

# **STUDENTS' INITIATIVES TO CONSERVE AND RAISE ENVIRONMENTAL AWARENESS IN THE LOCAL COMMUNITIES OF MAZIMBU WARD; MOROGORO, TANZANIA**

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## **Abstract**

Morogoro Region is one of Tanzania's 30 administrative regions with a population of 2,218,492 as per the 2012 Population and Housing Census. The Region is located on latitude 8<sup>0</sup> 00" to the South of the Equator and longitude 37<sup>0</sup> 00" to the East; and covers about 70,624 km<sup>2</sup> of Tanzania mainland. Morogoro is a significant social and economic region in Tanzania and is one of the key food basket regions. Additionally, the region's peculiarity or distinctiveness stems from the fact that it is among the biodiversity rich regions not only within the country but also in East Africa. This is so because the region is endowed with a variety of ecosystems like tropical forest, mountains and wetlands.

Despite the remarkable potential of Morogoro region, most of its natural or ecological resources are being depleted due to various reasons but not limited to income and food poverty, low levels of knowledge on how to sustainably utilize and conserve these resources and encroachment resulting from an increase in population.

The Environmental Watch Association of Tanzania (EWAT) which is an organization comprising students taking Bachelor of Science in Environmental Sciences and Management at Sokoine University of Agriculture (SUA) decided to complement Government's efforts by taking up the challenge of environmental degradation in the Mazimbu ward within Morogoro Municipality.

Together with other stakeholders namely the Faculty of Science at SUA, the local government authorities and local residents; EWAT conceived an action plan aimed at

conserving and raising environmental awareness in the local communities of Mazimbu ward, Morogoro. Therefore, this paper describes the processes involved and actions taken by EWAT in addressing the problem of environmental degradation in the local communities. The paper also brings to light achievements realized, lessons of experience learned and challenges encountered by students during the implementation of this action plan as well as the strategies adopted by EWAT and other stakeholders to address the challenges.

## **Introduction**

The United Republic of Tanzania, comprising Tanzania Mainland and Zanzibar, is the largest country in the East Africa. It is located between latitudes 1° South and 12° South and longitude 30° East and 40° east. Tanzania comprises 30 administrative regions covering a total area of 945,087 km<sup>2</sup> of which the land area covers 883,749 km<sup>2</sup> (881,289 km<sup>2</sup> mainland and 2,460 km<sup>2</sup> Zanzibar), and 59,050 km<sup>2</sup> is covered by inland water bodies. Tanzania Mainland is bordered by the main water bodies of Africa. To the east is the Indian Ocean, to the north Lake Victoria, to the west Lake Tanganyika and to the south-west Lake Nyasa. Mainland Tanzania also has the highest point in Africa, namely Mountain Kilimanjaro which

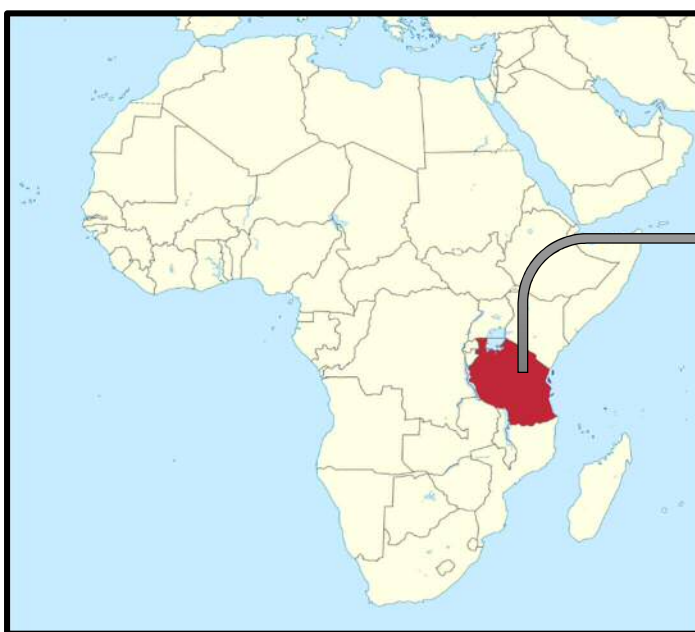


Figure 1: Location of Tanzania in Africa Source - [www.jennifernicole.net](http://www.jennifernicole.net)



Figure 2: Location of Morogoro region in Tanzania Source - <http://en.wikipedia.org>

is 5,950 meters high.

Tanzania's wildlife resources are among the richest in the world. The protected area (PA) networks (national parks, game reserves, conservation area and forest reserves) cover about 40% of the total land area, and they are potential generators of national income from tourism, hunting, fishing and other activities (URT, 2006). The economy of Tanzania is wholly dependent on the country's environment and natural resources, having the majority of the citizens depending on agriculture, forestry, fisheries, livestock and tourism activities for their livelihood.

Despite its great potential, Tanzania is constrained by various environmental problems. According to World Wide Fund for Nature (WWF), key environmental issues include pollution and unsustainable utilization of resources such as wildlife and forests. These challenges are propelled by the lack of awareness on how to sustainably utilize the resources leading to over exploitation of open resources like water sources and forests. This problem is also aggravated by encroachment resulting from an increase in population which contributes to pollution and over exploitation of the land more than its carrying capacity. In order to redress the situation a number of efforts have been made by the Government and other key development actors as described briefly below.

### **Government's efforts to combat environmental degradation**

In view of the environmental challenges stated above, the Government in collaboration with other development actors initiated a number of reforms and tried to come up with relevant policies and strategies. For instance, the Government came up with the National Environmental Policy in 1997; and the National Environmental Management Act (NEMA) in 2004; as well as the National Environmental Education and communication (NEEC) strategy 2005-2009 in 2005. Additional efforts were made to mainstream environmental issues in the

National Strategy for Growth and Reduction of Poverty Phase II (commonly referred to as MKUKUTA II in Kiswahili). The NEEC through educational processes strives to make sure individuals and the whole Tanzanian society acquire knowledge, develop ethics and become environmentally aware/conscious, responsive and acquire relevant skills in identifying, managing, monitoring, evaluating and solving environmental issues and problems. The overall goal of National Environmental Education and communication is to develop an informed citizenry that is environmentally conscious and motivated to actively participate in managing and sustainably utilizing its environment. This initiative was put in place in order to address the lack of awareness in the community which is seen as one of the core causes for environmental degradation.

The National Environmental Management Act (NEMA) provides legal and institutional framework for sustainable management of the environment. The implementation of this Act is based on decentralization strategy at the local government level. The decentralization strategy has been very important in conserving the local or indigenous knowledge and impacting modern scientific knowledge to compliment developmental activities. Furthermore, the Government of the United Republic of Tanzania established the National Environmental Management Council (NEMC) with the responsibility of overseeing the integrity of Tanzania's environment in order to ensure sustainable development.

### **Overview of the environmental status in Morogoro region**

Morogoro region lies in south-eastern Tanzania between the central highlands and the coastal lowlands. The region is endowed with a variety of ecosystems like mountains, tropical forest and wetlands. The Uluguru and Rubeho Mountains which lie in the region form the southern prong of the Eastern Arc Mountains – an internationally important biodiversity hotspot (Burgess et al., 2002). Parts of the watersheds of the Great Ruaha and Rufiji rivers extend to the region's southern parts. Morogoro also hosts Ruvu river which is an important

source of water for more than 4.3 million inhabitants of Dar es Salaam (URT, 2012). Ruvu river originates from the foothills of the Uluguru Mountains. Mikumi and Udzungwa National Parks and a portion of the Selous Game Reserve are all found inside Morogoro region. These protected areas comprise almost half of the region's land area and forest reserves make up a significant proportion of the rest (Paavola, 2008).

Despite its potential, Morogoro region is facing environmental degradation which keeps on intensifying as the population increases. As a growing economic and agricultural landmark, Morogoro's population has been growing rapidly leading to encroachment and over exploitation of the natural resources. Lack of environmental awareness among the natives also contributes to the problem of pollution and degradation of land and water resources. This trend has led to use of unsustainable agricultural practices for example livestock keeping beyond the land carrying capacity and use of fires to clear land for cultivation. It is for this reason that students from Sokoine University of Agriculture decided to take actions as explained below.

### **Students' initiatives to conserve and raise environmental awareness in the local communities in Mazimbu ward, Morogoro Municipality**

Students from Sokoine University of Agriculture (SUA) took up the initiative to compliment the Government's effort aimed addressing the challenge of environmental degradation. Environmental Watch Association of Tanzania (EWAT) was formed with a purpose of coming up with strategic interventions of addressing issues revolving around environmental pollution and degradation within Morogoro Municipality and other areas.

EWAT is a non-governmental and non-profit organization with the responsibility of environmental conservation in Tanzania. It was registered on 21<sup>st</sup> February 2002 as an Environmental Watch Club (EWC) at SUA. On 31<sup>st</sup> January 2007, Environmental Watch

Club was officially transformed into an Environmental Watch Association of Tanzania (EWAT) with registration number SO. NO.14637 under the society's ordinance of 1954 with its Headquarters based at Solomon Mahlangu Campus of Sokoine University of Agriculture (SUA). EWAT is hosted by the Faculty of Science. Currently EWAT has 137 active members among whom 74 are males and 63 are female.

The objectives of EWAT are as follows:

- i. Raising public awareness about environmental degradation;
- ii. Networking with students and scientists from learning institutions and non-governmental organizations;
- iii. Developing international media for addressing environmental and development issues;
- iv. Conducting research and disseminating information by publishing papers to enhance common understanding about the environment; and
- v. Offering consultancy services on environment related development matters to the community at large

EWAT follows the national and international regulations, principles and Laws of Environment. According to Article 14 of the constitution of Tanzania and Section 4 of Tanzanian Environmental Management Act of 2004 provides the right to life and to a clean, safe and healthy environment to every citizen of Tanzania. On the other hand it requires every citizen to protect the environment.

### **Strategies and approaches used by EWAT – SUA students to conserve and raise environmental awareness in the local communities**

The underlying philosophy of students' action is the use of bottom-up participatory approaches that see to it every key stakeholder is involved all the way from planning through

implementation including monitoring and evaluation. It embraces use of effective communication channels including popular theatre like songs, role plays and drama. In this regard, prior to conducting awareness raising initiatives, EWAT sees to it that participatory planning is done which concludes by coming up with a strategy and action plan and budget. The essence of participatory planning is to cultivate a sense of responsibility, ownership and make sure a shared common vision is established. This strategy also helps to identify the appropriate and priority actions which students can take in order to address the underlying causes of environmental degradation. The first stage in project planning is analyzing the situation. This enables EWAT to develop the project concept and identifying actions that can be realistically completed. This is done by surveying and understanding the surrounding/targeted community. Following the situation analysis is the determination of goals and objectives of the program. Then EWAT determines the required resources for successful completion of the initiative and plans how to tackle the anticipated constraints.

Finally, the execution and evaluation of the appraised program is conducted. This activity involves various stakeholders including the local residents, non-governmental organizations, colleges, local governments, primary and secondary schools and various environmental specialists at Sokoine University of Agriculture.. Some of the initiatives include;

**i. Local community sensitization and awareness raising**

During community sensitization and awareness raising, EWAT found out that environmental pollution and over exploitation of the resources are the main issues which face the Mazimbu ward. In light of this, EWAT makes efforts to establish the extent of the problems of pollution and exploitation of the resources by making broad-based consultations and seeking expert advice from SUA academic members of staff. Along this activities, EWAT tries to reach communities in their respective areas with the purpose of mobilizing and sensitizing the community to actively participate in identified activities intended to redress the

situation. Once mobilization and sensitization are done, EWAT provides seminars and related trainings through use of resource persons or students themselves. The seminars and trainings are provided at a time that is convenient to target participants and aim at raising the environmental consciousness of the participants while seeing to it that environmental knowledge and skills for redressing the situation are imparted. Participatory approach is used to introduce scientific knowledge in order to enable the locals to understand and implement an environmentally friendly way of life.

As part of EWAT's initiative to raise public awareness in combating environmental pollution and solid waste management; EWAT conducted a public meeting which took place on April, 2012 at Mazimbu Darajani. The aim was to demonstrate to target local communities a proper way of managing solid wastes. The topic was "Environmental understanding, focusing on solid waste management" which was presented by a student taking Bachelor of Science in Environmental Sciences and management at SUA. Participants were about 45 community members (38 men and 7 women) and 26 EWAT members (17 men and 6 women) participated. Abood TV documented the proceedings.





*Figure 3: EWAT volunteers emphasizing on the importance of proper waste management in the local environments. source - EWAT, Sokoine University of Agriculture.*

**ii. Education program on environmental protection and conservation**

Under this program, EWAT goes to primary and secondary schools to conduct various environmental training and seminars with the aim of bringing forth a new generation of activists deeply concerned with our environment. The program seeks to give opportunity to the upcoming generation to learn and be motivated to adopt the environmentally friendly behaviors as they grow up. Tailor made activities are conducted in this program to suit their educational level and different age groups. In addition to seminars and trainings that are conducted, secondary schools students are also provided with field trips, video shows and cartoons related to environmental conservation. Additionally, short stage performances including songs and dramas are conducted in order to relay the information in such manner that children of all ages can comprehend. This has proven to be of much value as it sensitizes and motivates the young generation while allowing them to develop a sense of environmental



*Figure 4: A class full of students during EWAT's visit. Source - EWAT, Sokoine University of Agriculture.*

conservation in their respective local communities of Mazimbu ward.



*Figure 5: EWAT volunteers demonstrating to secondary students how to plant a tree. Source - Sokoine University of Agriculture.*

Furthermore, EWAT conducts various educational initiatives inside the Sokoine University of Agriculture, Mazimbu campus including seminars and motivational speeches and debates aiming at initiating and promoting dialogue and collaborative action between students inside the university's campus. It also involves inviting various environmental experts and scholars to train students on how to conserve and or sustainably manage their environment. Under this program various motivational speakers are invited to promote volunteerism and build an environmental activist spirit among students. Among the topics mostly discussed include how to sustainably utilize the environment, adaptation/mitigation measures for climate change and how to conserve natural resources.

Through participatory approach, intramural actions have been a powerful tool in preparing students who graduate from SUA to go and disseminate the knowledge gained through activities such as seminars, lectures and the like. These volunteering students go and disseminate the acquired knowledge to the community especially in the Mazimbu ward. This

program also sheds light on environmental issues which require attention in the university and the Mazimbu ward for example the need of providing more dustbins within the campus in order to avoid litter. Once environmental concerns have been identified EWAT takes proper action to address the concerns. Depending on the nature of the issue, EWAT may on its own decide to take action or make use of the services of responsible authority like NGOs or private firms. . Some of the activities that have been undertaken by EWAT in collaboration with service providers include:

- Environmental awareness campaigns to Environmental cleaners in Morogoro Municipality

EWAT managed to conduct an awareness campaign in November, 2011 which aimed at promoting environmental sanitation and conservation knowledge among cleaners in Morogoro municipality. The project targeted local environmental cleaners in Morogoro municipality who were trained on environmental conservation and identification of the environmental problems, occupational safety practices and waste management.

At the end of the project, the local participants (environment cleaners) gained basic knowledge on environmental sanitation and conservation and its importance, understanding of environmental problems, waste management and climate change and its impacts on socio-economic development in Tanzania.

- Provision of dustbins to environmental workers in Solomon Mahlangu campus-SUA.

EWAT provided seven dustbins in November, 2011 to environmental cleaners so that solid wastes can be maintained well in Solomon Mahlangu Campus. These dustbins were provided after a crash course which EWAT conducted to the University janitors on the importance of proper solid waste management. This initiative was done to compliment the University action of putting dustbins in every lecture room and

meeting places in the campus. This activity led to reduction of litter around the



Figure 6: EWAT giving dust bins to the Solomon Mahlangu Campus janitors. Source- EWAT, Sokoine University of Agriculture.

university

premises.

- Organizing dialogues on Climate Change during celebration of Tanzania's independence.

Whenever an independence day is being celebrated, EWAT usually conducts various dialogues within campus to boost the morale of the students to become more patriotic and sympathetic to environmental problems facing our great nation. By doing so, the students become engaged in taking action as a way to give back to the society. This activity is seen as part of corporate social responsibility. For example, at the time of celebrating 50 years of Tanzania independence, members and various environmental activists under EWAT debated on climate change and community contribution on the whole processes of combating the challenges and impacts arising from climate change. The debate was conducted on 12<sup>th</sup> November, 2011 in SUA, Morogoro.

In this dialogue, a climate change expert from Tanzania Meteorological Agency

(TMA) who was invited as a guest speaker by the EWAT volunteers presented a topic on “Indicators of Climate Change in Tanzania and likely impacts on social economic development”. This presentation included; trend analysis of some climatic variables (rainfall and temperature), possible causes, such as deforestation and uncontrolled burning of thick forests, environment pollution, natural causes (volcanic eruptions) and poor agricultural practices.



*Figure 7: Guest speaker from Tanzania Meteorological Agency presenting on indicators of climate change in Tanzania. Source - EWAT, Sokoine University of Agriculture.*

### **iii. Promotion of sustainable utilization of resources**

This initiative aims at shifting the balance from accelerated over-exploitation of resources into better and informed utilization of natural resources. Among other things, it mainly involves the community in educational activities in which EWAT will reach out to the community giving various training and awareness campaigns concerning the sustainable use of resources. Also it involves seedling planting demonstration in order to show the society how to plant and taking care of trees around their environment. On average five seedlings are planted during each EWAT's visits to a new local villages. These demonstrations have been done in five villages which are Mazimbu darajani, Lukobe, Barakuda, Maziwa and Modeko.

One of the campaigns was named 'How the environment can employ you' and launched in December 2013 with the aim of training the local communities and students on how to sustainably utilize the environment through activities like organic farming in order to earn an honest living without compromising ecological integrity.

The first phase of the campaign was directed to the local communities and the students of Sokoine University of Agriculture with the purpose of providing them with strategic skills through which they can employ themselves in an environmentally friendly way without over



*Figure 8: A class full of local communities and students attending the seminar. Source - Sokoine University of Agriculture.*



*Figure 9: EWAT chairperson speaking during training on sustainable use of environment. Source - Sokoine University of Agriculture.*

exploiting limited resources like water source and land.

The second phase involved use of media so as to reach more audiences. This was done by taking advantage of the local networks like Abood TV which is seen in almost all parts of the Morogoro region. The last phase was to assist all the local residents and students who were interested in pursuing green methods to support their living. Various business proposals were written and appraised through consultation with environmental experts at SUA and other national experts.



Figure 10:.. Field visitations and consultations with the local farmers. Source - EWAT, Sokoine University of Agriculture.





### **Achievements of EWAT's actions in raising environmental awareness in the local communities in Mazimbu ward, Morogoro**

Through various actions taken by EWAT, many achievements have been realized in the local communities around Mazimbu ward. These initiatives have resulted into visible positive results which are seen within the university and outside the university premises. Some of these achievements include;

- The attendance records show that more than 47 villagers have attended various EWAT public meetings and campaigns since 2012 to-date. This has inspired the communities around Mazimbu ward to evolve into more environmentally conscious society. Training on proper waste management and with provision of waste bins the beneficiaries have motivated the community to dispose their domestic wastes properly.
- Through the training programs provided to local schools, pupils have now become environmentally aware and understood the importance of environmental conservation and/or management. More than six (6) schools have been visited in the region with attendance records showing that more than 234 students have attended EWAT's primary and secondary school program. The impact of this activity is that children have now become important ambassadors of the message of environmental conservation in their respective homes.



*Figure 12: Children at Kilakala secondary school participating in the tree planting activity.  
Source - EWAT, Sokoine University of Agriculture.*

- 86 college students attended EWAT's campaign on 'How the environment can employ you'. This campaign teaches various ways of sustainably utilizing the resources around the local area to earn an honest living. Seven business proposals on organic farming and animal keeping have been delivered to EWAT for review. EWAT forwards these proposals to various experts who are specialized in the field in question for assessment of their viability. After consultations, EWAT analyses these projects for any possible environmental impact before returning them to their proponents with concrete advice. Also EWAT links these youths to various other non-governmental organizations which deal with helping the youth implement various green economic activities for example; Tanzania Graduate Farmers Association (TGFA) supported by USAID and other development actors.

## **Challenges facing EWAT in conserving and raising environmental awareness in the local communities in Mazimbu ward, Morogoro**

Apart from the achievements attained, EWAT faces some challenges in running various activities such as;

- Lack of the volunteer spirit among the college students which leads to decline in the number of active members every year. This number has decreased from 244 active members in 2012 to 137;
- Support from Local Government Authorities has been decreasing year after year. Their participation during planning and implementation meetings has been low mostly due to lack of incentives and pre-occupation with other routine matters. This greatly affects the participatory approach utilized by EWAT;
- Other stakeholders who deal with alleviation of poverty in the local community haven't been giving EWAT the support one would expect. They have been falling behind in giving consultation on harmonizing the development activities and environment protection. This greatly limits the initiative to achieve sustainable development in the local communities;
- Lack of funds has made EWAT fail to reach the more remote areas of the region in order to promote environmental awareness. In order to reach a wider audience, the use of vehicles and media is required. All of which require adequate funding;
- Lack of relevant equipment such as; computers, printers, photocopy machine, digital cameras and flip charts have caused difficulty in running various projects and activities. These equipment help in various demonstrations in educational seminars and trainings.

### **Strategies employed by EWAT to address these challenges**

- In addressing the declining participation and support of college students and the villagers, EWAT has been conducting various community mobilization and sensitization seminars in teaching the society the importance of participating and supporting environmental protection activities. This also includes use of motivational speeches provided within Sokoine University of Agriculture to raise the volunteering spirit among college students;
- In 2013, EWAT dedicated three of its members and directed them to meet with the local government's leaders to come up with a sound strategy for enhancing their support including participation in EWAT- initiated activities; EWAT seeks financial support from various individuals and institutions for purposes of enhancing implementation of its action plan. Additionally, EWAT has enticed its members to honor their yearly membership contributions help to expand the fund.

### **Lessons learned from students' intervention in conserving and raising environmental awareness in the local communities**

- Through the students' initiatives it has been learned that for the students' actions to succeed or make a difference they must be implemented in line with the government's efforts. This can be done by effectively using the institutional arrangements and strategic policy frameworks in place.
- The strategy of using primary and secondary schools as well as youth involvement in these initiatives is conserved cost effective and essential for establishing the sustainable/long lasting environmental consciousness in the target community.

## **Conclusion and Recommendations**

EWAT as an environmental based organization at SUA, managed to conduct various events and programs in and out of the campus as stipulated above so as to ensure the betterment of environmental conservation. EWAT strives to address the challenges which occur during implementation of these initiatives in order to conserve and raise environmental awareness in the local communities in Mazimbu ward, Morogoro. Notwithstanding the achievement realized, EWAT's members are still committed to ensure that the environmental problems in the community are addressed in a sustainable manner.

As one of the lessons learnt is that for the students' actions to succeed or make a difference they must be implemented in line with the government's efforts. EWAT urges the Government of the United Republic of Tanzania through its various organs to lend a helping hand to such organizations. Technical help from government's organs which deal with the environmental affairs for instance National Environmental Management Council (NEMC) will help in establishing stronger grounds for actions taken.

The status of the environment worldwide would be better off if the initiatives to conserve the environment would be complemented with the students' actions. This will not only ensure the better use of expertise students possess but also giving opportunity to the young generation to impact the world.

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