



PROCEEDINGS OF WATER HYACINTH WORKSHOP

INTERNAL REPORT 5
JUNE 2000



Community
Partnerships for
Sustainable
Resource
Management in
Malawi

Proceedings of Water Hyacinth Workshop for Mthunzi wa Malawi

Chancellor College, Zomba
May 11th and 12th 2000

Prepared by: Mesheck Kapila

Development Alternatives, Inc.
7250 Woodmont Ave., Suite 200
Bethesda, MD 20814
USA

Tel: 301-718-8699
Fax: 301-718-7968
e-mail: dai@dai.com

In association with:

Development Management Associates
Lilongwe

COMPASS
Phekani House
Glyn Jones Road
Private Bag 263
Blantyre
Malawi

Telephone & Fax: 622-800
Internet: <http://www.COMPASS-Malawi.com>

USAID Contract: 690-C-00-99-00116-00
Activity: 612-0248

TABLE OF CONTENTS

1.0 Introduction	1
<i>1.1 Background</i>	1
<i>1.2 Purpose of the Workshop</i>	1
<i>1.3 Approach</i>	2
1.3.1 Workshop Objectives	2
1.3.2 Expected Outputs	2
<i>1.4 Participants</i>	3
2.0 Workshop Proceedings	4
<i>2.1 Opening</i>	4
2.1.1 Introductory Remarks	4
2.1.2 Speech by a Representative of the Chairperson of Board of Trustees	5
2.1.3 Brief Overview of COMPASS	5
<i>2.2 Paper Presentations</i>	
2.2.1 Biology of Water Hyacinth	6
2.2.2 Potential use of Water Hyacinth	7
2.2.3 Social Economic Impact of Water Hyacinth	7
2.2.4 Economic Utilization of Water Hyacinth and Wetland Management	8
2.2.5 Management of Our Global Commons	9
<i>2.3 Topical Discussions</i>	9
<i>2.4 Conclusion</i>	10
<i>2.5 The way forward for Mthunzi wa Malawi</i>	10
3.0 Field Visit	10
4.0 Workshop Evaluation	10
5.0 Summary and Recommendations	10
6.0 Appendices	
◆ <i>Appendix One - Biology of Water Hyacinth and its existence in Malawi</i>	
◆ <i>Appendix Two - Water Hyacinth: A Useful Weed?</i>	
◆ <i>Appendix Three - Social Economic Impact of Water Hyacinth</i>	

- ◆ *Appendix Four - Economic Utilization of Water Hyacinth and Wetland Management*
- ◆ *Appendix Five - Management of Our Global Commons: Model Forest in Conflict Management*

TRAINING WORKSHOP ON WATER HYACINTH

1.0 Introduction

Mthunzi wa Malawi organized a two-day workshop on water hyacinth at Chancellor College, Zomba. About seventy participants attended the workshop and these were students drawn from Bunda College of Agriculture, Chancellor College, and the Malawi Polytechnic. The workshop was held between 11th and 12th May 2000.

1.1 Background

Mthunzi wa Malawi is a youth organization, that is spearheading environmental awareness and education in Malawi. The organization has 200 registered members from Lilongwe, Mangochi, Zomba, Blantyre, Mulanje, Chikwawa, and Nsanje.

On 28th January 2000; COMPASS received a request from Mthunzi wa Malawi to support the organization of a training workshop on water hyacinth. Having looked at the workshop objectives, COMPASS considered it necessary to support the youth initiative as a means to encourage youth participation in natural resources management.

1.2 Purpose of the Workshop

Water hyacinth (scientific name *Eichhornia crassipes*), also locally known as 'Namasupuni', is a native to South America, perhaps originally coming from Brazil. It was first recorded in the early part of 19th Century, and was named water hyacinth because the beautiful flowers resembled those of true hyacinths of the Lily family. Today, water hyacinth is widely distributed throughout the tropics and sub tropics between 38 degrees North and 38 degrees South of the Equator.

Reports by local fishers in Malawi indicate that water hyacinth appeared in the southern part of the Shire River in about 1968. Communities in the area have suggested that floods may have brought the weed from Mozambique, where it has certainly existed much longer. Since then it has spread northwards and is now present throughout the Shire River system including Lake Malombe.

Several features of the biology of water hyacinth contribute to its status as one of the world's worse weed problems. Chief among these is its enormous potential for growth, production of huge quantities of biomass. Although water hyacinth normally floats on the water, it can survive on mud when levels are low, enabling it to persist through dry seasons. It can survive a wide range of temperatures, a wide range of nutrient levels in the water, and a wide range of acidity/alkalinity, which enables it to colonize many habitats.

Water hyacinth causes many problems, mainly as a result of its enormous growth rate. The thick mats physically interfere with use of water bodies, such as for navigation, fishing and recreation. The presence of water hyacinth can reduce water flow which causes suspended particles to be deposited, increasing siltation.

In Malawi, not many people are aware about the dangers of water hyacinth. After observing that the dangerous weed is infesting the waters of Malawi and that statistics show that the weed continues to spread at an alarming rate, Mthunzi wa Malawi decided to embark on an awareness initiative of water hyacinth. Therefore the purpose of the workshop was to try and facilitate awareness creation relating to environmental issues affecting water hyacinth.

1.3 Approach

Since its establishment, Mthunzi wa Malawi has worked hand-in-hand with other environmental organizations under the umbrella of the Coordinating Unit for the Rehabilitation of the Environment (CURE). As a starting point, the organization thought of organizing a workshop to equip its members with knowledge and skills of water hyacinth and its control, before embarking on community awareness and mobilization.

1.3.1 Workshop Objectives

There is a common saying that ‘knowledge is power’. If people have knowledge about something, their attitude and behavior is largely positive regarding their general understanding. If behavior change calls for action and improvement in the way certain things are done, skill development becomes critical in instilling a level of aptitude to doing things. Therefore the following were workshop objectives for water hyacinth:

- i) To equip participants with knowledge of water hyacinth, its growth and development, the adverse effects of the weed and the various positive uses to that the weed can be put to as a means of managing the weed in Malawi waters;
- ii) To impart knowledge to participants about some community-based approaches to controlling water hyacinth; and
- iii) To create an opportunity for participants to see the weed physically and appreciate the magnitude of the problem and how devastating the weed is to some water bodies within Blantyre.

1.3.2 Expected Outputs

After having gone through some technical sessions about water hyacinth, and a field visit to one of the reservoirs infested with water hyacinth, it was expected that by the end of the workshop, participants would:

- i) Know the water hyacinth, its effects and how to control it;
- ii) Be able to impart knowledge to communities about the dangers of water hyacinth and possible ways of benefiting economically from the weed, as a means to mobilize rural communities to control the spread of water hyacinth; and

- iii) Draw recommendations on the way forward to arrest the spread of water hyacinth.

1.4 Participants

A total of sixty-seven (67) participants attended the workshop. These included scientists from the University of Malawi, Department of Fisheries, Non-Governmental Organizations, university students and natural resources management projects. The following is a full list of participants:

WORKSHOP ON WATER HYACINTH			
CHANCELLOR COLLEGE, ZOMBA 11TH MAY 2000			
MUNTHUNZI WA MALAWI			
<i>NAME</i>	<i>ORGANISATION</i>	<i>CONTACT ADDRESS</i>	<i>TELEPHONE</i>
1. Ms Esther Thauzani	Chancellor College	P O Box 280 Zomba	C/o Ms Gareta, Maselama MPTC
2. Ms Abiba Longwe	Bunda College,	P O Box 219, Lilongwe	
3. Ms Sheila Sumaili	Polytechnic	Private Bag 303, Bt 3	
4. Ms Rose Wenga-wenga	Chancellor College	P O Box 280 Zomba	Co Mr. Wenga-wen. Water Dept
5. Ulemu Munthali	CURE	P O Box 2916, Blantyre	645757
6. Timothy Kulumbasi	HERTH	P O Box 12, Chiromo	624 816 c/o Samaritan
7. Ms Dorothy Takomana	HERTH	P O Box 12, Chiromo	624 816 c/o Samaritan
8. Tiyese Chiumbuzo	Chancellor College	P O Box 280 Zomba	
9. Amidu Tun`gande	Chancellor College	P O Box 280 Zomba	
10. Ms Lusungu Mwaungulu	Chancellor College	P O Box 280 Zomba	C/o Ms Mphande, Box 96. LL
11. Bob Banda	Chancellor College	P O Box 280 Zomba	C/o Ms Munthali, x30622, LL
12. Solomoni Mkumbwa	Bunda College,	P O Box 219, Lilongwe	C/o Mr. Mkumbwa, x 433 Mzuzu
13. Ms Martha Madziakapita	Daily Times	Private 39, Blantyre	C/o G Mzengereza, ESCOM
14. Dr MAR Phiri	Bunda College,	P O Box 219, Lilongwe	marphiri@hotmail.com
15. Peterson Nanga	Wildlife Society	Private Bag 578, Limbe	
16. Lizzie Ndhlovu	COMPASS Project	P/Bag 263, Blantyre	lizzie_ndhlovu@dai.com
17. Johannes Murowa	Chancellor College	P O Box 280 Zomba	C/o Bag 16 Zomba
18. Jim Chatambalala	Chancellor College	P O Box 280 Zomba	C/o Box 30070 Blantyre 3
19. Charles F Kankuzi	Chancellor College	P O Box 280 Zomba	
20. Steve Sibande	Bunda College,	P O Box 219, Lilongwe	C/o Box 641, Mzuzu
21. Greenwell Matchaya	Bunda College,	P O Box 219, Lilongwe	c/o Ms Matchaya Box 223, Salima
22. Fletcher Nuka-Shaba Jr.	Chancellor College	P O Box 280, Zomba	C/o Mr. Nuka - 834 239
23. Max Wenga-wenga	Chancellor College	P O Box 280 Zomba	632 796
24. Samuel Mingu	Bunda College,	P O Box 219, Lilongwe	C/o E I Kachinga, P/B 43 Lilongwe
25. Max Chilembwe	Chancellor College	P O Box 280, Zomba	C/o Mr. Chilembwe, OILCOM,469, BT
26. Lucas Kambeja	Chancellor College	P O Box 280, Zomba	
27. Panji Chawinga	Chancellor College	P O Box 280, Zomba	C/o Mrs. Mtekete, Ryalls Hotel BT
28. Isaak Chavula	Bunda College,	P O Box 219, Lilongwe	P/Bag 14 Karonga
29. Amos Ngwira	Bunda College,	P O Box 219, Lilongwe	P O Box 9, Mzimba
30. Bob Jere	Bunda College,	P O Box 219, Lilongwe	C/o Fisheries Dept, x 44 Zomba
31. Amon Kabuli	Bunda College,	P O Box 219, Lilongwe	C/o James Kabuli Box 30335, LL
32. Davis Mpando	Bunda College,	P O Box 219, Lilongwe	C/o Box 79 Ntcheu
33.D K G Kabalasa	Reserve Bank of Mw	P O Box 30063, LLW3	832 002
34. John Nyirenda	Bunda College,	P O Box 219, Lilongwe	Mzuzu 333 895

35. F Katsoka	Chancellor College	P O Box 280, Zomba	
36. F K Lwara	Bunda College,	P O Box 219, Lilongwe	766 526
37. G Botha	Bunda College,	P O Box 219, Lilongwe	C/o Ms Mkandawire Box 30646, LL
38. J Keara	Bunda College,	P O Box 219, Lilongwe	525 219
39. Matthew Mpofo	Polytechnic	P/Bag 303 Blantyre	C/o Notircia Academy, Box 2482, Bt
40. Steve Padambo	C/o 30317, Lilongwe		781 304
41. Kwanu Gondwe	C/o Box 2047 Blantyre		622 000
42. Enock Hapala	Chancellor College	P O Box 280 Zomba	C/o Box 90383 Bangwe Bt 9
43. Alfred Nhlema	Chancellor College	P O Box 280 Zomba	C/o Box 188, Lilongwe
44. Obelt Ngoma	Chancellor College	P O Box 280, Zomba	
45. Albert Saka	Chancellor College	P O Box 280 Zomba	C/o Cargomate Box 30094, LL
46. Ackim Ndhlovu	Bunda College,	P O Box 219, Lilongwe	Box 8, Maulabo Mzimba
47. A Mpando	Polytechnic	Private Bag 303, Bt 3	670 411
48. Ms Tingo Kanyama	Chancellor College	P O Box 280, Zomba	C/o Carlsberg Brewery Blantyre
49. Penjani Kamanga	Polytechnic	Private Bag 303, Bt 3	
50. Sylvester Kathumba	Chancellor College	P O Box 280, Zomba	C/o Box 1019Bt, 633 845
51. N D Mavumbe	Chancellor College	P O Box 280 Zomba	
52. Christopher Fulu	Chancellor College	P O Box 280, Zomba	C/o Ms Munthali, x30622, LL
53. Patrick P Mkandawire	Bunda College,	P O Box 219, Lilongwe	C/o Box 155 Lilongwe
54. Thomas B E Munthali	Bunda College,	P O Box 219, Lilongwe	C/o Mr. Khonje, National Police Hdqs
55. D S Nkhondo	Chancellor College	P O Box 280, Zomba	C/o Mr. E Nkhundo, Bo 175, Thyolo
56. Nobel Moyo	COMPASS Project	P/Bag 263, Blantyre	nobel_moyo@dai.co
57. Collins Magalasi	Chancellor College	P O Box 280 Zomba	C/o Mr. S Mugawa Box 2673, BT
58. Dr Aggrey Ambali	Chancellor College	P O Box 280, Zomba	
59. Dennis Chimanya	Chancellor College	P O Box 280 Zomba	
60. Robert Kafakoma	CURE	P O Box 2916, Blantyre	
61. John Valeta	Chancellor College	P O Box 280, Zomba	C/o 362 415
62. Hilter Chioza	Bunda College,	P O Box 219, Lilongwe	
63. William Nhlane	Chancellor College	P O Box 280, Zomba	
64. E S Sambo (Kwame Gondwe)	Chancellor College	P O Box 280 Zomba	
65. Dr Muloza Banda	Bunda College,	P O Box 219, Lilongwe	
66. Ms Enert Nyando	Fisheries Dept	Mangochi	
67. Dr Watts	Chancellor College	P O Box 280 Zomba	

2.0 Workshop Proceedings

The workshop took the form of introductions and opening remarks, technical paper presentations, and topical discussions. A number of questions were asked during presentations, seeking clarifications on some of the issues covered during the sessions.

2.1 Opening

Having welcomed all members to the workshop, the principal facilitator requested each member to make self-introductions.

2.1.1 Introductory Remarks

The Projects Manager of Mthunzi wa Malawi (MwM), Mr. Collins Magalasi, gave brief introductory remarks regarding the background to MwM and the workshop. Mr. Magalasi indicated that MwM is an environmental NGO formed by university

students in 1997. Having been started by students, its membership was limited to students in the five constituent colleges of the University of Malawi, and was composed of school clubs. In 1999 it was noted that some potential members of the organization graduated but still maintained a strong affiliation with the organization. Now the organization has expanded and membership is open to the general public. Currently, MwM satellite branches are located at Bunda College, Chancellor College and the Malawi Polytechnic. MwM works with communities in areas of nursery establishment and management, community woodlots, agroforestry, soil and water conservation, and integrated agriculture systems. The Chancellor College branch has so far carried out afforestation projects in 5 villages in Zomba District. Most of the activities have been supported by Wildlife Society of Malawi, Lever Brothers Malawi Ltd., and Forestry Department.

Bunda branch is currently running a 3-year afforestation project in 12 villages in Lilongwe. The project has involved planting 60,000 tree seedlings, alongside other activities. These activities are being supported by the Department of Land Resources Conservation, Forestry Department, and UNDP to the tune of MK400,000.

In future, MwM intends to be involved in food security issues through integrated crop, livestock and aquaculture systems. In this new initiative, the organization would target Dedza, Ntcheu, Mzimba and Rumphi. The areas have been chosen because of their high potential for water supply to support vegetable growing and upland fish farming, through small-scale irrigation. In these areas, MwM will form farmers associations to run revolving funds and establish stable markets for the farm products.

2.1.2 Speech by a Representative of the Chairperson of the Board of Trustees

Mr. Mavumbe spoke on behalf of Dr. Francis Motto who is the Chairperson of the Board of Trustees. In his speech, Mr. Mavumbe commended Mthunzi wa Malawi, for being very thoughtful and active in sourcing funding from projects such as COMPASS so that members of the organization could come together and share knowledge and experiences on how best to tackle the water hyacinth problem in Malawi. He encouraged MwM to continue working with communities in issues of environmental awareness, especially in projects like the Zomba Environmental Education and Public Awareness campaigns. He then thanked the distinguished scientists for sparing their valuable time to share their knowledge with the participants on issues that may help to better understand the problem of water hyacinth. Finally, Mr. Mavumbe thanked COMPASS for providing the much-required financial support that enabled MwM hold the workshop.

2.1.3 Brief Overview of COMPASS

In his remarks, Mr. Nobel Moyo (representing the COMPASS Chief of Party) gave a brief overview of COMPASS. This covered the project objectives, COMPASS targeted results, the project team, the COMPASS approach, progress to date, opportunities for the future, new directions for Y2K, and geographical scope of COMPASS in the year 2000. Mr. Moyo indicated that COMPASS is working with various partners from government, NGO and community organizations; to support community-based natural resources management in Malawi. The main objectives of

COMPASS are a) to improve the management of natural resources in Malawi through community empowerment and awareness, b) to promote uses of natural resources that are environmentally sustainable and socially equitable, and c) to support capacity building within community-based groups and NGOs. Mr. Moyo reiterated that one of COMPASS' approaches is a focus on strengthening the capacity of local institutions involved in CBNRM. To this effect it was indicated that supporting MWM was fulfilling this cause.

2.2 Paper presentations

Several papers were presented during the workshop. Topical coverage included the biology of water hyacinth, social economic impact of water hyacinth, potential use of water hyacinth, management of the common resource, and community-based management of water hyacinth.

2.2.1 Biology of Water Hyacinth- By Dr. A.J.D Ambali

Water hyacinth produces a huge biomass within a very short time such that it suffocates most aquatic life. The weed has a high survival tolerance in that:

- a) It can survive at a wide range of temperatures;
- b) Survives on nutrients at different levels;
- c) Survives under wide range of pH; and
- d) Seed survives for up to 15 years i.e. high dormancy.

The weed quickly blocks waterways, beaches, landing sites etc. The transpiration rate is 13 times that of the evaporation rate from the water surface. This means that water loss is much higher. Water hyacinth affects the water chemistry such that water quality is heavily affected. Crocodiles and snakes are common in infested areas, and often people and livestock are preyed upon. The weed improves the breeding conditions for mosquitoes, and reduces fish catches and population.

Some biological control measures are being developed to reduce the spread of the weed. Insects like beetles, weevils, mites, moths, bugs, etc. have been imported from South America and are being used to control the weed. These insects feed specifically on the weed and pose no threat to other forms of life even if the water hyacinth is eradicated.

Despite the ecological problems it can cause, water hyacinth has some biological benefits:

1. Water hyacinth can provide feed for animals i.e. the weed can be used as an ingredient in livestock feeds and research has shown that animals fed on the weed do very well;
2. Some human beings have taken the weed as a vegetable;
3. The weed can act as a stimulator in fish culture and piggery; and

4. Water hyacinth is used as a substrate for mushrooms. Research has indicated that the weed greatly improves the productivity of mushrooms.

Appendix One contains notes presented during the workshop.

2.2.2 Potential Use of Water Hyacinth - By Dr. H.R Mloza Banda

Man has kept on changing his cropping systems to suit changing ecological factors over time. The changes in the environment and the cropping systems have contributed to soil nutrient loss from land into water bodies. Water hyacinth, which is an aquatic weed, has taken advantage of the high nutrient level available in the water to grow to levels that has caused a threat to the ecosystem.

Weeds have been described as non-useful because they destroy land-use systems; yet they are important components of the ecosystems. The following are some of the useful characteristics of water hyacinth:

- i) Water hyacinth absorbs nutrients like selenium, which are hazardous to most plant and animal life;
- ii) Water hyacinth can be used as a mulch in crop production;
- iii) The weed has a high nutrient level; a favorable C:N ratio and hence forms good compost manure;
- iv) Water hyacinth can form a good soil bio-pesticide for crops through the reduction of some soil pests that affect crops;
- v) The weed is a very good substrate in mushroom production;
- vi) Fish and livestock diets made from the weed have proved very successful;
- vii) Water hyacinth can be used in biogas production i.e. methane production at a larger scale is achieved with use of the weed;
- viii) Water hyacinth has been known to improve the efficiency of waste water treatment, industrial waste processing, sewage treatment etc; and
- ix) Water hyacinth has a capacity to deactivate heavy metals, organic compounds and human pathogens from excreta.

With the long list of beneficial effects of water hyacinth, there is great potential in physically removing the weed from water and use it for the many benefits it can provide. Removing the weed from water will then promote sustainable management of water hyacinth.

Appendix Two contains notes on beneficial effects of water hyacinth.

2.2.3 Social Economic Impact of Water Hyacinth- By Ms E. Nyando

In Malawi, water hyacinth has had negative impacts on people's lives especially as it affects fish catches and water supply and harbors crocodiles. Local communities in the Lower Shire area have been impacted the most. Between 1983 to 1991, fish catch was between 5,000 to 10,000 metric tons. Between 1992 and 1996, fish catch dropped to 1,000-2,000 MT. There is a direct relationship between the intensity of the weed infestation and availability of fish. In terms of income, the decrease in catch has translated into an 82 per cent loss of income from fishing. Gross income decline in the Lower Shire has been estimated at MK100 million to MK18 million. The fall in catch has also led to an increase in the average price of fish by about 28 per cent, between 1978 and 1997. A survey has shown that when fish catches decline, some small businesses such as grocery stores cease to operate. Incidences of crocodile attack also increase.

Appendix Three provides details on the social economic impact of water hyacinth.

**2.2.4 Food Security and Economic Empowerment for the Marginalized:
Economic Utilization of Water Hyacinth and Wetland Management**
- By Dorothy Takomana

The paper highlighted some impacts of the weed and opportunities that exist for the use of the weed especially by marginalized groups. A brief run-down of problems of water hyacinth as it affects the rural poor include:

- (a) Ecological e.g. flooding, decreased water-holding capacity of dams, ponds, rivers etc., siltation, turbidity, reduced biodiversity of plants and animals, excessive evapotranspiration and reduced photosynthesis;
- (b) Economic problems such as unemployment and underemployment for fishermen, loss of income of both commercial centers as well as livelihood of urban and peri-urban centers;
- (c) Health/social problems such as reduced protein intake for the fishing communities; and
- (d) Environmental health problems e.g. increased malaria/ filariasis cases, bilharzia, and diarrhoea.

However, after mechanical removal of the weed from water bodies, the following are some of the alternative uses of water hyacinth:

- 1) Production of briquettes
- 2) Paper making
- 3) Chair making
- 4) Mat production
- 5) Filling mattresses
- 6) Feed for livestock e.g. pigs
- 7) Block-board making

Since the problem has already reached enormous proportions, fishermen should be provided with cash incentives so that they are encouraged to remove as much weed as possible from the water bodies. This can be efficient if the return they get from weed removal equals or outweighs returns from fishing.

Appendix Four contains notes on community involvement in water hyacinth control.

2.2.5 Management of Our Global Commons - By Dr. M. Alexander R. Phiri

The high world-population growth-rate has brought conflict in resource use. Several models have been developed to improve resource management. The Model Forest in Conflict Management involves three principles:

- Collaborative planning- all stakeholders agree to work together to resolve their differences. This principle relies on communication and information exchange;
- Negotiation-a facilitator is involved in bringing all stakeholders face-to-face to help them reduce misunderstandings and misperceptions; and
- Mediation - a neutral third party is given power to intervene directly to make recommendations.

Appendix Five contains details of the Model Forest in Conflict Management

2.3 Topical Discussions

A number of issues were raised on the papers presented.

❖ **Would Utilization of Water Hyacinth be an Alternative to Fishing?**

From the discussions, it was noted that water hyacinth can not be an alternative to fishing because economically fish have a much greater value than the weed. Fish being a source of protein to most Malawians, water hyacinth can not substitute the nutrient value of fish. Therefore, any attempt to utilize water hyacinth should be done side by side with fishing. After all the more the weed is utilized, the more the fish breed and the higher the catches.

❖ **Having learnt that water hyacinth is a noxious weed and that it is illegal to use it, how can communities fully exploit and benefit from the weed?**

It was pointed out that the weed could be used in areas where it already exists. Weed stocks that have not yet flowered can be selected for use. This reduces the risk of spreading water hyacinth through seed dispersal.

❖ **Where on earth has the water hyacinth been completely eliminated?**

Nowhere has the weed been completely eliminated, but in countries like Tanzania and Uganda the weed has been controlled such that equilibrium has been achieved in the ecosystem. The target should not be elimination but, rather, reaching equilibrium in the ecosystem so that sustainable utilization and management are achieved.

❖ So far what has been done about the water hyacinth problem in Malawi before?

Something is being done as evidenced by the biological and physical/mechanical control measures being carried out.

2.4 Conclusion

One organization or department can not solve the water hyacinth problem. In the past, most sectors left the problem in the hands of the Fisheries Department as they thought that the problem mostly affects the fisheries sector. However, this is not the case as the workshop has noted that the weed has economic, nutritional, health and social impact on many Malawians. Hence, the need for a collaborative effort to solve the problem. The problem has now reached an alarming level such that no single person, organization, sector or department has the resources required to manage the weed.

2.5 The Way Forward for Mthunzi wa Malawi

Mthunzi wa Malawi is ready to work in partnership with other organizations to help reduce the impact of water hyacinth in Malawi. After the workshop, MwM intends to organize a tour to sensitize communities affected by the weed on the problems and opportunities associated with the weed. The organization has a wealth of human resources that can contribute positively towards water hyacinth management.

3.0 Field Visit

To appreciate the seriousness of the water hyacinth problem, participants visited Chiwembe Dam in Blantyre. It was evident at the dam that the problem is serious. The weed has choked the whole dam. Looking from above, one can easily tell that there is no life underneath the water as little oxygen would be available as a result of the compactness of the weed. The problem requires coordinated effort from different sectors including the civil society, so that the dam becomes productive again.

4.0 Workshop Evaluation

At the end of the workshop, participants filled in an evaluation form. Ninety per cent of the participants indicated that the workshop was relevant to their needs. They indicated that materials presented enriched their knowledge such that their level of confidence in handling water hyacinth issues has increased. As most participants will be working with communities, more opportunities are now available that can help members become more involved in water hyacinth management.

5.0 Summary and Recommendations

No serious action has been taken to combat water hyacinth, which is rapidly infesting the water bodies. This is currently dramatized in songs and the media. The weed is still a growing problem and there is need to control it before it infests all the water bodies in the country. There is a need for an integrated approach to management of

water hyacinth. Communities need to be sensitized on how to deal with the weed. There are several opportunities that communities can grasp in order to benefit from utilization of the weed.

The following recommendations form part of the outcome of the workshop:

1. Combine the efforts of different sectors and organizations to control the spread of water hyacinth;
2. Formulate Action Plans that target specific water hyacinth infested areas;
3. Launch intensive campaigns that sensitize communities on the seriousness of the water hyacinth problem; and
4. Inform communities on the available opportunities for controlling water hyacinth.

The workshop was a great success. The paper presentations addressed the knowledge gap that existed in MwM. The knowledge acquired will assist MwM to intensify community awareness campaigns in order to sensitize various stakeholders on the need to control water hyacinth. As a youth organization, MwM is committed to work with community-based organizations in promoting sustainable utilization of Malawi's natural resources.