in School Greening: Case of SESE Primary School in Rural Botswana

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### ABSTRACT

*This paper explores the greening of SESE Primary School, a change project aimed at promoting education for sustainable development. It is based on study carried out on a sample of learners, teachers, and auxiliary staff of the institution. The research was basically qualitative in approach although it utilised quantitative methodology in some instances. Semi-structured interviews were applied to determine the elements that constituted 'greening' the school, investigate the role played by stakeholders in greening the environment, delineate the perceived benefits of the venture and institute an inquest on the interventions employed to sustain the greened school environment. Greening the school essentially embraces a garden, orchard, indigenous trees park, grass lawns, and flowers. Also embraced are water management strategies, waste control, and environmental walls. The study reveals that quite a wide cross-section of stakeholders are involved in the program fulfilling diverse roles in its life and that numerous academic, economic, health, social and environmental benefits attend the undertaking. Collaborative and individual measures addressed to specific elements of the program are being employed to sustain the greened school environment.*

**Keywords:** School greening, SESE primary school, School environment

### INTRODUCTION

The researchers were invited to participate in the launching of greening Sese Primary School program on the 28<sup>th</sup> of November, 2013. The story and performance of the project left the invited guest electrified and challenged over what may be referred to as Environmental Education in action. The tour to the school left a great impression about what determination can do to transform the outlook of a school even in the face of many challenges. We were, therefore, left without any alternative but to tell the story about greening SESE Primary School in this document.

The greening of a school can be defined as the process of reducing the multitude of on- and off-site environmental impacts resulting from campus decisions and activities, as well as raising environmental awareness within the human communities of a school (Creighton, 1999). In a time faced with increasing environmental challenges, the primary school sector being among foundation of academic pursuits is being recognised as well suited to take on the leadership for environmental protection (Leal et al., 1996). By greening their own campuses, primary schools can teach and demonstrate the principles of awareness and custodianship of the natural world, as well as increasing the chances of clean and pleasant local and global environments for the future (Creighton, 1999).

However, although several primary schools have started to understand and act upon their "sustainable development responsibilities" (Khan, 1996) by implementing environmental concerns into their policies and commonplace practices, a general trend, in Africa, is that few primary schools are robustly practising greening initiatives throughout their campus operations. There seems to be a protracted way to go before environmental education

becomes an integrated part of primary school institutions, and before the environmental impacts resulting from their pursuits have been reduced to acceptable levels (Dyment & Bell, 2008).

However, since the greening of primary learning institutions is an intricate and relatively new phenomenon in rural Africa, studies need to be undertaken to establish the how part of achieving it, advantages and the sustainability of the greening . This may give confidence and impetus to rural African schools to engage into greening their institutions having realised the manageability of the whole activity and its resultant benefits through demonstration by a resource poor and an ecologically challenged school, namely Sese Primary. This resonates well with Dahle and Neumayer (2001)'s view that in a society with increased environmental awareness, a "green attitude" can give an education institution a positive image to the outside world, and thereby be a selling point. The expectation is that a more detailed knowledge about these issues will allow more informed recommendations on ways to greening schools in similar situations as SESE primary.

### **GREENING THE ENVIRONMENT IN PERSPECTIVE**

Under the umbrella term 'greening' we include a range of changes occurring on school grounds, including naturalization, habitat restoration, tree planting, food gardening and similar efforts to bring nature back to school. Greening typically entails the transformation of both the design and the 'culture' of school grounds (Janet & Anne, 2007). In the words of Creighton (1999) greening of a school can be defined as the process of reducing the multitude of on and off-site environmental impacts resulting from campus decisions and activities, as well as raising environmental awareness within the human communities of a school. The concept concerns primarily the design and culture of school grounds with a view to improving the quality of the children's school ground experiences. It is whereby students, parents, teachers, neighbourhoods' residents, and other members of the community work to upgrade the physical environment and to re-establish the natural habitat that existed prior to asphalt. It is argued that many school grounds world-over have thoughtfully designed spaces that include a variety of natural elements embracing trees, butterfly gardens, ponds, and vegetable patches.

One of the objectives espoused for greening the school ground is to have it support and enrich classroom-based learning by providing a setting for hands-on, experiential learning across the curriculum (Adams, 1993; Malone & Tranter, 2003; Dyment, 2005). The wish for school grounds to serve important environmental functions is another recognized objective; in this vein, Cronin-Jones and Schaefer (2001); Toronto District School Board (2004) advise that with the addition of trees and other vegetation, school grounds can help to conserve energy, improve air and water quality, control runoff and provide habitat for urban wildlife. One other important goal of the green school initiatives is the development of an environmental ethic in all members of school communities, and the application of that ethic when making decisions that affect the school. In other words, school's organizational behaviour and attitudes must reflect green school initiative.

Greening the school is further sited under <http://www.edu.earthday.org/about> as striving to uplift the quality of our living environment through active planting, proper maintenance and preservation of trees together with other vegetation. The target is to bring about noticeable improvements in greenery, to enhance existing greened areas. Studies show that green schools are the most effective agents for enacting significant positive environmental and educational change in schools and communities. The site <http://www.edu.earthday.org/about> observes that school greening is quickly becoming more than a trend but the method of

choice for providing healthy, comfortable and productive learning environments while saving energy, resources and money.

Given the clear benefits of “going green”, such as possibilities for saving money, demonstrating new and clean technologies, increasing student learning, environmental, and health benefits (Lieberman & Hoody, 1998; Dymont & Bell, 2008), its justifiable to document on why most if not all primary schools both in Botswana and globally should be motivated to be active within this field.

## **METHODOLOGY**

A total 25 respondents were involved in this study. These included 10 teachers (40%), 10 pupils (40%) and 5 ancillary staff (20%). Among the teachers were the school head teacher and the program coordinator who we thought would provide the details of the background of the program. The study sample was purposefully constituted so that only relevant respondents would in the study. We collected data from the teachers through self-administered questionnaires. All the teachers returned the questionnaires within a few hours after receiving them. Focus group discussions were composed to gather data from both pupils and ancillary staff through the use of semi-structured interview schedules. Interviews were conducted by an experienced scholar who could freely communicate in both English and Setswana (the national language) to enable learners express themselves freely. Recording of the responses were done by one of the authors of this article. As recorder was unfamiliar with some of the Setswana expressions by the interviewees, the interviewer interpreted them for him as precisely as possible. We made regular visits to the school to collect well informed observational data on the elements of the program. Documents about the background of this program formed important source of secondary information.

Qualitative data was analysed by categorising responses under appropriate headings such as components, benefits, stakeholders, and sustainability strategies of the program. Descriptive terminologies such as comparative vocabulary were employed to relate responses. Microsoft excel was utilised to analyse coded data to provide specific quantification of appropriate responses. We present our findings principally via descriptive statements and in rare sections/instances do we use quantitative formats such as statistical tables.

## **DATA ANALYSIS AND DISCUSSION OF FINDINGS**

### **Stakeholders Involved in the Program**

Stakeholders who contributed to greening the school included the school administration, teachers, pupils, ancillary staff, parents, traditional and political administration. Others were the local Council, local mining companies, the government and Ministries. The study revealed that a meeting of stakeholders was convened by the school to map the way forward in greening the school and to establish a well-represented stakeholders’ committee to spearhead the program. Among the primary tasks of the committee was to identify the elements of greening Sese primary school included a garden, an environmental park, an orchard, indigenous trees, grass lawns and flowers beds, environmentally related posters, water buckets and hand washing basins, and waste bins. Most of the components of greening the school above meet the definition of greening by Janet and Anne (2007) that its inclusive of a range of changes occurring on school grounds, such as naturalization, habitat restoration, tree planting, food gardening and similar efforts to bring nature back to school. Also Creighton (1999)’s description of greening as an upgrade of the physical environment and to re-establish the natural habitat that existed prior to asphalt and as embracing a variety of natural elements embracing such trees, butterfly gardens, and vegetables.

### **The Role of Stakeholders in Implementation of the Program**

One of the tasks of the Committee was to identify issues that needed to be resolved to green the school successfully. According to the study the site for the garden, orchard and for planting indigenous trees demanded clearance of a thicket of thorny bushes. Hence, a number of volunteers such as the Village Development Committee through self-help program called Impelegeng and the parents teachers association (PTA) came on board. The learners contributed in clearing the bushes by ferrying tree branches from the cleared areas. The study revealed that to curb encroachment by domestic animals, measures instituted included repair and reinforcing school wire fence together with installing a new gate to the fence; fencing the garden; and charging a mutually agreed fine to owners of encroaching animals. The erection of the fence and poles for the shade net at the garden was done by a Voluntary group of local mine employees.

The study also showed that kraal manure had to be exclusively applied to improve soil fertility. Sese primary school lies in the Kalahari Desert where most of the soils are generally of low fertility and so need resuscitation to have a desired agricultural output (Silberbauer, 1981). The manure was liberally provided by local cattle farmers; free transportation was offered by the local town Council while loading and offloading was done by members of the local community at no cost. Additionally, the Village chief, the Counsellor, and the Parents' Teachers' Association Chairman personally volunteered some truckloads of kraal manure. The study reveals that preference for kraal manure was a means of underpinning the resolve to go green.

Once the land was ploughed using local labour as well as a tractor that was supplied by the government, beds and planting stations and grass lawns were strictly prepared under the tutelage of an agricultural expert from the Ministry of Agriculture as was the case with application of the rightful amount of manure per bed. The pupils, teachers, the local community and the non-teaching staff prepared the beds and planting stations, applied manure, and tendered for the plants.

According to the findings, the Kalahari sandy soils on which the school is located have poor water retention capacity, a situation worsened by very high summer temperatures (Luard, 1981; Silberbauer, 1981). To mitigate water retention challenge early morning or evening irrigation; mulching; use of shade net as well as employment of drip irrigation techniques were applied under the guidance of agricultural specialists. Drip irrigation was as well exploited to keep the plants watered over week-ends or during public holidays. The challenge of low water pressure in the area was minimised by installing an elevated water tank which also ensured a constant and sustainable supply of water. As a way of maximising participation and boosting pupils' appreciation of greening, each class was allocated portions of the garden and/or grass lawns and flowerbeds to tender. According to the study pests and disease, were a nuisance to especially the garden crops and orchard. Birds were among the most notable pests, in a verbatim the program coordinator said, "Birds were attracted by a host of trees in and around the garden". Thus, a shade net was sourced and installed on the garden to prevent birds and insects from attacking and destroying the crops as well as to avoid cutting down most indigenous trees, hence serving a double role of conserving tree and retaining the birds. Also, the Ministry of Agricultural provided and demonstrated use of environmentally friendly pesticides and herbicides to eradicate plants' diseases. Crop rotation was practiced to break disease circle.

### **Sourcing of Resources to Green the School**

It could be deduced from the measures employed to mitigate the challenges above that substantial extra financial resources were inevitable for the program. Numerous studies have designated the lack of financial resources as a significant barrier to greening (Riera, 1996; Creighton, 1999). However, regarding greening Sese primary School, the study indicated that the resources necessary for the program were lobbied from various donors. The lobbying of these financial resources was done through consent of all stakeholders who selected a team from within themselves to write a project proposal that was presented to would be funders who included government, non-governmental organisation, business houses, and individuals. Among the main sponsors were Debswana and Majwe Mining Joint Venture, local mining firms that donated sums of forty thousand Pula (P40 000), fruits and indigenous trees and eight thousand pula (P8 600) respectively. The area Member of Parliament too donated P1000.

### **Misunderstandings on the Execution of the Projects**

The study revealed that there were some misconceptions about the execution of the program initially. Most stakeholders believed that environmental education activities in the school should be carried out by the environmental education club members and the senior teacher responsible for practical subjects. In order to resolve this impasse workshops were held to help the rest appreciate the program. The workshop aimed at capacitating all the stakeholders on environmental education ensuring that all involved understand the broad-based vision and ownership of the projects. Despite failing to take everyone on-board, most of the stakeholders appreciated the program and fully participated in realizing it.

### **Roles Played by Stakeholders in the Course of the Program**

As observed above, the successful implementation of program involved a cross-section of stakeholders. After the necessary components of this program were put in place the research revealed that each stakeholder had a role to perform. The school administration facilitated for all correspondences that were made to various stakeholders and convened meetings for them. It as well worked with the relevant team to monitor and evaluate all the activities executed at all stages of greening. The teachers, together the school administration formulated a team to ensure there was collaboration among stakeholders. Teachers were also involved in monitoring and evaluating the various activities of the program and ensured feedbacks were given to other stakeholders. They also made sure pupils were guided as they participated in greening activities such as planting and caring for plants before their class and around the school, keeping the school litter free, practice water conservation strategies, and encouraging them to take advantage of the benefits of the greened environment. Furthermore, the teachers ensured the gate in the school was closed at appropriate times, kept records of the program, and supported the program by, for instance, buying the produce from the school garden and encouraging others to do the same.

The sponsors of the program also never became remote from the operation of the program. It was reported that they paid regular visits to the school to monitor progress of various sectors of this program. In order to reinforce security, the project team from Debswana Mine participated in installing the school gate and repairing the wire fence round the school. They also constructed the shade net in association with the Village Development Committee. The community participated through cultivation and weeding in instances where pupils were too committed to undertake the task or when the work was too overwhelming to the pupils. They further helped in cutting poles for the garden and stacked tomato plants as well as stamping out remnants of stamps from the garden, orchard, and indigenous plants park. The PTA was

always part of the monitoring and evaluation team of the projects and made themselves available when needed.

### **Benefits of the Program**

The results of the study show that greening the school has been beneficial to the respondents. All the respondents (100%) stated that the program have provided academic, economic, environmental, and health benefits while its being of socially beneficial was mentioned by only 77%. According to the study, specific academic benefits of greening the School included greening as learning and/ or teaching model; providing hands-on experience; outdoor experience provision; and stimulating of teaching and learning. One aspect that seems to be clear from these responses is that the program provided an opportunity for a practical teaching and learning experiences. In fact the majority of the teachers interviewed alluded to the fact that most of the concepts (e.g. germination, mulching, crop rotation, planting, weeding, waste management, resource conservation ) that were taught theoretically before greening, are now being demonstrated. In line with these findings Rhydden-Evans (1993) and Cronin-Jones (2000) advises that implementing, caring for and studying aspects of the green school ground present many opportunities to deliver the curriculum across a range of subject areas such as math, language arts, drama, geography and science receiving an enriched environment for experiential learning. Dillon et al. (2005) also mentions food gardens as providing an excellent opportunity to teach and learn about nutrition through direct experience.

Furthermore, the pupils were able to personally actualise and practice what they learnt in class. One of the pupils had this to say during a focus group discussion: “we do what we learn in class in the garden, if you don’t understand in class you understand in the garden”. Most of the learners and teachers confessed to there being improvement in academic performance among students in practical subjects with the greening of the school. As if trying to confirm the observation of the teachers and learners, one of the parents quoted her child as having said, “since we started using the garden for our practical experience, I find it very easy to comprehend most of agriculture and environmental sciences concepts”. In fact researchers such as Falco (2004) and Strife (2010) have observed that schools that incorporate environmentally based education approaches consistently have higher test scores and better academic performance than their traditional curricula counterpart schools and that the students in environment based learning classrooms improved their overall GPA, stayed in school longer, and expressed greater engagement in, and motivation for, learning. Hmelo-Silver (2004) adds, experience-based education such as one on greened school grounds, enable students to learn both content and thinking strategies. They become active learners as learning is set in real-world situations and makes students responsible for their learning and also become constructors of their own knowledge (Collins et al., 1989; Kolodner et al., 1996). Jordet (2007), reports that the interaction between theoretical knowledge and realistic, hands-on experiences is crucial for successful teaching and makes a distinction between success and failure for many students. The physical and practical learning activities contribute to improve students’ cognitive, affective, social and physical development and open new opportunities to learning.

Additionally, the study revealed that the program has been a stimulus in teaching and learning. Most of the teachers interviewed (97%) commented that their work had been made quite easy due to practice that is being afforded the green environment. Most teachers (93%) contended that their motivation of teaching a number of academic concepts that were previously difficult is now high as they can easily be explained with visual aids from the local environment. Similarly, most of the pupils said that they were always looking forward to

experience their lessons in the greened environment; they stated that learning had actually become very enjoyable and that they had started taking pleasure in some subjects that they had disliked before. Dymont (2005) concurs with this finding on teacher and pupil motivation by arguing that the benefits of green environments extend to teacher motivation and student learning. This is so because when the context for learning changes from an indoor, book-centred environment to an outdoors and nature-centred environment, students find it to be a more meaningful context for education. Learning easily comes alive, as students are able to handle, touch, smell, and even taste the materials they are learning with and from outdoor learning on green school grounds which helps to motivate and inspire students who may be able not learn better in a classroom situation.

Greening also had economic benefits; it was clear from the responses of most teachers that average distance that the school needed to cover for field trips had been minimised with the greening of the school. Essentially, this significantly reduced their transport bills as most of what they had made long field trips for in the past could easily be accessed within the school grounds. The assertion reconciles squarely with the research finding by Leal et al. (1996) that 'going green' has a clear benefits of saving money. The respondents also cited reduced distance to the market to buy garden crops as one of the economic advantages that had accompanied the greened school. According to the largest proportion of them, the school produced a variety and abundance of garden products that met much of local demand for the greens. "We no longer make tedious trips to Jwaneng town (about 10 km) for vegetables, we buy them within a stone throw", said one of the interviewees. The other economic benefit that was mentioned by most of the respondents was the income one. The study noted that the school had realised a meaningful income from the sales of garden produce, which, based on the remark of the school administration, had gone a long way in cushioning the meagre school financial resources.

With respect to the health benefits of greening, the results of the study principally indicated aspects namely; nutritional, physical exercise provision, environmental cleanliness, improvement of hygiene, and shield from the hot sun. The greened school was perceived as a source of nutrition to both the school, local and extended community. The research revealed that vegetables from the garden were substantially used for food to the learners during the daily school feeding program. The study further shows that a number of small scale entrepreneurs in market gardening found the school to be a reliable source of commodities for retailing. To preserve high value nutrition and naturalness in the products of the school garden and orchard, the school ensured that conservation greening, which involved application of only organic manure and not chemical fertiliser to the soil for plant growth was employed. Moreover, the shade provided by the numerous indigenous trees works as shields to the hot sun of the area. In effect, the researchers observed clusters of people under the shades who claimed that their 'assemblies' were necessitated by the hot sun. The significance of the trees as shields from the sun as a factor in good health was also highlighted by Boldemann et al. (2006) who argued that among the health benefits of green schools grounds was protection of school communities from the sun. Moreover, indigenous trees sun shields may arguably be said to be needful for Sese Primary School as it is located right in the Kalahari Desert where summer temperatures are so usually excessive that shade temperatures often reach 43°–46° C (Logan & Silberbauer, 1981). The physical sector of health in a greened environment comes in through the manual work aspect of the program. Preparing of the land for planting (cultivating the land, making beds and planting) and tendering of the plants which involves watering, weeding, and cultivation of the soil around the plants, and pruning, all amount to physical exercise. In harmony with our finding, Rhydden-Evans

(1993) and Cronin-Jones (2000) also unveiled that green school grounds promotes physical activity, subsequently, reuniting mind and body at school.

Mention should also be made vis-à-vis the perceived contribution of the program regarding hygiene. Most of respondents stated that greening of the school had uplifted hygiene levels of the school; it was argued that it had generally become a habit for all the pupils to wash their hands each time they were from the toiled or had been playing in dirty. It was also alleged that classrooms, outside surroundings, and toilets had become well maintained and that litre more often than not disposed of very responsibly in rightful spots.

The social dimension of the program includes recreation facilitation, collaboration provision and building relationships. The study revealed that the shades of the preserved and planted indigenous trees and the grass lawns were handsomely utilised by the school community for relaxing, and for studies among the pupils. Some of the respondents said that they felt much recreated by the beauty of the flowers, and other forms of vegetation and the clean environment that was enabled by greening. Dymont and Bell (2008) and the Health Council of the Netherlands (2004) in fact discovered that nature is experienced by many as an environment where they can rest and recover from daily stress. They add that in the hectic society where we live there is a growing need for nature as a source of relaxation and recreation which results in reduction or even elimination of stress and restoration of attention.

Furthermore, a number of the pupils were observed playing various games under the comfort of the greened school grounds. Nature and environmental experiences encourage a child's social skills, for example, playing in natural settings inspires more positive feelings among children and reduces, and in some cases, eliminates bullying and violent behaviour among youth (Pyle, 2002; Moore, 1996; Malone & Tranter, 2003).

Like already alluded to earlier, most participants in the study were given roles to play in the program. For example, each class was given some portions to take care of in the program. The study found out that this instilled some sense of collaboration and individual responsibility among, for example, pupils. In their endeavour to sustain their portions, the majority of the students worked very cooperatively among themselves and with their teachers. In fact some of them voluntarily brought in any aspect they thought would contribute in enhancing the success of greening the school. A number of respondents stated that in their spare time they would work, for example in the garden, without being pushed by any authority as they felt individually obliged to contribute to the success of the program. Collaboration was also noticed from how various stakeholders functioned in fulfilling their roles.

Regarding environmental responsibility, most respondents said that greening increased their value for the environment and desire to act for it. A number of them mentioned environmental awareness initiatives and the enhanced aesthetic beauty in the environment as having impacted most significantly on augmenting their perceptions and attitudes towards the environment. The program's emphasis on clean and hygienic environment, environmental resources conservation and restoration was also mentioned by many respondents to have considerably contributed to their passion to take steps in favour of the environment.

### **Greening Lessons and Domestication**

All the learners (100%) agreed to have learnt valuable lessons from greening the school; "we have learnt many things", was the response of most of the responds during focus group discussions. Among the lesson learnt were prudent water utilisation; value of the environment and transfer of these values to others; keeping the environment green; means of sustaining benefits of green environment. They also said they learnt skills on gardening which included



preparing beds, improving soil fertility, planting, maintain moisture, strategies to prevent or minimise pests, and crop marketing; also learnt was collaboration with peers, teachers and the community. Other lessons included greening as a source of income; positive attitude towards the environment and that greening was beneficial and enjoyable (it's for this reason that most of the pupils participated voluntarily e.g. in maintaining the garden, watering grass lawns, tending orchard, and proper waste disposal voluntarily without being coerced). This is an element of intrinsically motivated individuals as they worked on tasks motivated by their own interests, challenges, or sense of satisfaction. Students appear to have been motivated due to the fact that they value what they are learning and consequently their educational activity is implicated in personally meaningful tasks (Ferrari and Mahalingham, 1998; Leontiev, 1978)

Respondents were asked whether they had translated the lessons from the program to their homes. Their responses are presented in table 1.

**Table 1. Domestication of the Lessons of the Program**

Response	Frequency	Percentage
Yes	21	84
No	4	16
Total	25	100

There were mixed responses regarding domestication of the lessons from the program. Most of the respondents (84%) asserted that they were practicing the lessons about greening at home while some (16%) said they were not. Among the 84% above, the outstanding elements of the lessons they allegedly domesticated included gardening; growing of flowers; maintaining indigenous plants and planting fruit trees; environmental value clarification among family members; water conservation; and maintain a clean environment. The reasons given by most of those who failed to practice the lessons of the program (16%) included water challenges; frustration by encroaching domestic animals; and compact domestic schedules. However, all respondents, inclusive of the 16% above, indicated willingness to transfer the lessons home once circumstances were enabling. The fact that most of the respondents (84%) had domesticated the lessons from the program may mean that they had attained flexible knowledge that can be fluently be retrieved and applied under varying and appropriate circumstances (Bransford et al.,1990) which is one of the general goals of greening the environment.

### **Measures To Sustain the Greened Environment**

Concern over the future of the greened school was on the mind of the researchers during the study, hence raising question on what had been done to ensure lifelong existence of it. Most of the respondents (88%) identified strategies that had been or could be implemented so as to sustain the green SPS environment. The measures were addressed to various aspect of the program; regarding the deterioration of soil fertility, most respondents (76%) stated that rotational agriculture and fallowing were practiced to cut disease cycles and to provide the soil with a break to rejuvenate respectively. The study revealed that stakeholder resolved to continue practicing organic farming by solely using kraal and composite manure. Constant supply of kraal manure would be ensured by maintaining the already established goodwill between the school and most of the local cattle farmers, and creating composite pits in case of shortage of kraal manure. In short the program was built on zero tolerance regarding use of inorganic fertilisers (synthetic fertilisers) but organic ones as there was a general belief in the

ability of organic farming to sustain soil fertility. The other strategy that was mentioned concerned water. Most respondents said that the school had introduced water management strategies to reduce wastage and optimise utilisation of water. Learners and other members of the school community had to reuse the water after washing their hands or any other utensils to water flowers and that the school community was required to drink water using a cup not directly from the tap. They also felt that drip irrigation, use of shade nets, and watering plants during hours when there was minimum evaporation of water were among the most significant methods they had employed to conserve water. They also resolved to grow plants demanding longer period of watering during the rainy season. Moreover, some respondents advised that they had planted indigenous trees that did not require a lot of water and adaptable to the local environment as a way of managing water. In addition, a water tank had been erected for water storage and to increase water pressure. The study also disclosed that plans were underway for the school to acquire adequate capacity to harvest rain water.

The findings also revealed that the school had established a highly inclusive environmental education club to provide knowledge, skills, and instil values for the environment. Furthermore, it was found out that environmental education was offered to the school through presentations during school assemblies and through posters in almost all rooms of the school and via larger billboards in strategic points of the school grounds. At times benefits from the program were shared directly among the stakeholders, for example, during some school feeding programs and public functions, produce from the garden were prepared for communal consumption.

According to the findings it was also felt to be a wise idea to continue involving experts in various components of greening its sustainability, for instance, the greening committee has been engaging agricultural officers to offer their expertise on various agricultural issues. Furthermore, some respondents argued that a security gate was installed and the school fence repaired to prevent encroachment by domestic animal on the school grounds. Other respondents also said that the school had from the initiation of the program taken all stakeholders on board to ensure their full participation in the program and to inculcate high sense of ownership of the whole undertaking. In addition, a large proportion of the respondents assured that new members of staff in the school, pupils, and the Parents' Teachers Association committee members were quickly introduced and oriented to the program to invoke their involvement in any way possible. The other measure that came out quite clearly concerned handover of the program; it is obligatory for the school administration to ensure that handover of greening was properly done between the in-coming and out-going administrators in case of a transfer or retirement. It was as well emphasised that a system had been established to involve a committee not a teacher in the running of the program to guarantee continuity. Lastly, a number of respondents alleged that stakeholders were regularly implored to embark on greening their homes, arguably, to keep their sense of environmental responsibility active even when away from the school environment.

## **CONCLUSION**

SESE Primary school presents an important case of greening in the face of several challenges. The program comprise of a wide-range of elements implementable in both resource poor and wealthy schools. It is a testimony of determination and collaboration to change the outlook of the environment and usher in unthinkable benefits. The payback from the undertaking could broadly be classified under academic, economic, environmental, health and social. Crucial to the future of the green environment are the many realistic and attainable strategies targeted at individual component of the project which the stakeholders are

implementing. We recommend that financial proceeds from greening should be invested back in the project to expand and sustain it as well as to minimise dependence on external funding.

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