



Greening Business through Biodiversity and Ecosystem Services

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Abstract: As the World engages in a period of post-war reconstruction, cross-border channels of communication are integrated in environmental care and protection. With most citizens getting exposed to the stark geopolitical and cross-cultural imbalances, actors have emerged on the scene seeking local knowledge and technical skills of environmental care. Consequently, it becomes crucial for scholars and professionals in the region to engage in academic and professional discourses to analyze and examine the importance of environmental care by greening business through biodiversity and ecosystem services. Waste is generated at several stages in the production and consumption process: the earlier waste reduction is applied, the more efficient and sustainable results are achieved (Eco-analysis). Sanitation is a new approach through which systematic sanitation services are built and delivered to the community. Unhygienic sanitary facilities for excreta disposal, poor management of solid and liquid wastes and inadequate hygienic practices are responsible for a large portion of disease burden. Sound environmental health conditions are a key prerequisite to enhance quality of life, to impact positively on sustainable economic growth and to reduce poverty. To increase sanitation coverage the policy can build upon scalable sanitary achievements. The key challenge is therefore to combine sensitization with targeted support for infrastructure development in order to bring sanitation coverage to scale and agro-forestry as an ecosystem.

Keywords: Greening Business, Biodiversity and Ecosystem Services

1. INTRODUCTION

A “green” business strives to have a positive impact on the environment and community. It develops and practices business strategies that go beyond regulation and demonstrate commitment to a healthy and sustainable future. A green business adopts principles, policies, and practices that improve quality life of the community. Greening business have strengthened its commitment to environmental sustainability as natural resources are becoming scarce and costly (communities and public administrators are environmentally-conscious). Championing sustainability allows the green businesses to align deeply with their missions and engage people on a more meaningful level. Cost is frequently cited as a deterrent to implementing sustainable environmental practices, but answering tough questions about business' practices and implementing programs that reduce, re-use and recycle can actually save a lot of money

The Greater Lakes region of Africa (Burundi, DRC, Kenya, Rwanda, Uganda, South Sudan etc) is experiencing very many challenges of conflict that include military, political instabilities, poverty economic uncertainties, social upheavals and tensions, disease and gender inequalities, environmental problems of drought and hunger. Conflict dynamics in the Greater Lakes region of Africa are very complex because they involve a myriad of interlocking regional and international actors. All these problems happen within a context of global advances in science and technology that have effects on unequal trade relations, political governance and may be consequences of colonial subjugation and ethnicity, cultural issues, illiteracy, ignorance but mostly are environmentally based.

This paper consider Greening Business through Biodiversity and Ecosystem Services to improve the environment for sustainable development in Greater Lakes Region of East Africa. The paper’s focus is on Biodiversity and Ecosystem Services as a cornerstone/foundation for sustainable development: the findings are based on documentary analysis, in-depth interviews using participatory approaches.

2. KEY IDEAS AND CONCEPTS

2.1. Greening Business

Sustainable greening business is an enterprise that has minimal negative impact on the global or local environment, community, society, or economy. Often, sustainable greening businesses have progressive environmental and human rights policies.

2.2. Biodiversity

This is the degree of variation of life and a measure of the variety of organisms present in different ecosystems. Biologists most often define biodiversity as the "totality of genes, species, and ecosystems of a region" (Tor-Björn Larsson, 2001 and Davis, 2011).

2.3. Ecosystem Services

Ecosystem services are the suite of benefits that ecosystems provide to humanity (Bradley, *et al.*, 2012). Humankind benefits in a multitude of ways from ecosystem services. Ecosystem services are grouped into four broad categories (MA, 2005; de Groot, *et al.*, 2002).

- *Provisioning*: production of food and water
- *Regulating*: control of climate and disease
- *Supporting*: nutrient cycles and crop pollination
- *Cultural*: spiritual and recreational benefits.

Ecosystem services are assigned with economic values that involves social communication and information as seen in monetary terms (Farber, *et al.*, 2002):

- *Avoided cost*: allow society to avoid costs that would have been incurred in the absence of services like waste treatment by wetland habitats to avoid health costs.
- *Replacement cost*: replaced with man-made systems that include restoration of water sheds that cost less than the construction of a water purification plants.
- *Factor income*: provide for the enhancement of incomes that improve water quality.
- *Travel cost*: reflect the implied value of the service like value of ecotourism e.g. what a visitor is willing to pay to get there.
- *Hedonic pricing*: prices that people will to pay for associated goods e.g. urban housing prices exceed those of village homes.
- *Contingent valuation*: valuation of alternatives e.g. visitors willing to pay for increased access to national parks.

Although monetary pricing continues with respect to the valuation of ecosystem services, the challenges in policy implementation and management are significant and multitudinous. The administration of common pool resources is a subject of extensive academic pursuit

3. GREENING BUSINESS THROUGH BIODIVERSITY AND ECOSYSTEM SERVICES

3.1. Biodiversity and Ecosystem Services

There have been many claims about biodiversity's effect on the ecosystem services, especially provisioning and regulating services (Bradley; *et al.*, 2012). Biodiversity's relevance to human health is becoming an international political issue, as scientific evidence builds on the global health implications of biodiversity loss (Chivian & Bernstein, 2008; Corvalan *et al.*, 2005). This issue is closely linked with the issue of climate change, as many of the anticipated health risks of climate change are associated with changes in biodiversity (e.g. changes in populations and distribution of disease vectors, scarcity of fresh water, impacts on agricultural biodiversity and food resources etc.) Philosophically it could be argued that biodiversity has intrinsic aesthetic and spiritual value to mankind in and of itself: this idea can be used as a counterweight to the notion that tropical forests and other ecological realms are only worthy of conservation because of the services they provide (ecotourism).

Global warming is considered to be a major potential threat to global biodiversity in the future. Climate change has seen many claims about potential to affect biodiversity but evidence supporting the statement is tenuous. Increasing atmospheric carbon dioxide certainly affects plant morphology and is acidifying oceans and temperature affects species ranges, phenology, and weather, but the major impacts that have been predicted are still just potential impacts. There is less documentation on major extinctions yet, even as climate change drastically alters the biology of many species. The conservationists advocate management of natural resources for the purpose of sustaining biodiversity in species, ecosystems, the evolutionary process, and human culture and society.

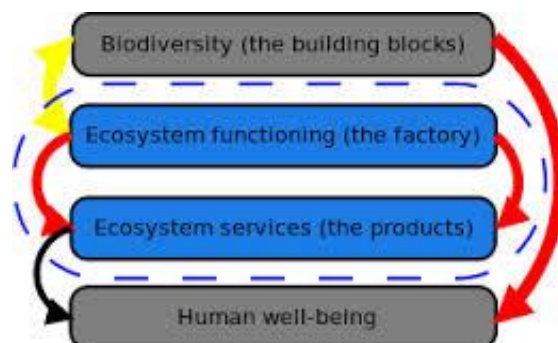


Figure1.1. Illustration of relationship between Biodiversity and ecosystem services

3.2. Ecosystem Services and Greening Business

Ecosystem services degradation can pose a number of risks to corporate performance as well as provide greening business opportunities through ecosystem restoration and enhancement. Risks and opportunities include:

- **Operational:** Risks such as higher costs for freshwater due to scarcity or lower output for hydroelectric facilities due to siltation. Increase water-use efficiency or new water treatment infrastructure.
- **Regulatory and legal:** Risks such as new fines, government regulations, or lawsuits from local communities that lose ecosystem services due to corporate activities (national game parks). Engage governments to develop policies and incentives to protect or restore ecosystems.
- **Reputational:** Non-governmental organization's campaign against use and purchasing of wood from sensitive forests. Implement and communicate sustainable purchasing, operating, or investment practices in order to safe guard depletion of the ecosystem.
- **Market and product:** Risks such as the community switching to other activities that offers other products. Launch new products and services that reduce customer impacts on ecosystems or participating in emerging markets for carbon sequestration and watershed protection other products (growing of pine trees)
- **Financing:** Risks such as banks implementing more rigorous lending requirements for greening business. Offer more favorable loan terms or investors taking positions in companies involved in services that improve resource use efficiency or restore degraded ecosystems (Carbon credit approaches)

Many communities are not fully aware of the extent of their dependence and impact on ecosystems and the possible ramifications. Likewise, environmental management systems and environmental due diligence tools are more suited to handle "traditional" issues of pollution and natural resource consumption.

Ecosystem services decisions require making complex choices at the intersection of ecology, technology, society and the economy. The process of making ecosystem services decisions must consider the interaction of many types of information, honor all stakeholder viewpoints and measure the impacts on all four parts of the intersection. Further complicating the process, these decisions are often spatial, always multi-objective, and based on uncertain data, models, and estimates.

More than most any other type of decision, ecosystem services rely on and affect many different classes of stakeholders including regulatory agencies, proposal proponents, decision makers,

residents, NGOs, etc. Often it is the combination of the best science combined with the stakeholder values, estimates and opinions that drive the process. Science alone cannot usually drive ecosystem services decisions as the scientific data and analytical models are uncertain. Various efforts have been made to integrate the stakeholder needs, in a spatial environment while taking into account the uncertainty.

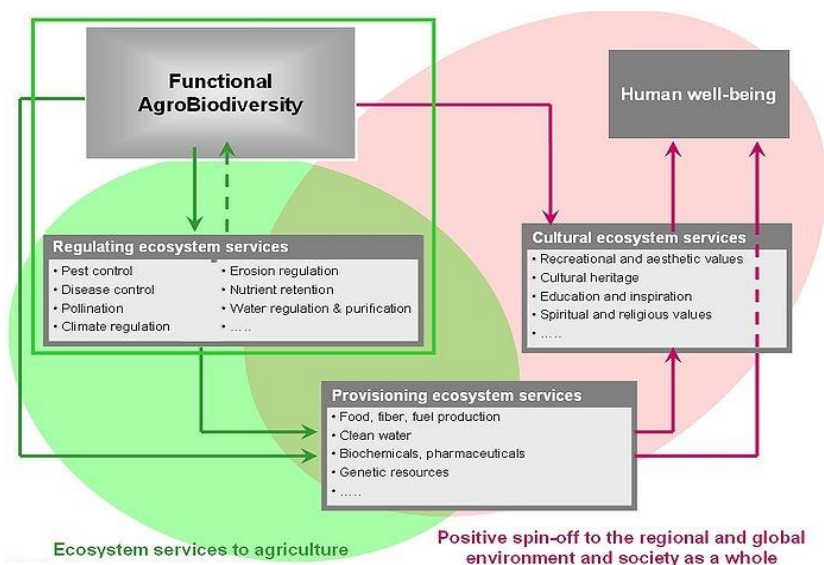


Figure1.2. Illustration of Ecosystem services and business

3.3. Green Business Practices

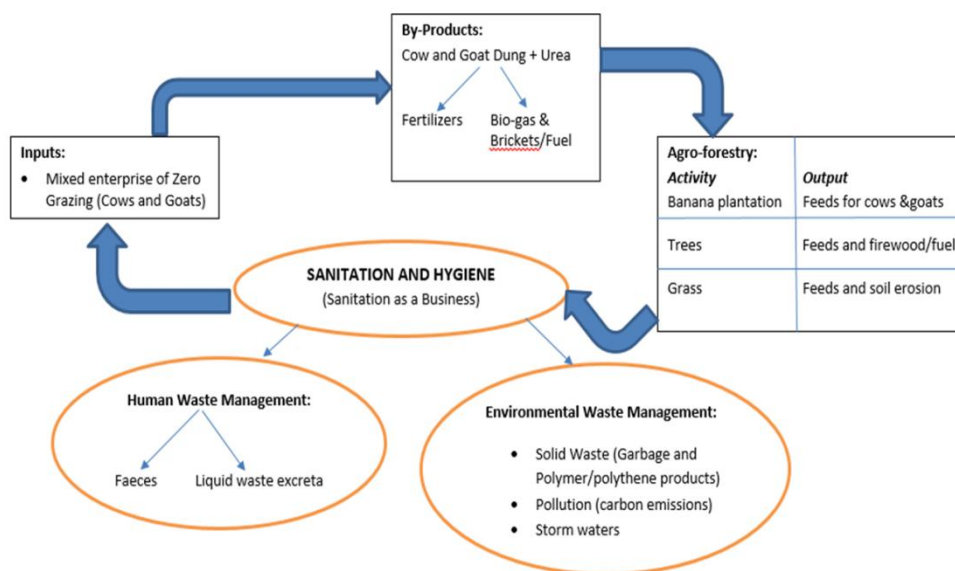


Figure1.3. The Analytical framework of Greening Business through Biodiversity and Ecosystem Services in Mixed enterprises/by-products, Agro-forestry/products, Sanitation and hygiene

3.3.1. Adopt Environmentally Sound Business Practices

- Develop an Environmental Management System (EMS) to enable your organization to reduce its environmental impacts and increase its operating efficiency.
- Comply with environmental regulations
- Conserve water
- Explore green commuting options
- Reduce your business’s greenhouse gas emissions
- Learn about the impacts climate change may have on your business

3.3.2. Improve Waste Management System

- Learn how to reduce, reuse and recycle within your business environment
- Follow the environmental protection approaches for industrial waste management
- Identify whether your business produces hazardous waste
- Recycle used electronics
- Implement sustainable materials management within your business
- Check your municipal, state and urban waste management rules and regulations for more information
- Consider servicing your business

3.3.3. Invest in Renewable Energy

- Learn more information about alternative electric systems and small solar electric systems
- Increase renewable energy use
- Start an eco-friendly business

4. CONCLUSION

Running a green business makes good sense financially and the following steps are reputable:

- **Avoid confusing doing business in a green way with being a charity**

Greening Business is about making a profit. A green business must produce products or services that people want and are well designed, appealing and work as stated.

- **Create a green strategy**

There is need to have workable and based in reality strategies.

- **Reduce the greening business consumption**

Observe what your business uses and wastes, such as energy, supplies and other materials.

- **Keep facilities and utilities in good shape.**

Fix things like faucets and toilets so that they will not be wasting water all day and night. Turn off all the lights and equipment at the end of the day to avoid wasting energy.

- **Re-use of materials**

Paper can be re-used or recycled or composted. Make recycling easy by placing a well-labelled recycling bin next to every trash can in the homestead compound and offices rather than just throwing stuff away

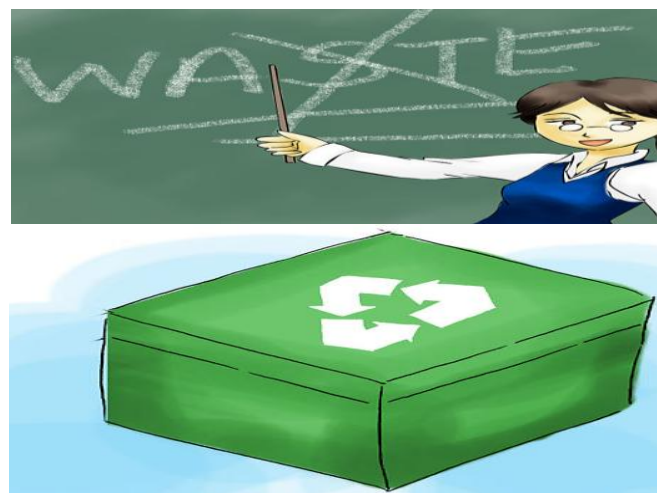


Plate1.1. No waste, re-cycle appropriately

Educate the community on the ways that they can recycle in your environment to help you become a green business. Some easy things to start recycling are paper, plastic and aluminium cans. Make sure people know where they can find the recycling bins and what goes in them.

- **Consider creating a committee for greening business**

Choose people already interested in this change along with those who have the power to implement changes (whether or not they're convinced yet). Ideas need to be tested in this environment, so even a few village practitioners can be useful. Meeting with the stakeholders and getting feedback from them often about green changes will enhance the greening business.

- **Keep Learning**

This reduce risk of environmental degradation which threaten the ecosystem services that allow environmental activities to function. As investors and partners become more knowledgeable about green strategies that improve the bottom line, climate-responsive business practices are becoming the norm. Demand for environmentally-friendly services and products continues to grow.

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