the katoomba group

Proceedings of the East & Southern Africa Katoomba Group Roundtable on Business and Ecosystems

25th July 2007

BACKGROUND

The world's ecosystems provide many critical services on which businesses and economies rely. Beverage manufacturers, water bottling companies and hydro-electric power companies depend on regular flows of water; timber companies rely on soil fertility; tourism is often based on nature's beauty, and insurance companies benefit from natural hazard protection provided by ecosystems, such as flood control.

Until recently, most enterprises had taken these services for granted. Business people expect that there will be sufficient clean water for operations; that raw materials will continue to flow in predictable patterns; that transport will not be unduly interrupted by extreme weather; and that workers will have healthy air to breathe. However, the most far-reaching ecological study ever undertaken by over 1,300 scientists around the world—*the Millennium Ecosystem Assessment*—found that 60 to 70 percent of these functions are being degraded faster than they can recover. [1]

Accordingly, there has been increasing awareness of ecosystem services and growing interest in mechanisms to pay for the maintenance of these services. The role of businesses in engaging with this work includes the potential of becoming both buyers and sellers of ecosystem services, which are deals focused on supporting the restoration and maintenance of ecosystem function on which businesses depend.

The Katoomba Group has been working on markets and payments for ecosystem services since 1999. It is an international working group composed of leading experts from businesses, research institutions, the financial world, and environmental NGOs dedicated to advancing markets for some of the ecosystem services – such as watershed protection, biodiversity habitat, and carbon storage.

Building on eight years of work, in February 2007, the East and Southern Africa Katoomba Group launched a survey to explore whether businesses in Uganda:

- are becoming aware of linkages between their core operations and critical ecosystem services on which they rely, and
- see a business case for investing in the restoration and maintenance of ecosystems for reliable and flows of ecosystem services.

The survey included Uganda-based beverage manufacturers; soft drinks bottling companies; breweries; district / municipal water companies, electricity distribution companies and exporters

[1] For more information, please see: Millennium Ecosystem Assessment Board. 2005. "Living Beyond Our Means: Natural Assets and Human Well-Being." Geneva, Switzerland: The United Nations Environment Program.

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of cut flowers. These companies were selected on the basis of their dependence on water for all or part of their business.

After the survey, *the East and Southern Africa Katoomba Group* held a roundtable on Business and Ecosystems on July 25th, 2007 in Kampala. The roundtable built on the discussions started by the survey and explored whether the companies would be willing to invest in the restoration and maintenance of these ecosystems.

Participating companies at the roundtable included beverage manufacturers; soft drinks bottling companies; breweries; district/municipal water companies, electricity distribution companies and exporters of cut flowers. These companies were selected on the basis of their dependence on water for all or part of their business.

Following are the proceedings of the roundtable and preliminary findings of the survey.

SESSION I: OPENING REMARKS

Alice Ruhweza (*East and Southern Africa Katoomba Group Coordinator*) welcomed the participants to the meeting and gave a brief overview of the East & Southern Africa Katoomba Group Private Sector Watershed Services Initiative.

Ms. Ruhweza noted that for most companies, water is an essential input – for both products and operations. Yet, sourcing reliable and clean flows of water are often an overlooked component of corporate strategy and operations. In response, the East and Southern Africa Katoomba Group has launched the *Private Sector Watershed Services Initiative* focused on a series of roundtables with businesses throughout the East and Southern Africa region to open up discussions about:

- how core business operations depend watershed services, and
- what elements of a business case exist for investing in reliable and flows of clean water, through payments for watershed services.

These roundtable discussions are preceded by preparatory one-on-one discussions with key corporate decision-makers guided by a short survey. (The survey questionnaire is attached as Annex 2.) Both the survey and roundtable are intended to raise awareness among corporate decision-makers about emerging water issues and the potential of payments for watershed services. Specifically, the roundtable is intended to explore emerging risks and opportunities associated with corporate engagement in payments for watershed services. The roundtable participants re mostly from businesses that are heavily dependent on water, as well as key water service providers and regulatory institutions; such as food and beverage companies; water bottling companies; breweries; Government Water Council Authorities; National Water and Sewerage Corporation; Power Companies; National Environment Management Authority; and

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Water Authorities. Flower Exporters were also be invited due to their reliance on water as well as impacts on water quality.

The East and Southern Africa Katoomba Group (E&SA KG) was launched in 2005 to address the key challenges in designing, implementing and scaling up markets and payments for ecosystem services (PES) in the region. The group does this by bringing together expertise at the country and regional level and providing a network of support for both existing and new PES projects. In addition, the E&SA KG undertakes a series of activities aimed at building foundations for information sharing, coordinated planning and implementation support that would enable a substantial scaling up of pro-poor PES. The group envisions that within 5 years, the institutional framework, enabling environment and technical/financial capacity related to PES will be in place to make significnat contributions to environmental and development goals across the region.

SESSION II: AN INTRODUCTION TO BUSINESSES AND ECOSYSTEMS

Byamukama Biryahwaho (*Nature Harness Initiatives*) highlighted the main reasons why businesses should invest in ecosystem services; the current trends around ecosystem services; and strategic risks and opportunities of these trends for businesses.

Why should businesses invest in Ecosystem services?

Watershed services are a fundamental component of both business and human life support systems, providing critical functions to companies and society. Yet most enterprises take watershed services for granted. However, this is beginning to change as a result of the *Millennium Ecosystem Assessment*—which found that 60 percent to 70 percent of ecosystems are being degraded faster than they can recover—many of which are interrelated with key watershed structure and function**.**

Mr. Byamukama stressed that the loss of ecosystem services can affect core business operations and present risks, such as potentially limiting operations as well as adversely affecting suppliers, customers and investors. Specifically, ecosystem service-related risks include[2]:

- *Operational risks* through increased scarcity and cost of raw materials (such as freshwater) and potentially higher insurance costs for natural disasters, such as flooding.

[2] Adopted from "Business and Ecosystems" – *Ecosystem Challenges and Business Implications*; - Issue Brief by World Resources Institute; World Business Council on Sustainable Development and IUCN (2007)

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- *Access to capital* as banks and insurance companies adopt more rigorous investment and lending policies mandating that businesses factor environmental issues into all aspects of decision-making.
- *Regulatory risks* through the emergence of new government policies—such as effluent taxes, pollution taxes and moratoria on activities (e.g., mining, pollution, etc.)

Mr. Byamukama also pointed out that even as risks emerge, businesses may find new sources of cost savings, or even revenues and strategic opportunities such as[3]:

-
- *New technologies and products* that will serve as substitutes that reduce degradation, restore ecosystems, or increase efficiency of ecosystem service use (e.g. water or energy efficiency products).
- *New markets***,** such as certified sustainable products.
- *New businesses*, such as eco-insurance.
- New revenue streams for currently unrealized assets, such as wetlands and non-timber forest products.

Mr. Byamukama told the companies about several steps they can pursue to prepare for these risks or take advantage of emerging opportunities, including[4]:

- *Assess impacts and dependence***:** Conduct a systematic review of impacts and dependence on ecosystem services, covering direct operations as well as those of suppliers and customers.
- *Assess the status of relevant ecosystem services and key trends***:** Consider the conditions of the ecosystems nationally and regionally as well as factors driving these trends, including other significant users of these services.
- *Explore and pursue new business opportunities***:** Use the assessment to identify, opportunities emerging in response to ecosystem changes, such as new technologies, markets, businesses and revenue streams.
- *Develop appropriate corporate strategy, policy and operational responses*, such as "avoid, minimize, mitigate and offset" to reduce impacts, as well as clear targets for improvement, that can be publicly reported on to garner positive public relations, and potentially enhance the brand.
- *Support government policies that align incentives with actions that sustain ecosystem services,* such as pro-payments for ecosystem services policies.

[3] ibid
[4] ibid

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SESSION III: REGULATORS PERSPECTIVES

Ronald Kaggwa (*National Environment Management Authority*) gave an overview of the regulatory framework for investing in ecosystem services. Mr. Kaggwa cited various provisions in the *National Environment Act* (NEA) which support the use of economic instruments such as the "polluter pays principle" and the "beneficiary pays" principle. He further noted that the law calls for NEMA to mobilise private sector resources to achieve environmental conservation and management objectives through creation of appropriate incentives and disincentives. The law also calls for creation and strengthening public-private sector partnership in ecosystem management through management contracts, joint ventures; concessions and production sharing agreements.

***What incentives and disincentives exist for businesses*?**

Mr. Kaggwa also informed the participants that the NEA provisions empower NEMA in consultation with the Ministry of Finance to recommend to the board and policy committee tax incentives to encourage good environmental behaviour; user fees to ensure that those who use environmental resources pay the proper value for utilisation; and tax disincentives for bad behaviour; to mention a few.

Mr. Kaggwa concluded by calling for businesses to recognise the true value of services provided by ecosystems—as well as the reliance of businesses on these services—and invest in their maintenance and restoration.

SESSION IV: OPPORTUNITIES AND INITIATIVES AT COMPANY LEVEL

Ms. Alice Ruhweza (*E&SA KG Coordinator*) opened this session by presenting the preliminary findings of the survey of prospective buyers of ecosystem services. The survey answered questions such as:

- What ecosystems companies depend on?
- What are the risks involved?
- How companies are managing the risks?
- What investments companies have made?
- What can be done to maintain the ecosystems?

The key findings are summarised below.

Identifying Key Ecosystem Services to Business Operations

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All companies surveyed named water as the resource most critical to their business. Most of businesses draw their water from Lake Victoria, with the exception of the district/municipal water companies which draw their water from underground through the use of boreholes. The flower exporters also own drilled licensed bore holes and have some small shallow wells which they use as back-up. Some companies also mentioned using water collection from rain water.

Water is used for a variety of activities including as an input for beverage manufacturing; running the turbines for the electricity company; watering the flowers; and domestic household activities.

Energy/Electricity was the second most critical resource and most of the companies surveyed depend, which is directly tied to water as much of the electricity generated is from hydro-power.

The electricity distribution company stated additional ecosystem services on which they reply in their operations, such as transmission line poles extracted from the forests.

Assessing the Status of Relevant Ecosystem Services and Key Trends

A few key areas of concern emerge from a rapid assessment of key ecosystem services on which the private sector firms surveyed rely, including:

(1) Water quality and quantity are both issues in areas where companies source water.

- ***Water quality:*** Lake Victoria is the source of water for most companies. However, water quality issues with the lake are rife, as it receives excessive nutrients and untreated effluent which have led to fish die-offs, algal blooms and the spread of water hyacinth (a waterweed). Although mostly eradicated now, the remnants of the water hyacinth on Lake Victoria deplete dissolved oxygen, sunlight and are an obstacle to water transport. Along the shoreline, hyacinth provides habitat for malaria mosquitoes and snails which harbour bilharzia parasites. Point sources and non-point sources such as deficient sewage and industrial wastewater plants, small-scale workshops, waste oil from parking lots and car repair garages are major sources of pollution load for the lake.

  The sewer system in Kampala serves only a small fraction of the city population and only 10% of all sewage generated in Kampala gets treated. Guesthouses, slum dwellings and industries discharging untreated wastewater in Nakivubo channel, which flows into Murchison Bay contribute lachrymal pollution load and depleted oxygen levels in Lake Victoria. An engineer from AWE recorded dissolved oxygen (DO) levels of less than 2 mg/liter in Murchison Bay yet most fish species die off at DO of 4 mg/liter[5]. Nakivubo

[5] *Why Lake Victoria pollution levels are rising*" by Air Water Earth (AWE)–Environmental Engineers and Project Management Consultants- http://www.awe-engineers.com/news1.html

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Channel carries approximately 75% of the nitrogen and 85% of phosphorus nutrient load discharged daily into Murchison Bay. The high nitrogen and phosphorous levels are responsible for excessive eutrophication and algal blooms seen in the Bay. Algal blooms clog water treatment plants and deoxygenate lake water causing fish die-offs.

Figure 1; The water-hyacinth that had choked most of Lake Victoria.

Source: Ashbindu Singh (2007); Africa's Lakes: Atlas of Our Changing Environment; (UNEP)

Uganda's *National Water & Sewerage Corporation (NWSC)* is experiencing rising treatment costs because lake water is dirtier and increasingly expensive to treat to potable quality. Ironically, NWSC's Sewage Treatment Plant at Bugolobi, which discharges 15,000 m3/day of inadequately treated sewage into Murchison Bay has been named as the single largest polluter of Lake Victoria[6].

- Nakivubo wetland and other major catchment wetlands, which used to play the vital role of tertiary purification of effluent and storm water discharging into the lake, have long been encroached and degraded by settlement and cultivation. Widespread lakeshore

[6] ibid

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cultivation and soil erosion also contribute excessive sediment and nutrients into the lake. Storm water flowing in Nakivubo Channel now carries along tones of soil straight into the lake. [7]

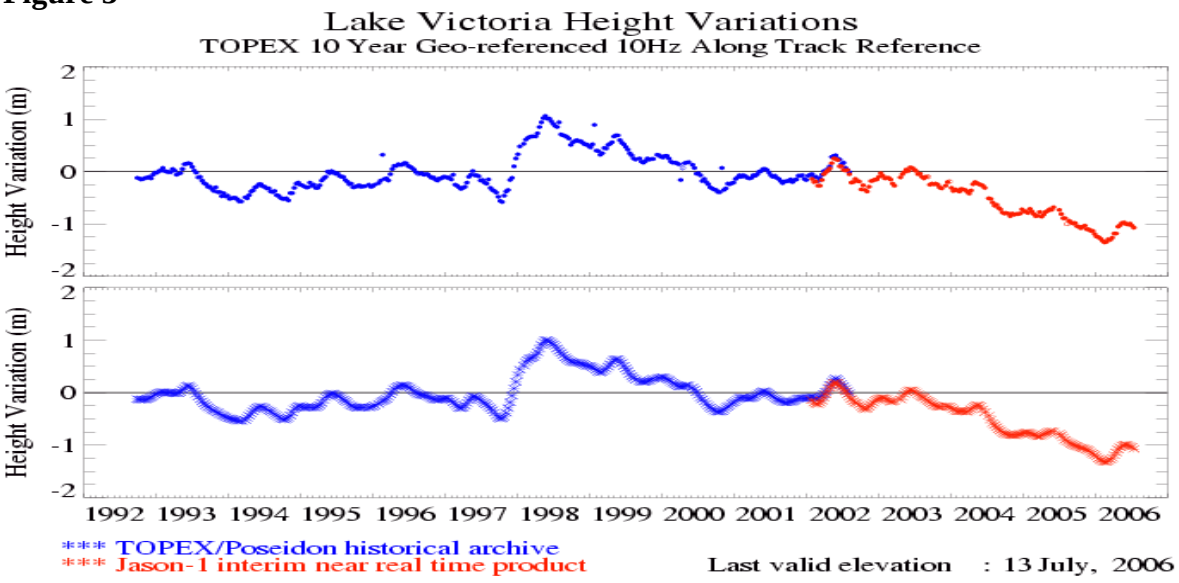
- ***Water quantity:*** The water levels of Lake Victoria have been going down *(see figure 1 below)*

Figure 2. Lake Victoria levels from 1910- 2000

Source: http://earthobservatory.nasa.gov/Study/Victoria/

In 1961 and 1962, for example, heavy rain drove water levels up by about 2 meters. Since that time, levels above the gauge in Jinja, Uganda, stayed above 11.9 meters (about 1,134 meters above sea level) until December 2005. Since 2005, water levels dropped to alarmingly low levels as shown below. [8]

Figure 3



Source: Ashbindu Singh (2007); Africa's Lakes: Atlas of Our Changing Environment; (UNEP)

[7] ibid
[8] This dramatic drop in water levels at Lake Victoria was revealed during routine monitoring conducted by the Global Reservoir and Lake Monitor Project, a partnership between NASA and the U.S. Department of Agriculture (USDA) – For more details see http://earthobservatory.nasa.gov/Study/Victoria/

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(2) Energy / hydropower challenges linked to water quantity issues

The falling water levels in the lake, which act as a reservoir, have resulted into reduced water available for generation. This situation is becoming an issue for businesses as diesel-generated power is expensive and electricity tariffs have increased recently. Further compounding expenses, the severe power outages last year resulted in business disruptions. For example, a failure of cut flower exporters to meet export volumes required by customers in time. As a result the overall revenue from flower exports in Uganda dropped from US$ 24 million to US$ 20 million in 2006.[9]

(3) Water quantity and climate change

All the companies cited climate change as a big threat. The flower exporters and the district water supplier raised concerns about the canals drying up during recent periods of prolonged drought which are becoming more frequent. Companies also expect water stress due to climate change. The electricity distribution companies were concerned that less water will be available for power generation. Already, some companies require water use permits from the Directorate of Water Development which now have even more strict approval conditions to use water. These climate change-related concerns can be further compounded environmental degradation as rainfall results in deluges with sediment running into the lake, rather than more even flows of clear water.

(4) Timber, to needed specifications, also in short supply

Good electricity poles are also in short supply in Uganda. Therefore, at present, most poles are imported from South Africa, which is costly. Imported electric poles cost Uganda shillings 1,200,000 (approximately US$ 750) each.[10] Recently, the Parliamentary Committee on Natural Resources raised concerns about these costs and asked Uganda Electricity Distribution Company (UEDCL) to find a solution. Furthermore, due to land shortage from high population growth, no land will be allocated for growth of poles and the shortage will continue. Eucalyptus poles have high nutrient and water demand and are not a sustainable option. PES approaches that could rectify this situation need to be explored. For example, a group of land owners could be given an incentive to plant fast growing native trees.

Understanding Corporate Responses and Strategies to Deal with Ecosystem Changes:

[9] *Uganda Bureau of Statistics 2006 Export figures*
[10] "*UMEME Grilled over imported poles";* Reported in the New Vision newspaper; Monday August 6th, 2007

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Most of the companies surveyed have made investments to respond to ecosystem changes. For example:

- **Beverage manufacturers** have:
  - built water reservoirs on their plants which store water for up to two days,
  - recycle 80% of the water that they use, and
  - maintain water treatment plants and waste treatment plants.
- **Flower companies** have supplemented the water shortages by:
  - drilling of bore holes,
  - constructing water collection reservoirs for rain water harvesting, and
  - planting trees.
- **The district water system** is:
  - advising communities to form water user committees to be proactive in address soil erosion threats by:
    - planting grass, and
    - digging terraces in gardens.

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East African Breweries and Coca Cola also said they have an environmental policy to address environmental issues related to their companies. For example, some of the companies have *Safety, Health and Environment Policies* in which employees are trained. However, implementation of some of the issues is costly, so the companies have not achieved all the requirements in existing policies.

In addition, most companies are engaged in some or all of the following activities:

- **promoting sound water resource management** and sustainable service delivery in the areas where they operate;
- **ensuring access** to constant and dependable water supply;
- **enhancing protection of the environment** particularly for women, children and other vulnerable community members who are recovering from years of displacement due to the war in Northern Uganda;
- **assisting communities to harvest rainwater** by training them and constructing water tanks, which is aimed at easing the burden of fetching water for the rural women in an area that already receives a lot of rainfall but has no technology for utilising the water adequately, and
- **launching community tree planting** initiatives.

Exploring Corporate Strategy Looking Forward:

- **Beverage Industry:**

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- Many of the beverage manufacturers plan to minimise water usage by modifying technology, such as by using machines that minimise the use of water and other resources.

- **Electricity sector:**
  - The sector has not yet articulated a strategy yet to deal with various environmental service shortages, especially related to water.
    - Currently the water release policy in the hydro power stations is controlled by Directorate of Water Development (DWD). The companies are abiding by this and other policies such as the Agreed Curve. DWD also continuously monitors the water quality.
  - The Ministry of Energy is promoting other sustainable alternative sources of energy such as:
    - mini-hydropower generation on small rivers,
    - solar power,
    - wind power,
    - biomass energy, and
    - biogas.
  - All of these options need to be rigorously assessed in terms of environmental services status and trends.

As the demand for water access and quality in the districts continues to grow, the National Water and Sewerage Corporation (NWSC) is working out avenues of extending the current urban water lines in Kampala to the outskirts and rural areas. They have already laid the pipes underground and are in the process of constructing water reservoirs in several areas.

Mukono district also promotes water conservation by showing water committees how to maintain and reserve the existing water recourses by carrying out environmentally friendly agricultural practices and staying away from the "no encroachment zone" This is difficult since most of the people that encroach are farmers who need to grow crops for food security. There might be a potential for PWA whereby farmers could be given an incentive to change their farming methods. This would need to be explored further.

All companies said it was critical for natural resources management to be integrated in the company strategies. This would enable market-based mechanisms to be part of the company programs. For example water, which is a critical natural resource for every company, should be paid for (the current tariffs are very low). However, it would take a while to change the mindset of water users, many of whom assert that natural resources are free and should not be paid for.

DISCUSSION

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The regulators noted that the issue of water shortage and climate change has been widely discussed in the media – yet corporations, and indeed the largest users of water have been very silent.

The companies agreed that they had not been vocal about the water issues but they also said that they had various initiatives on site to cater for the shortages and quality issues. Some companies had met their targets of reduced water per litre of product and had introduced stiff penalties for water misuse. For example Uganda Breweries and Coca Cola also cited Safety, Health and Environmental (SHE) initiatives that they have on their sites. In fact, Coca Cola revealed that they were spending millions of money on water quality testing by sending the samples abroad. Others had invested millions of dollars in water treatment plants.

However, there were some companies that had never carried out an analysis on how much water they use and they admitted that they had not done much thinking ahead on the issue. They however appreciated that the roundtable had been a great learning experience and they would go back and take a serious look at their operations.

The regulators also noted that they were not aware of all the SHE investments at company level – and called for better information sharing. In particular, the regulators asked the companies to invest in sharing "best practice" with companies that have not yet invested in similar initiatives. They cited the *NEMA Quarterly Newsletter* and the *East and Southern Africa Katoomba Group e-newsletter* as examples where such information can be published and sent out to a wider audience

Regulators further noted that none of the investments cited by the companies were directly involved in ecosystem maintenance and restoration. In fact, one of the participants wondered why the wage bill of the companies is much higher than what they spend on water, yet water is their most important input.

The companies appreciated this input and agreed that there is an urgent need to invest in ecosystem restoration and maintenance. They expressed interest in guidelines for action in terms of assessing the costs and benefits of such ecosystem service investments through payments for watershed services.

Finally, it was noted that the companies felt that regulators were not doing enough monitoring and they called for better and continuous monitoring and incentives and recognition for good practice.

CONCLUSION & NEXT STEPS

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The Payment for Watershed services (PWS) concept – is not yet fully incorporated into the present models of water management in Uganda. Based on the survey and roundtable discussions, payments for watershed services would constitute a general shift in company policy. Until now, the companies have emphasised on-site investments to cater for future water shortages and to ensure water quality. PWS would represent a shift towards the protection and maintenance of ecosystems that provide the water that they use and ideally an eventual recovery of costs.

For a payment scheme to succeed and endure, the actions and change brought about by upstream land and water managers would have to result in identifiable benefits for downstream water users. Therefore, clear cause-and-effect relationships between upstream land and water use practices and the provision of watershed services for downstream users need to be identified. The degree to which this is possible varies considerably from case to case, but is an essential component of making the business case
.
A key policy question of how competing users should pay for the services of one watershed may arise. Who uses it more? A decision based only on willingness-to-pay may be controversial because it can lead to the exclusion of those who have less ability to pay; or free riders who enjoy the benefits of the watershed without paying for any of them. There is therefore need for more site specific analysis in order to determine whether a particular site is feasible for PWS.

Specifically, proposed next steps include:

Phase 1:
Exploring the potential for—and returns on return on investment related to—payments for watershed services in key areas of Uganda relevant to business, which would include identifying and locating specific areas within targeted watersheds that contribute the most to the water problem (such as water shortages or poor water quality). These studies would also indicate where and how land use changes must be introduced in order to reduce and eventually eradicate the sources of such problem.

Phase 2:
Designing a pilot payment for watershed services for private sector investment.
Based on Phase I findings, a pilot test of changed watershed management practices can be designed for private sector investment and collaborative implementation and study. Such a pilot would include a cooperation agreement (or memorandum of understanding) between watershed upland service providers and downstream service users the company/businesses); whereby the upland providers would agree to carry out certain activities to ensure water quantity and quality in return for an agreed amount of money or form of compensation. Monitoring and verification can be undertaken by a third party.

Phase 3:

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Implementing a pilot payment for watershed services project (or portfolio of projects) and assessing results, including return on investment (ROI).

The last stage would be implementation of the agreement for an agreed period of time (with continuous monitoring) that would enable private sector partners to assess if payments for watershed services offers improved reliability of water quantity, quality and/or cost savings.

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ANNEX 1. – AGENDA FOR THE ROUNDTABLE ON BUSINESS & ECOSYSTEMS

TIME	ACTIVITY	RESOURCE PERSON
Chairperson(s) : ALICE RUHWEZA, *East and Southern Africa Katoomba Group Network Coordinator*		
9.30am – 10.00am	Arrival and Registration	All
10.00am – 10.15am	Introductions	All
10.15am – 10.30am	**Welcome Remarks** o Overview of meeting objectives/agenda o Brief on the East and Southern Africa Katoomba Group	Alice Ruhweza *East & Southern Africa Katoomba Group*
10.30am – 10.50am	**An Introduction to Businesses and Ecosystems Services** - Why should businesses invest in ecosystem services? - What are the current trends around ecosystem services? - What are strategic risks and opportunities of these trends for businesses?	Alice Ruhweza, *East & Southern Africa Katoomba Group* Byamukama Biryahwaho, *Nature Harness Initiatives*
10.50am – 11.15am	**Discussion**	All
11.15am – 11.30am	**TEA/COFFEE BREAK**	
11.30am – 12.15pm	**Opportunities and Initiatives at company level** - What ecosystems does your company depend on? - What are the risks involved? - How is your company managing the risks? - What investments have you made? - What can be done to maintain the ecosystems? How? By who?	Each company representative to speak and then open discussion
12.15pm – 12.30pm	GENERAL DISCUSSION	All
12.30pm – 12.45pm	**Regulators Perspectives** - What role should businesses play in	Ronald Kaggwa NEMA

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TIME	ACTIVITY	RESOURCE PERSON
	investing in ecosystems - What does the law say? - What incentives or disincentives exist?	
12.45pm – 1.30pm	**General discussion** **Next steps** **Closing remarks**	All
1.30pm - 2.30pm	**LUNCH**	
	End of Meeting	

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ANNEX 2 – SURVEY QUESTIONNAIRE

SEMI-STRUCTURED INTERVIEW GUIDE

- Your company's interface points with the environment
- Current corporate approach to natural resource use
- Corporate strategy – looking forward
- Broader trends anticipated

Company's interface points with the environment:

- Tell me about how your company interfaces with the environment
    i. What resources do you rely on, as critical to the business?
    ii. What resources are indirectly important to the business?
    Ask for details related to why, how, and where.

- What is the current status of those resources, particularly in Uganda?
    i. Do you have any concerns about the availability of these resources over time?
        1. If yes – what?
        2. If no – move to next question.

- What is the anticipated future status of those resources on a 2, 5 or 10 year time frame?

- How does your business think about corporate environmental strategy in light of this anticipated future?

- Specifically, how does your company think about freshwater availability look forward? What is the prognosis for future water availability?
    i. *If concerns stated, then:* how are you planning to address these challenges?
    ii. *If no concerns, then move to next question*

Current corporate approach to water:

- How much water does your organization use per year?

- Who supplies this water?
    i. Is it one supplier or are there various suppliers on the chain?

- How much do you pay for the water (indicate rate and volume)?
    i. Is that a stable price or annually fluctuating?

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ii. Is the structure problematic or OK?

- Do you experience any water supply shortages?
  i. If yes, what is the cause?
  ii. If no, do you anticipate any in the future?

- Do you experience problems with water quality?
  i. If yes, what is the cause?
  ii. If no, do you anticipate any in the future?

Current Investments

- Does your organisation pay or contribute money or other resources to institutions or individuals in any way to ensure that:
  i. the amount of water received is maintained;
  ii. the quality of water is maintained;
  iii. the water volume is maintained;
  iv. the loss in water quality is compensated;
- If yes,
  i. What are the terms of payment?
  ii. Which institutions are paid?
- If no,
  i. What other investment programs and/or philanthropic programs do you have?
  ii. What drives decisions to invest in other natural resource programs?

Corporate strategy – looking forward:

- When you look forward, what is the corporate strategy vis a vis natural resources in general and water in particular?

- How is that strategy being implemented?

- What are you interested in doing/implementing that has proven difficult to date? (Why? How?)

Other

- Is there anything that I haven't asked that would be useful for me to know or that you want to tell me?
- Is there anything else that you want to add?
- Do you have any questions for me?

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