About CEPA

CEPA is a public interest policy think tank working on issues of sustainable environment and natural resources management. The vision of CEPA is to create an equitable and just society that adheres to and promotes sustainable environment and natural resources management.

The core business of CEPA is to facilitate policy dialogue and formulation, analysis and implementation of sustainable environment and natural resources management to increase the resilience of rural communities to adverse impacts such as climate change. This is mainly done through building partnerships with sector government departments, like-minded nongovernmental organizations and the communities together with their traditional and political leaders.

Programme s and Projects

Influencing policy and practice in Climate Change Adaptation in Malawi - that aims to ensure that climate change policy in Malawi promotes resilience of rural poor communities. Through this initiative, CEPA is carrying out activities which are enhancing the capacity of civil society organizations in influencing policy and practice in climate change adaptation in Malawi. The specific activities revolve around: enhancing civil society lobbying and advocacy work in climate change policy debate at national, regional and international level; increasing levels of awareness and inspiring public interest in climate change management; building alliances at national level for promoting civil society engagement in climate change policy work; and developing and promoting community driven approaches to climate change policy making. This project is supported by Christian Aid.

Institutions and Governance: The Access initiative – that aims to enhance access to environmental justice by facilitating the establishment of the Environmental Appeals Tribunal (EAT). Under this project, CEPA is facilitating preparation of the necessary memorandum and instruments to appoint members of the EAT and put the EAT into operation; setting out the statutory obligations, procedures and budgets; and criteria and qualifications of the Tribunal; developing procedural rules for the tribunal; developing guidelines on how the public can access the Tribunal, orienting members of the tribunal and how to process complaints from the public; and disseminate guidelines to the public on how to access the Tribunal. The project is funded by the World Resources Institute (USA).

Southern Africa Biodiversity Policy Initiative – a sub-regional network of civil society organisations working in biodiversity, biosafety, trade, development and environmental issues in Southern Africa. Its mission is to promote, coordinate and facilitate participatory rights based approaches to policy formulation, imp[lamentation and adoption of startegies that provide for issue relating to farmers' rights, indeginous knowledge systems, community resources rights, access and benefit sharing, food security and food sovereignty. Under this initiative, CEPA is currently conducting research on the impact of agrofuels, climate change and modern biotechnology on biodiversity conservation and food security. The initiative is funded by Evangelischer Entwicklungsdeinst of Germany through the Community Technology Development Trust of Zimbabwe.

Enhancing the Capacity of CEPA and its partners' Engagement in Constituency Environmental Management and Natural Resources Advocacy: Towards Enhanced Constituency Representation for Sustainable Livelihoods – that aims to contribute towards ensuring that Government of Malawi and donor policies and programmes in environment and natural resources management become increasingly responsive to the needs of rural communities with the long term objective of sustainable socio-economic development. The main activities of this project are a) evaluation of governance in legislative representation to enhance sustainable environment and natural resources management; b) reviewing and analysing policy implementation and existing gaps in environment and natural resources management; and d) strengthening the capacity of CEPA and its partners to conduct advocacy and outreach for sustainable environment and natural resources management. The project is being funded by European Union under its Capacity Building Programme for Non state Actors in Malawi.

Land and Agrarian Reform Initiative – that seeks to influence land and agrarian policy reform in Malawi. Under this initiative, CEPA is facilitating momentum on the enactment of the revised Land Bill in Malawi. This is being done through holding stakeholder workshops and providing capacity building sessions for key institutions working in land and agrarian reform.

Publications

CEPA produces Nature's Voice, a newsletter which contains policy related issues in climate change, biodiversity, environment and natural resources management. CEPA also publishes a wide range of reports, policy briefs and other publications on the work it implements and electronic copies of these are available on its website.

Resources

CEPA maintains a resource centre of journals, books, newsletters and related materials which is constantly updated. These materials can be accessed by the public at CEPA premises at any time.

Editorial

Time to Act; Now!

Mzati Nkolokosa
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Television Malawi

This is the international year of biodiversity--the variety and variability among living organisms be it flora and fauna, mammals, birds, reptiles and amphibians, fish and a variety of other living things, as Hastings Maloya writes in one of the pieces you will read inside the newsletter.

Imagine a world that had man and woman alone. No other living organism, meaning no animals, no trees. There would have been no life because the sustainability of humanity on earth depends on biodiversity.

All aspects of life, from health to agriculture, depend largely on biodiversity and we cannot talk about life, good life, without talking about the conservation of biodiversity as part of what we need to do to sustain our world.

Which is why 2010 being the International Year of Biodiversity as declared by the United Nations Convention on Biological Diversity, we need to act and not just talk. The articles in the newsletter are part of the starting point to prevent extreme loss of biodiversity because the end of humanity's surroundings is the beginning of the end of all life including yours and mine.

We often wait for government to act but it is time to set the ball rolling because we are the government, we are the owners of Malawi and we need to determine our future.

The media also stand a chance to do programmes and articles on biodiversity and take part in this wonderful year of biodiversity.

2010 is our year. Let us act, and act now.

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From Hopenhagen to Nopenhagen

An analysis of the 15th United Nations Framework Convention on Climate Change Conference held in Copenhagen

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Copenhagen; where it all happened

Europe's winters can be hostile with freezing temperatures and snowfall but, in spite of this close to 100,000 people gathered in the Danish capital, Copenhagen in December 2009 with the hope of concluding a legally binding agreement for climate change. Copenhagen 2009 was built on previous negotiations from similar United Nations Framework Convention of Climate Change (UNFCCC) conferences. Such hope and enthusiasm gave the name Hopenhagen to the Danish capital at least for the duration of the meeting from the 7th to 18th December. Hopenhagen would continue if this 15th Conference of Parties (CoP) delivered that much waited for agreement. Malawi was there along side other members of the United Nations (UN) to ensure Hopenhagen became a reality.

History of the Talks

The Hopenhagen agenda dates back as far as 1992 at United Nations Conference on Environment and Development (UNCED) Rio de Janeiro, Brazil. UNCED became a formal UN platform that called for global common but differentiated climate actions by states. Malawi signed the UNFCCC in 1992 and later ratified it in April 1994. Malawi demonstrated a commitment to addressing climate change issues nationally and globally through co-operation. To fulfil the need for a legally binding mechanism to achieve quantified emission limitation for developed countries and reduction commitments for most developing countries, a Kyoto Protocol was agreed to and Malawi acceded to it in October 2001. CoP15 was a build up on talks to strengthen the protocol and to develop a legal framework to capture aspects not covered by it. An action plan was developed in Bali at CoP13, in 2007, which set CoP15 as a concluding forum for these issues.

Malawi's Position for CoP 15

Malawi for the first time developed a clear position prior to the UNFCCC conference in

Copenhagen, which was shared largely with all stakeholders to reflect the aspiration of Malawians. The Malawi position was informed by the Africa group position and also the position of the Least Developed Countries (LDCs) group. On the future of the Kyoto Protocol: Malawi was of the position that Kyoto Protocol must be amended, and not replaced completely to avoid developed countries neglecting existing emission reduction responsibilities by proposing that a new protocol be drafted. Further Malawi wanted the agreed outcome for post 2012 Kyoto Protocol to include the United States of America and contain voluntary quantified target reduction commitments by the major developing countries such as China, India, Brazil, Mexico and South Africa and provide for penalties for non-compliant parties, which must be deterrent enough to promote compliance.

On finance the position was that CoP15 establish a financial mechanism that is transparent and accessible with no conditionality on official development assistance. While on adaptation and mitigation Malawi advocated for 1.5% of developed countries'annual gross domestic product (GDP) to be imposed to contribute to adaptation funds established under the Convention, out of which 70% should be channeled to LDCs. On mitigation Malawi supported the positions of the African and LDC groups that emission reductions by each developed country should be at least 40% by the year 2020 based on 1990 levels.

The Outcome: From Hopenhagen to Nopenhagen

Copenhagen being a historical occasion that brought together 115 Heads of State and governments, did not deliver. It was nothing close to a fair, ambitious, and legally binding agreement that was anticipated. Instead CoP15 produced an unexpected and discouraging outcome in the form of the Copenhagen Accord. The Accord is not 'legally binding' on those countries that choose to associate themselves with it. As such political consequences, rather than legal sanctions, might flow from its breach. This is surely Nopenhagen.

A decision to 'take note of' the Accord is legally distinct from a decision to 'adopt' the Accord. By 'taking note' of the Accord, UNFCCC parties formally acknowledge its existence without making a statement as to their support or otherwise of its content. The Accord itself is not comprehensive, lacks clarity and is open to different interpretations. There is no indication in the Accord of whether there is a goal for the Accord, or that the outcomes of the working groups are to be formalized into a legally binding agreement.

Malawi like many other countries,

Campaigners lobbying for a fair deal in Copenhagen

associated itself with the accord. 'Associating' with the Accord is of the same significance as 'signing' or 'acceding to' the Accord. In each case, it indicates that the country agrees with the substance of the Accord and agrees to be bound, politically, by its terms. The accord clearly demonstrated lack of political will towards global climate action. Beyond the Accord two CoP decisions to extend the work and mandates of the working groups under Kyoto Protocol and Long term Cooperative Agreement until CoP16 in Mexico were made, a commitment to do more talking! The only opportunity to demonstrate a case for climate spending however through the Accord is the fast start finance. The target is about $30billion between 2010-2012. Of course there are already serious concerns over "recycling" existing aid commitments by the developed countries but it's a starting point.

What is Next for Malawi

Malawi stands to benefit from the fast start finance, which could be used to support community adaptation initiatives. This would be supplemented by potential funds under the National Adaptation Programmes of Action (NAPA) and donor support for climate change. It will be critical to demonstrate that climate finance is useful through concrete evidence on how adaptations actions are working for the local communities.

In terms of negotiations, Malawi as the chair of African Union has a key role to influence talks towards the interest of Africa and LDCs. While Ethiopia is the delegate to lead the negotiations on behalf of Africa, Malawi has to guide them not to fall short of the core African and LDC position. The Malawi position for CoP16 will be a key model for many African countries, which requires that it gets developed on time and with wide stakeholder consultations.

Farm inputs subsidies

Is Malawi's FISPs sustainable?

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Malawi is now the focus of international attention following successful implementation of Farm Inputs Subsidy Programmes (FISPs), which have turned the country into a food surplus nation within a very short period of time. The main objective of the FISPs in Malawi is to achieve food self sufficiency and increased income of resource poor households through increased food production. Its specific objective is to improve accessibility and affordability of agricultural inputs among the most vulnerable farmers in Malawi. Starting with the 2008/2009 season, the government also introduced a maize grain Storage Pesticides Subsidy Programme (SPSP) to complement the FISPs.

The FISPs are implemented through the Ministry of Agriculture through District Assembly structures. A crop diversification promotion campaign alongside the identification of beneficiaries and coupon distribution has been launched focusing on the need to grow more maize, groundnuts, beans, soybeans and pigeon peas and good crop management practices. Farmers are mobilised into clusters to facilitate integration and implementation of improved technologies. Government has intensified information, education and communication (IEC) activities for the success of the FISPs.

Its Achievements

Through the FISP, maize harvest for the 2005/2006 growing season recorded a surplus of 500,000 metric tonnes. The total harvest for the 2006/2007 season amounted to 3.4 million metric tonnes, representing a surplus of 1.3 million metric tonnes. From a 40% national food deficit in 2005, Malawi achieved a 53% surplus in 2007, some of which was exported to neighbouring countries. Due to poor rainfall during the 2007/2008 season, total maize production dropped and amounted to 2.8 million tonnes, representing a surplus of around 500,000 metric tonnes. Come 2008/2009, total maize harvest increased to 3.7 million metric tonnes, representing a surplus of 1.5 million metric tonnes.

One of the successes of the FISPs in Malawi, is that national maize productivity during one of the years increased from 800 kgs per hectare to 2250 kgs per hectare. The record agricultural harvests during the period led to economic growth of 9.8% in 2008 and 7.6% in 2009. In addition, inflation remained moderate.

Challenges

The success story of the FISPs notwithstanding, the programmes met various challenges which threaten its sustainability. These include crowding out other essential players and programmes; corruption; and lack of linkage with other policies. In addition, the programmes are faced with the continuing trend of unreliable rainfall and climate change.

FISPs in Malawi crowd out other equally important programmes. An analysis of the actual expenditures by the Ministry of Agriculture and Food Security indicates that the FISP is taking a lion's share in the financial resources allocated to the Ministry, crowding out other equally important programmes in the process. The affected areas include research, technology generation and development, which is an equally important area for sustainable development of the sector and the economy.

FISPs vs the Malawi Growth and Development Strategy (MGDS): Agriculture and Food Security is one of the six key priority areas in the MGDS. The food security component has a long term goal of making Malawi a hunger free nation. The main strategies include improving agricultural productivity; implementing policies to improve the functioning of maize and other food crop markets; and implementing policies that do not distort the market and which reduce dependency on food aid.

Although the FISP is in agreement with the MGDS, there are other aspects that are in conflict. For instance, the resultant surplus maize emanating from the FISP has resulted into significant reductions of maize prices on the market. In some cases the reduction in the price has been so severe such that the final price does not reflect the cost of production. This is falsification of prices and is tantamount to distortion of the maize market, acting counter to the objectives of the MGDS in the

Women carry home a bumper maize harvest from their fields courtesy of FISPs

process.

FISPs vs the Malawi Food and Nutrition Security Policy: The long term goal of the Malawi Food and Nutrition Security Policy is to significantly improve the food and nutrition security of the population. The concept of nutrition security implies that healthy food choices and life styles are easy choices for all Malawians and there is absence of all forms of malnutrition.

Although the FISP has helped to achieve food security at national level, its emphasis on maize production, which may not be feasible in areas where maize can not be grown or where maize is not the staple food has in a way failed to achieve nutrition security at household level.

The emphasis on maize, which is mainly a source of carbohydrates, ignores the production of other nutrients sources like proteins, fats and vitamins and is therefore not pro-nutrition secure. In addition, the FISP does not recognize the role of food sovereignty in both food and nutrition security.

FISPs vs the Malawi Government Crop Production Policy: The Crop Production Policy aims at a balanced and diversified production of food and cash crops to meet the country's requirements for food, foreign exchange and raising rural incomes. It also aims at improving and maintaining the productive potential of the land.

With its emphasis on maize production, the FISP is in conflict with some of the objectives of the Crop Production Policy as it implies that maize should be grown in all areas regardless of agro-ecological factors and topographic conditions. In addition, the emphasis on maize promotes the practice of monoculture, which is not good for sustainable soil use.

Unreliable rainfall and climate change: With most of its smallholder farmers dependant on rainfall, Malawi is particularly vulnerable to large season-to-season variation in production. The returns on the fertilizer investment vary accordingly. This has been evidenced by the varying total maize production during the period which FISPs has been implemented.

For instance, the total harvest for the 2006/2007 season amounted to 3.4 million metric tonnes, representing a surplus of 1.3 million metric tonnes. However, due to poor rainfall during the 2007/2008 season, total maize production dropped and amounted to 2.8 million tonnes, representing a surplus of around 500,000 metric tonnes. Come 2008/2009, total maize harvest increased to 3.7 million metric tonnes, representing a surplus of 1.5 million metric tonnes.

Policy Options and Recommendations to Counter Effects of Climate Change

The Government of Malawi needs to design and implement a strategy to reduce rainfall-induced production variability and prepare farmers to adapt to climate change. This strategy will require major public investments on a scale comparable to those that have supported the national input subsidy programme.

The strategies include water harvesting, sustainable extraction of groundwater, conservation farming (reduced tillage, crop residue retention, and crop rotations), and improved water use efficiency in rain-fed areas; Expanded irrigation through dams and extraction of water from Lake Malawi and the streams that feed it, subject to assessment of environmental impact; Shifts toward maize varieties with greater drought tolerance, and improved pest and disease resistance, and corresponding adjustments in the national research agenda; Enterprise diversification

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Farmers should be taken on field visits such as these to appreciate the benefits of agroforestry on crop yield

Constraints on mainstreaming agroforestry in Malawi

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Loss of soil fertility is one of the major causes for low agricultural production in Malawi, and yet over 75% of the population rely on agriculture as a livelihood strategy. This problem is being aggravated partly because most people rely on inorganic fertilizers. Yet, it is a well-known fact that inorganic fertilizers just fertilize the crop for a year without adding value to the soil in terms of fertility.

Despite modern agroforestry technologies having been introduced by researchers for over 20 years as a low-input production strategy in Malawi, there has been low adoption among farmers.

Agroforestry may be defined as a land management system whereby trees or shrubs are deliberately grown with agricultural crops on the same piece of land. It should be noted that agroforestry has been practised by farmers from time immemorial in Malawi, using traditional approaches by retaining trees such as *Msangu* in crop gardens. However, scientist have introduced new forms of agroforestry whereby special selected trees such *Gliricidia sepium* (simply referred to as Gliricidia) are incorporated into crop gardens.

There is a lot of benefits that one gets from agroforestry. Soil fertility is restored because some trees fix nitrogen into the soil while others have nitrogen compounds in their leaves, which when, incorporated into the soil, restore soil fertility.

In addition, trees reduce soil erosion as they intercept raindrops, which might have otherwise dislodged soil particles, making them easily transported away by water. The organic matter from the tree leaves improves soil structure; thereby further improving water holding capacity of the soil. This is particularly important during drought, which is common these days due to the climate change phenomenon.

By planting trees in the crop garden, the farmer also obtains firewood and other products, including fruits. In addition, agroforestry trees planted around the garden boundary act as beacons for land ownership claim, particularly after the demise of parents. Despite these benefits, and many more, one wonders why agroforestry technology is not being adopted widely.

There are a number of constraints; some are socio-cultural, while others are due to instructional arrangements.

Traditional farming practices have tended to let people not retain trees in their gardens for fear of interfering with crops, except for few trees that may have special cultural values. Because of such beliefs, hired farm labour, unless properly instructed to retain agroforestry trees, just cut or bury the planted trees during land preparation and weeding.

In other cases, both patrilineal and matrilineal cultural practices prevent men and women from planting agroforestry trees due to

lack of land ownership rights.

With the government farm input subsidy in place, some farmers would rather purchase a subsidised bag of inorganic fertilizer than plant agroforestry trees that take three to four years to start displaying the benefits. Literature has also confirmed that resource poor people tend to prefer short-term benefits than long-term benefits.

Where agroforestry has been introduced, different approaches have been used, with varying degrees of successes and failures. In some cases, farmers have just been issued with agroforestry tree seedlings for them to plant without back-up information or training. This has resulted in farmers letting trees to overgrow and in the process overshadowing the crops, and sometimes farmers would just dump the tree seedlings without planting.

Another constraint for the introduction of agroforestry is that the two agricultural/forestry training institutions- Natural Resource College (NRC) and Malawi College of Forestry and Wildlife (MCFW) do not have demonstration plots on their campus. This means students just theorise the existence of agroforestry technologies. Most students cannot, therefore, mainstream agroforestry if the technology only exists in theory.

However, there are few examples of successful farmers who have adopted agroforestry with visible benefits in terms of good yields as a result of soil fertility restoration. Unfortunately, such successful case studies have seldom been shared among farmers, extension agents, and researchers. During the 2009 Agroforestry World Congress held in Nairobi, Kenya, delegates lamented lack of sharing of knowledge and experiences on agroforestry technologies as one of the constraints for mainstreaming the technology. One of the facilitators said, "To a considerable extent, agroforesters are still talking to themselves; they are not getting their message across to policy makers and others who really matter".

Since agroforestry benefits take long to come by, a systematic approach need to be taken when introducing it. One of the most effective approaches is for farmers to accurately identify the problem (of soil degradation). Then, taking farmers on a field visit to those who have successfully practised agroforestry, with visible benefits in terms of crop yields, or showing a film of the same farmer, can stimulate interest and commitment among farmers to adopt agroforestry technologies.

Leaves from shrubs planted in gardens is a source of organic manure

A healthy crop fertilised by the trees planted within the garden

But then, timing of the field trip also matters. The best time is when the crop for example maize, has matured so that farmers can vividly see the effect of agroforestry trees on the crop yield. It is advisable to record the field trip on a camera and let it be shown to the rest of the communities; as it would not be feasible to take all farmers in a particular village on a field visit.

Issuing of free agroforestry tree seedlings to farmers may not be the best option for promoting agroforestry because farmers tend not to take care of seedlings in the field. It is advisable to encourage them to raise their own seedlings. This approach promotes ownership of the process of introducing agroforestry technologies and ensures sustainability of technology up-take.

There are a few case studies of successful introduction of agroforestry, but lack of networking among farmers and extension agencies, among others, slows down the adoption rate. However small the agroforestry implementation experience may be, let us share, for small means massive impact. Let us network!

Acknowledgement: The article has been prepared based on experiences drawn from two funded projects: Chipalamba Toto at Kunthembwe in Blantyre District, funded by the Italian Government; and FIDP project in TA Somba, funded by European Union. These projects were implemented by CURE in partnership with Ricercae Cooperazione (RC).

Commemorating World

Many species, One Planet, C

5th June 2010 is World Environment Day 2010, a global day in the calendar year on which all the residents of Malawi should join the rest of the world to pause and reflect on the link between the environment and our life, our health and our well-being that solely depend on the goods and services that amount to our natural capital. It is the day we should take positive actions that will guarantee the sustainable availability of these goods and services. Briefly, these are basic elements that enable us to address poverty and economic development through the following:

- Food and fibre (diversity of crop types and varieties and animal breeds that provide us with high quality nutrition and increase our ability to adapt to the growing impacts of climate change through their tolerance to drought, dry spells, floods and pests and diseases);
- Shelter;
- Freshwater - fundamental to sustainable livelihoods, health, economy by being the source of the country's hydroelectricity and in ensuring food security and development (as the critical input in irrigation, including the greenbelt initiative);
- Medicinal plants;
- Biochemicals for the industry;
- Education, inspiration and knowledge systems, including traditional knowledge and culture; and
- Wide range of regulating and supporting services including pollination, nutrient and water cycling, climate regulation and carbon storage.

These few contemporary points should powerfully stimulate in us the thought and soul-searching that our environment is the future of our nation and that if we do not use it with the best of our managerial skills and stewardship we will continue to shoot ourselves in the foot. Put simply, the numerous setbacks that have so far retarded our untiring efforts to reduce poverty, achieve growth-led development or even our ambition to achieve the Millennium Development Goals is because we have simultaneously demolished our environment. Our environment strongly determines our livelihood, our production systems - be they agricultural or industrial - and our commerce, trade and the economy.

Problems Malawians experience including frequent blackouts leading to the loss of industrial productivity, the loss of fertility of our soils leading to low agricultural productivity, frequent floods exacerbated by land degradation, siltation of our fresh water resources and proliferation of invasive alien water weeds like water hyacinth Namasupuni and Kariba weed Salvinia all are due to massive deforestation that continues to rampantly occur in Malawi reflect how we have mismanaged our environment. In some instances, we have even glossed over water weeds in the Shire River when they block water intake points at our hydroelectricity plants as "the problem of debris".

As if these problems are not enough, our farmers largely use unsustainable land use practices in their gardens. Recently, they are even cultivating the shoulders of our prized road infrastructure and weakening their once firm foundations thereby shortening their life span and increasing maintenance costs.

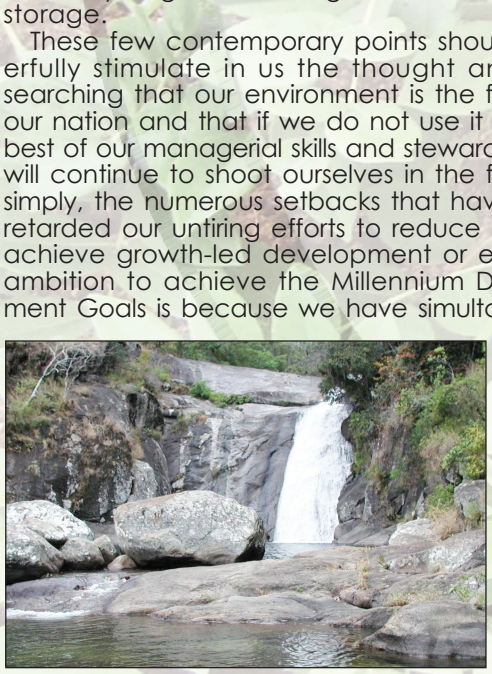
Motivated by limited forward thinking and actions to find quick-fix solutions to our quest for income and energy, we continue to lose our critical species of plants and animals, some of which are unique to Malawi and yet others are of global significance. For most of these species, they actually are at points of their extinction or are rapidly approaching their tipping points.

Moreover, our environmental policies and laws, which are generally outdated and lacking in implementation any way, are generally in conflict with each other. One policy may say do not cultivate along river banks and you must plant trees therein, another policy will say, especially when rains have been unseasonal, cultivate in dimbas which occur along river banks or in valleys which are sources of our precious rivers and streams that we with fresh water

We have mun ment and "zachilengedw nature. This is as degraded them, recreated by na we should rather natural resources our future" and actions, policies a implementation ensure their susta

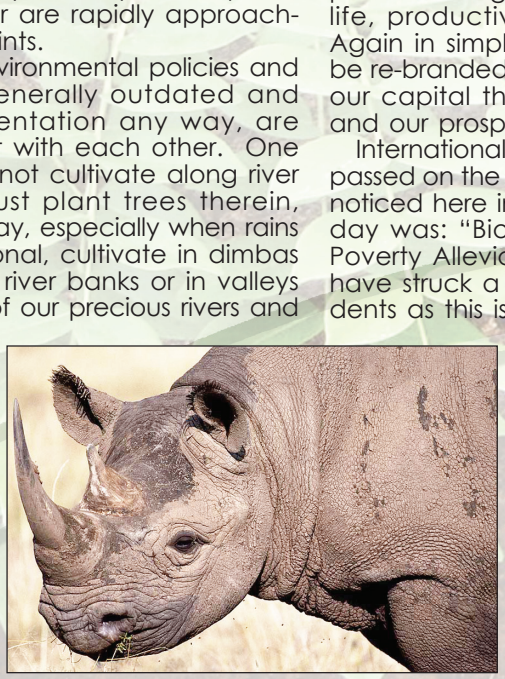
The slogan fo 2010 is "Many S Future." and is declared Interna the year we sha and the value o One may ask: " why is it importa biodiversity in s describe life on things, the place actions between the simplistic pe just trees, charis little creeping a mites. The inter number of esse services (ecosyste highlighted in thi within the soil, w produce the goo life, productivit Again in simples be re-branded to our capital that and our prosperi

International D passed on the 22 noticed here in M day was: "Biodi Poverty Alleviati have struck a ch dents as this is w



Waterfalls on Mount Mulanje are an attraction to both local and international tourists

The cinchona tree from whose barks quinine is made



The endangered black rhino is a seed disperser in ecosystems and its horn has medicinal qualities

2010 International Year of Biodiversity

Environment Day 2010

One Future

e expect to still provide us and energy.
danely defined our environ- natural resources as e" or goods provided by lf after we have depleted or they will be replenished or ture or divinity. Realistically, define our environment and as "our natural capital and adopt community-centred and strategies matched with plans that guarantee and ainable utilization.
r World Environment Day Species. One Planet. One befitting as 2010 is the UN tional Year of Biodiversity – uld celebrate life on earth f biodiversity for our lives. What is biodiversity?" and ant? Biological diversity or hort, is the term used to earth –the variety of living s they inhabit and the inter- n them. This is well beyond rception of biodiversity as matic wildlife, snakes and and crawling insects and ractions provide us with a ential natural goods and em services) that have been s release. They take place water and atmosphere to ds and services that sustain y, stability and resilience. t terms, biodiversity should o mean "our natural wealth, provides the basis for life ty, and our future".
ay of Biodiversity came and 2nd May, 2010 without being Malawi. The theme for that versity, Development and on" – a theme that should hord with all Malawian resi- what we see and feel on a daily basis.

In the past, World Environment Day was commemorated with various colourful and educative awareness raising national activities. For instance, in 2008 it was commemorated in Mulanje and in 2009 in Mangochi. This year, despite being International Year of Biodiversity, no one appears to have given it any thought at all. Yet the Government of Malawi has raised the profile of environment by introducing the priority: Managing Climate Change, Natural Resources and Environment in its nine (9) priorities within priorities for whose implementation it seeks partnership and cooperation in order to reduce poverty and achieve economic growth. Technocrats, private sector, all levels of enterprises, civil society and the general public would have gone a long way to support government efforts by providing due leadership and staging a high key event that translates government aspirations in managing climate change, natural resources and environment into tangible actions and commemorating this with the rest of the world. The other part of the irony is that while today is supposed to be the day for advocating partnerships among all stakeholders to the environment, or perhaps to put it even more correctly, among all species living in Malawi and on this planet and sharing a common future, World Environment Day 2010 passes as just another ordinary day, if not a low-key day in our weekend. International Year of Biodiversity is only six (6) months to go. We have one last opportunity to raise our level of awareness and act positively by tuning our mindsets to partner the government and the world in the conservation and sustainable use of biodiversity. We quote Ban Ki-Moon, UN Secretary General, who said on 22nd May, 2010, "Let us recognize that biodiversity is life - our life. Let us act now to preserve it, before it is too late".

CEPA Press Release, 5th June 2010

Vegetation provides for water cycling, climate regulation and carbon storage

Diversity of crop types enhances food security and the ability to adapt to the growing impacts of climate change

Fresh water which is fundamental to livelihoods is also a source of hydroelectrity is crucial to development

Biodiversity is a source of nutrition which is vital to sustainable livelihoods

Areas rich in biodiversity hold potential for disco-very of new resources to improve human welfare

The baobab tree also called the tree of life has traditional uses for every part of it

Impact of climate change on Wetlands

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Wetlands are defined in the Convention on Wetlands of International Importance as Waterfowl Habitat (Ramsar Convention) of 1971, to which Malawi is party, as areas of marsh, fen, peat land, or water, whether natural or artificial, permanent or temporary with water that is static or flowing, fresh, brackish or salty, including areas of marine water the depth of which at low tide does not exceed 6 meters. Simply put a wetland is an area permanently or seasonally flooded by water where plants and animals have become adapted. There are big and small wetlands and some of the big wetlands are the inner Niger delta in Mali and the Lake Chilwa in Malawi. The small wetlands are mostly river valleys commonly known as dambos.

Smaller wetlands may flood for a few months as in most dambos in Malawi and in most southern African countries. The flooding lasts long enough to provide domestic water and for people to plant crops in the dry seasons. Wetlands may be permanent, as in the inner Niger Delta in Mali, where the water levels rise and fall but parts are permanently flooded.

Examples of wetlands in Malawi include Lake Chilwa in Zomba, Vwaza Marsh in Rumphi, Ndindi Marsh in Nsanje, Elephant Marsh in Chikwawa, Chia Lagoon in Nkhotakota, Limphasa Dambo in Nkhata-bay and Simulemba in Kasungu. Lakes and rivers are also referred to as wetlands.

Wetlands are what they are because of constant supply of water. The major sources of water in the wetland include:

- Rain that falls directly onto the wetland.
- Water flowing into the wetland in streams or over land.
- Ground water trickling through the soil, the subsoil and fissures in the rock.

Wetlands are Ecosystems

Wetlands are ecosystems because of the various biological resources they support. These biological resources form a complex interdependent network of life often referred to as biodiversity. People are part of this biodiversity. Biodiversity is the variability among living organisms from all sources and ecological complexes of which they are part. Biodiversity is the foundation of ecosystem services to which human wellbeing is closely linked.

Wetland Benefits

Wetland Ecosystem Services

Wetland ecosystems contribute to human well-being and poverty alleviation in different ways. According to Ramsar Convention on Wetlands, fresh water wetlands holds more than 40% of the of the world's species and 12% of all animal species. Wetlands like Lake Tanganyika have 632 endemic animal species. The wetland biodiversity is a significant reservoir of genes with economic potential in the pharmaceutical industry and in commercial crops. Wetlands plants and animals provide traditional medicine to human beings for primary health care. Other products of wetlands include fish, fruits, wild game, fiber, fuel wood, recreational, aesthetic, the list is endless!

Wetlands and Climate Change Adaptation

When wetlands are in a healthy, intact condition, they can greatly contribute to

Wetlands enable cultivation in periods of extreme drought, thus increasing resilience to climate change

increasing our resilience to the impacts of climate change. For example, marshes like Vwaza, Ndindi and Elephant and lakes Malawi and Chilwa reduce peak flood flows in periods of extreme rainfall.

Due to their ability to store and slowly release water, wetlands like Limphasa dambo and other smaller dambos in Malawi become the major source of domestic water and crop production in periods of extreme droughts.

Flood plains like the lower shire valley contribute to climate change adaptation in that they regulate Shire River water flow in the valley. They ensure continuity of water supply by slowly releasing the stored water. The availability of water in the Shire enables fisheries, agriculture and grazing along the river.

Wetlands like lakes and rivers are most often the most accessible sources of water in most of the areas in Malawi. They form centre points for rural life as the frequency and intensity of droughts increases.

Causes of Change to Wetland Ecosystems

Wetlands are being degraded at an alarming rate and much more than any other ecosystem. One of the major drivers of change to wetland ecosystems in Malawi is climate change. Due to climate change there have been variations in weather patterns resulting in frequent dry spells and erratic rainfall patterns.

Sometimes the rainy season starts earlier and ends late resulting in a prolonged rainfall period. Sometimes the rain season starts late and ends earlier. These situations result in poor crop production.

The scenario has forced a lot of farmers to turn to wetlands for crop production and there by exerting a lot of pressure on them.

The intensive use of wetlands for crop production has forced people to clear more natural vegetation in the dambos. This poses a great threat to the existence of wetlands ecosystem.

It is not only increased crop production in wetlands which poses threat to wetland existence. Other uses like grazing also increase as a result of climate change. Less rainfall amounts means less or no grass in the upland fields thus more animals are taken to the wetlands for grazing.

This causes more trampling and overgrazing in the wetlands which change the wetland ecosystem as more natural vegetation, organisms and soils are destroyed.

Other effects of climate change on the wetlands such as changes in hydrology and changes in temperature of water bodies will lessen the services that wetlands provide.

Excessive nutrient levels threaten rivers, lakes and marshes. These growing pressures increase the risk that wetland ecosystem will change in ways that are difficult, expensive or impossible

Wetlands are often rich in biodiversity and support many plant and animal speceis

to reverse.Degradation of the wetlands reduces their ability to mitigate the effects of climate change.

Conservation and Management Strategies

In order to reduce the negative changes to the wetlands ecosystems there is need to come up with interventions which will protect the wetlands from further degradation. Some of the interventions include the following:

Building on local knowledge: Local people living around the wetlands have some knowledge of environmental processes in the wetlands and surrounding higher elevation catchments that feed them with water. Communities surrounding the wetlands understand the seasonal variation of the wetlands and are concerned about sustaining their use for themselves and their children. It is therefore important to explore their knowledge about how wetlands work and the key challenges in managing them.

Functional Landscapes: Wetlands are dependent on the surrounding upland areas. Degradation of the uplands will harm the low lying wetlands. Erosion will cause siltation of the wetlands. Overuse of the chemicals will pollute the wetlands. Poor soil and water conservation practices will mean less water to feed the wetlands during the dry periods, but disastrous run-off during heavy rains.

This relationship means that wetlands cannot be managed in isolation. Management should start from the upland catchment which feeds the wetlands. Good soil and water conservation practices in the uplands will give rainwater more time to seep into the soil and trickle down to the wetlands.

Soil conservation reduces soil erosion which could otherwise end up clogging the wetland with silt. Proper use of farm chemicals keeps drinking water in the wetland safe for both human-beings and livestock.

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Permaculture as a tool

for sustainable living in Malawi and beyond

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Bare grounds are typical of our school's sorrounding which contributes to the degradation of land.

Ten years into the new millennium, there are many good reasons for everyone to ask questions about the environment, food and nutrition security and poverty alleviation, because growing enough food for everyone is becoming more difficult due to environmental degradation. Doubts are being expressed as to whether we will achieve the Millenium Development Goals (MDGs). Below are some of the contributing factors to this situation:

- The soil is exhausted, that it is no longer as fertile as it was in the past.
- Limited amount of land against the ever increasing human population.
- Often, farm inputs are not available at the right time or are too expensive
- The rain pattern and seasons are unpredictable unlike in the past.
- The HIV pandemic has affected the labour availability for farming activities
- Inadequate agricultural extension officers to reach out to all farming families.

Regardless of the above stated constraints, specific agricultural approaches are being promoted to improve the situation. These include;

1. Conventional agriculture which emphasises on 'efficient' mono-cropping, use of a lot of external inputs such as fossil-energy derived fertilisers and pesticides, and removes most if not all trees from fields;

2. Organic agriculture which uses virtually no fossil energy derived chemicals and makes a conscious effort to improve the health of the land while strengthening linkages between the market and the producers;

3. Sustainable agriculture which is similar to organic farming, since the emphasis is on using techniques that make use of local resources and minimising use of external inputs;

4. Traditional farming practices which have been developed over generations in different climates;

5. Landscape architecture which is about designing use of land and is purely an aesthetic approach very much often linked to relatively wealthy situations;

6. Permaculture which has brought together landscape architecture and farming, but went much further because it did this based on an understanding of nature's processes.

Permaculture

Permaculture has been defined as a design system for creating sustainable human environments (Mollison 1991). It is a design based framework for sustainable living that can be used to transform lives and landscapes in a manner that is ecologically sound, economically viable and socially just.

Permaculture's unique offering to the world is ecological design for food and fuel production and effective land use. This is what was missing before it came along. It is a holistic design science that is being used as a tool for promoting sustainable living by a growing number of people worldwide.

It is a philosophy and development strategy that weaves together climate, plants, animals, building design, soil, water and energy management into cohesive sustainable social systems. These systems are modelled around eco-systems which we study in nature.

An eco-system is an environment where plants, trees, and animals live together in a sustainable and interdependent way. A stable, healthy, eco-system sustains a wide range of different living things (including insects and micro-organisms) that supply each other's needs without causing harm.

Sustainable human activities such as farming, fishing or forestry means that the activities meet the needs and desires of people living today, and will continue to meet the needs and desires of their children and future generations. At present many human activities

are not sustainable, because they damage essential parts of an eco-system, or because they use up materials (such as petrol or coal) that take millions of years to replace.

Permaculture applies techniques and principles from ecology, cooperative economics, appropriate technology, sustainable agriculture, and the wisdom of indigenous people to create sustainable human environments, at home, at work, at play, and in our communities. As such, the promise of permaculture extends far beyond food production systems to explore new potentials and horizons for a sustainable life on earth.

In southern Africa, the permaculture movement has been steadily growing since the early 1990's, with key players embracing a wide range of issues from food production to utilizing permaculture as a developmental planning tool for large-scale earth restoration.

There are permaculture projects in schools, prisons, clinics and communities in many countries in the region. The Ministry of Education Science and Technology set up a schools permaculture pilot in 5 schools per district, in Karonga, Nkhata Bay, Lilongwe, Dedza, Zomba, Thyolo, Mulanje and Nsanje.

The schools pilot permaculture project in Malawi is part of the Ministry's School, Health and Nutrition Policy and it has transformed lives and landscapes at the participating schools. Dusty, unproductive and bare grounds such have been turned into multi-purpose productive landscapes.

The productive school environments not only contribute towards improved food security and sustainable environmental management but they also help to improve the quality of education by facilitating teaching and learning using locally available resources (TALULAR).

The SCOPE Programme

The Schools and Colleges Permaculture (SCOPE) Programme started in 1994 when Fambidzanai Permaculture Centre (FPC) teamed up with other not for profit organizations and with the Ministry of Education in Zimbabwe. The FPC was established near in Zimbabwe in 1988 following a training workshop on permaculture facilitated by Bill Mollison in Botswana a year earlier.

The goal was to assist schools to benefit from the multiple outcomes that arose from a re-design of school environments using the permaculture approach.

The SCOPE Programme developed a tool that schools can use for implementing productive, healthy and ecologically sustainable management system on school land. The system is developed with the active involvement of the whole school community and will then be a good model for replication in the community.

The tool is called Integrated Land Use Design (ILUD) and it has been applied in over 200 schools in Zimbabwe since 1994 with exciting results. In addition to Permaculture, the development of the ILUD process was informed by a number of contemporary theories and methodologies such as holistic management; participatory methodology; and practical rural appraisal.

Formerly bare grounds at a teacher's house that were rehabilitated through permaculture.

SCOPE empowers schools with integrated land use design skills and other tools so that they can fulfil their potential role of becoming resource-rich centres that can contribute significantly towards an improved quality of life in their communities.

The ReScope Programme

The ReSCOPE Programme is an office that was set up in Malawi in order to implement the SCOPE Programme. ReSCOPE provides technical support to partners in each participating country of the SCOPE Programme to design and implement relevant programmes and projects.

ReSCOPE has set its goal to see school communities in the country producing nutritious food and useful products; providing countless learning possibilities for the curricula; serving as resource centres within communities; and contributing to the development of the whole person.

ReSCOPE seeks to work closely with relevant government Ministries, non-governmental Organisations (NGOs) and Community Based Organisations (CBOs) and the Permaculture Network in Malawi which is a guild of permaculture practitioners that is spread across the country.

Let us practise permaculture which offers an appropriate bottom up and holistic approach development solution to Africa's impasse. Its strength relies on and builds on the foundation of indigenous knowledge and locally available resources.

The National Forestry Season

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The National Forestry Season was first celebrated as a National Tree Planting Day on 21st January, 1976. The day was inaugurated by the first president of the Republic of Malawi, Ngwazi Dr. Kamuzu Banda, who planted a *Khaya anthotheca* (mbawa) tree at Sanjika Palace.

The National Forestry Season is a response to the United Nations declaration of 21st March of 1972 as a World Forestry day. The length of the period has been changing over time. It started as one day from 1976 up to 1994 when it was extended to one week. The period was commemorated for one month in 2005. Then period was extended to four months for the 2005/06 season up to this day.

The extension of the commemoration period was to emphasize the importance of trees to the environment and people and to encourage management and caring of trees. The period was extended to allow for management as well. The term has also changed from tree planting day to forestry season to remind the general public that apart from tree planting we should consider other aspects of forestry such as encouraging natural regeneration (letting the cut trees grow back where possible) especially in the natural forests.

The 2009/10 four-month National Forestry Season ran from 15th December 2009 to 15th April 2010. The season started on a high note with the President of Malawi, Prof. Bingu wa Mutharika launching the season at Nkalo Village in Chiradzulu District. The national Launch was followed by Regional launches and thereafter District launches. The regional and District launches were presided over by Cabinet Ministers and Deputy Ministers.

Best results are achieved by planting with the early rains. This promotes establishment and good growth which is resistant to pest attack and drying up.

However, early planting has not always been achieved as farmers are busy planting food crops at the same time. This reduces survival rates of planted trees. Late planting seems to have been exacerbated by the extension of the commemoration period. Some officials have celebrated tree planting late in the planting season thinking that they are doing it within the official season.

It is advised that tree planting should be through by end of February and the remainder of the period should be for weeding and protection from fires, pests and animals.

This season's tree planting target was 65 million trees. During the season, 64.9 million tree seedlings were produced but only 54.6 million seedlings were planted. This presents 83% planting rate of produced seedlings. Seedlings were produced by families, Village Natural Resource Management Committees (VNRMCs), women and youth clubs, churches and other faith-based organisations, educational institutions, government institutions and others.

Most of the above stakeholders were assisted and supported by Government, non governmental organisations (NGOs) and international organisations such as Total Land Care, Income Generationing Public Works Programme, World Vision International, MASAF, Food and Agricultural Organisation (FAO), Plan International and Rural Afforestation (RUFA) to raise and plant seedlings.

The planting rate of 83% is low compared to most seasons where over 90% of produced seedlings are usually planted. A lot of seedlings were not planted due to dry spells that was experienced in most parts of the country. The other reason is that a lot people are now producing tree seedlings as a business venture. Tree seedling growers expect the Government and other organisations to buy from them and distribute to those interested in planting. The Policy of the government is to train farmers to grow seedling for own planting and sell the surplus if possible and not to buy seedlings for people to plant.

Challenges to Tree Planting

Tree planting faces a lot of challenges in Malawi. One of the challenges is that there is low survival rate of planted trees due to late planting and inadequate care as farmers priotise food crops growing. The official survival rate is 65% but lower figures have been recorded. Clinton Foundation that is involved in supporting farmers to plant trees for carbon trade under Plan Vivo have a survival rate of between 58% and 61%.

The other problem is that some parts of the country especially in the Southern Region do not have adequate land for tree planting because landholdings are small. There are also problems of erratic rains, pests and diseases.

Inadequate extension workers and community capacity is another challenge. The few extension workers that are there do not have transportation. Communities do not have capacity to buy own forestry inputs and they also have inadequate labour to properly manage trees.

Some organisations have purchased seedlings and distributed them to communities

without assessing their capacity to plant and manage. As communities strive to be food secure, there is need to give them incentives (material and monetary) as they manage forests which protect the environment including the absorption of carbon dioxide which contributes to increase in global temperatures. Environmental protection benefits the whole nation and globe.

Opportunities for Tree Planting in Malawi

Despite the above challenges, there are a lot of opportunities for tree planting and conservation. First of all, there is political will.

The fact that the President has been launching the tree planting activities for several years now shows the government commitment to conserving forests. The commitment has been further demonstrated through the revised Malawi Growth and Development Strategy (MGDS) which has included Climate Change, Natural Resources and Environment Management as a key priority area.

Secondly, the global concern on forest conditions especially in their relation to climate change has seen an increase in support to the forestry sector by donors, NGOs and the private sector.

Recommendations

Due to low survival rates of planted trees, it is recommended that emphasis should also be placed on encouraging natural regeneration. Sendwe and Mangweru Hills are good examples where natural regeneration has been very successful. The practice is cheap and easy to manage. All that is needed is to protect the regenerants.

A newly reafforested site; 54.6 million trees were planted in the 2009/2010 national forestry season

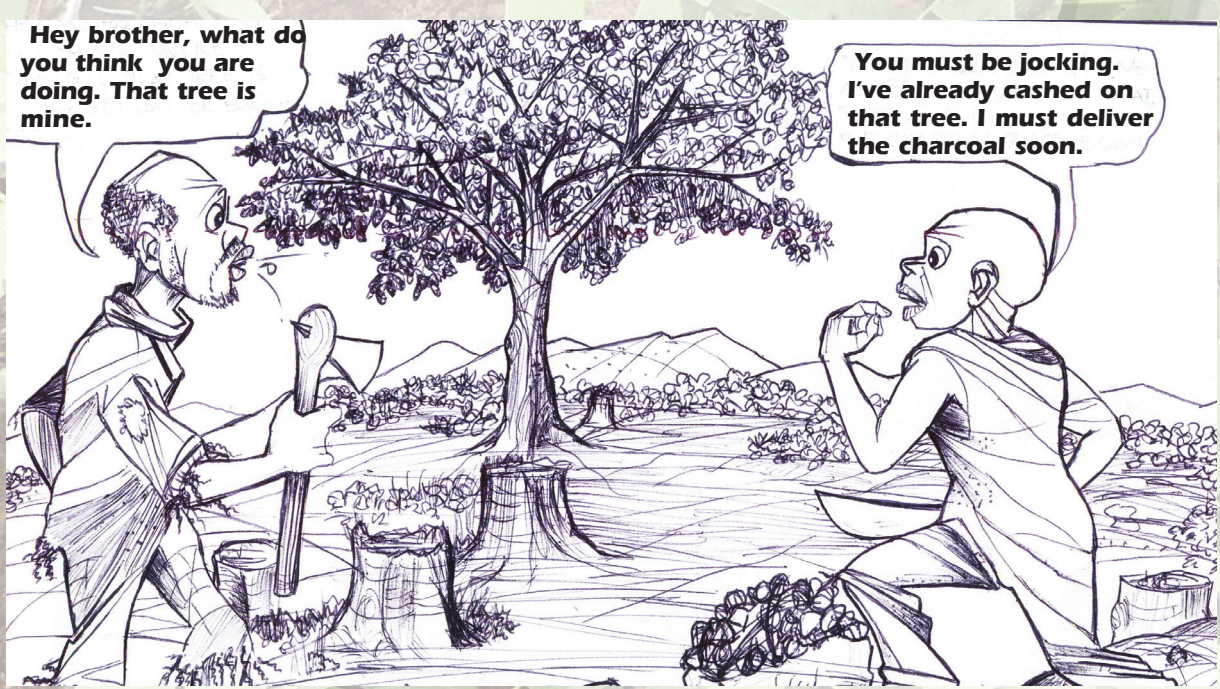
Payment for ecosystem services (PES) including carbon trade offers another opportunity for encouraging forest and tree mangement. Companies such as Water Boards and Electricity companies should be encouraged to pay communities that are involved in protection of forests which protect the watershed.

Organisations should not just buy seedlings for communities but they should also make sure that seedlings are established, managed and protected. The Public Works Programme should extend to paying for management of trees. So far the EU supported IGPWP and the government supported Tree Planting and Management for Carbon Sequestration and other services which support tree planting as well as management.

Communal tree planting and management of forests and trees should also be done only after access and benefit sharing mechanisms have been put in place. Ownership should be clearly spelt out.

Forest extension workers also need to be adequately equipped to carry out their job.

DODOLIDO **BY SAM MANDA**



Nature seems to be the victim but in actual sense we are the victims. Let us engage in a fight to preserve vegetation, where both humanity and nature will emerge victors

2010 International Year of Biodiversity

Are farm input subsidies sustainable?

From page 7

toward higher value crops, value-adding, and off-farm employment that will generate income to buffer possible maize crop failures; Weather forecasting and provision of timely advice to farmers; and Weather-related crop insurance.

To Counter the Effect of High Fertilizer Prices

While there is no immediate substitute for inorganic fertilizer, there may be scope to improve the efficiency of fertilizer use. Delayed access to seed and fertilizer is a recurring complaint of farmers in Malawi and elsewhere in Africa. The timing of fertilizer application can be improved as delayed application can sharply reduce uptake efficiency. This requires timely coupon distribution, fertilizer and seed supply and early replenishing of stocks fields.

Application of manure should also be promoted. This organic substance improves soil fertility and structure which can significantly reduce the amount of organic fertilizer that needs to be applied.

Inclusion of grain legumes in crop rotations can bring multiple benefits to smallholders. Groundnut, soybean, beans, and pigeon peas are well adapted to different parts of Malawi. These crops provide cash income and improved nutrition in addition to improving soil fertility through their nitrogen fixing phenomenon. A national crop legume promotion programme is strongly recommended.

To Deal with Political Inteference and Corruption

Looking at the proportion of the national budget that goes to FISP in light of the positive effects of the programme on the welfare and the economy, issues of political inteference and corruption need to be addressed. What needs to be done is to advocate for transparency and accountability in the management of the programme. Stakeholders should also lobby and advocate for the inclusion of parliament and more civil society organisations in the monitoring task force of the programme.

Will such harvests be maintained considering the many challenges facing FISPs?

This could help in checking against the political interference and corruption, which are distorting the good image of the well intended development programme.

To Counter the Crowding Out of Other Essential Programmes

Stakeholders should lobby and advocate for speedy implementation of various policies that have been sidelined as a result of the FISPs. The stakeholders should advocate for a more inclusive and encompassing programme, with the view to ironing out inconsistencies in the various strategies. Stakeholders should also advocate for increased allocation of resources to programmes like research and development, extension services and livestock production, which are equally critical to the development of the agriculture sector and the economy as a whole.

Impact of climate change on wetlands

From page 13

For wetlands to continue providing ecosystem services, there is need to manage them properly. This means that not cultivating the central areas, not extracting too much water, and maintaining lots of vegetation in the wetlands.

Community Organization: Wetlands are part of the larger landscape. It is therefore important to work with local communities and organizations to manage the landscape sustainably. Development of local institutions and building capacity of the local people are necessary steps towards involvement of the local community in managing the wetlands.

Policy

There is no National Wetland Policy in Malawi. What exists is the sector or departmental guides on the use of wetlands. There is need to harmonize all these departmental guidelines into a national Policy

Biodiversity tips

2010 was declared the International Year of Biodiversity by the United Nations. This provides us with an opportunity to celebrate the vital role that biodiversity plays in sustaining life. Let us join the rest of the world in working to safeguard our irreplaceable natural wealth and to stop its loss. This is vital for current and future human wellbeing.

'We should preserve every scrap of biodiversity as priceless while we learn to use it *and come to understand what it means to humanity*.' ~ E. O. Wilson

There are many ways that you can make a direct difference as an individual. Here are a few ideas on how you can act to protect biodiversity:

- Plant a tree. Make sure it is a local tree species and look after it;
- Keep nearby forests, woodlots, bush and riversides clean;
- Use, reuse or repair things until they are completely worn out;
- Do not use, eat or buy endangered species. Endangered species are species that are at risk of going extinct because they have low population numbers, threatened habitat areas, reduced food access or have been over-utilized by human beings for food, sport, personal decoration or medicine.
- Ask your family, friends, community members to avoid buying or using endangered species;
- Avoid using pesticides in family and community gardens;
- Use composting at home. The compost can be added to family gardens or the community garden;
- Find out where and how your food is grown. Encourage your family to support local or sustainable farming. Buy local fruits to avoid the energy consumption during transportation;
- One kilogram of paper can be made out of 3.5 kilograms of woods. In order to protect the forest, you should use paper as little times as possible. For example, replace the tissues with handkerchiefs and write e-mails to save paper;
- Start a community biodiversity garden;
- Clean up a local wetland; and
- Teach community members about biodiversity and farming.

www.wikihow.com/Help-Protect-biodiversity
www.unep.org/iyb

2010 International Year of Biodiversity

Centre for Environmental Policy and Advocacy

Nature's voice

Volume 6 Issue 1 July, 2010

Impact of climate change on wetlands

Biodiversity: Is it worth Commemorating?

Is Malawi's subsidy sustainable?

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