Urban Mining, Challenges and Opportunities for Africa

Synergies between E-waste Recycling and Mining of Mineral Resources

UNITED NATIONS ECONOMIC COMMISSION FOR AFRICA

Eighth African Development Forum (ADF-VIII)


Organized by World Resources Forum,
supported by Empa and Hewlett-Packard (HP)
The World Resources Forum (WRF) is the global science-based platform for sharing knowledge about the economic, political, social and environmental implications of global resource use. WRF promotes innovation for resource productivity by building bridges among researchers, policymakers, businesses, SMEs, NGOs and the public. Flagship activity is the annual WRF Conference.

This report is based on the workshop “Urban Mining, Opportunities and Challenges for Africa”, held at the pre-ADF (VIII African Development Forum) workshop on October 22nd 2012 in Addis Ababa, Ethiopia.

The workshop was organized by the World Resources Forum (WRF) and supported by Empa, an interdisciplinary research and services institution for material sciences and technology as well as by Hewlett-Packard (HP), the world’s largest technology company for solutions in printing, personal computing, software, services and IT infrastructure.

We all would like to express our gratitude to all persons involved and participants listed in Appendix 4.

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As a result of the ADF pre-event on “Urban Mining, Challenges and Opportunities for Africa”, African countries were encouraged to take action in supporting the development and enforcement of integrated resource policies and legislation for primary and urban mining (in particular e-waste). The ADF recommends promoting synergies between primary and urban mining where appropriate, as a means to spur socio-economic development and facilitate market access for the resulting commodities.

1. African Development Forum

The ADF is the biennial flagship event of the Economic Commission for Africa (ECA) and was launched back in 1999. It is a multi-stakeholder platform for debating, discussing and initiating concrete strategies for Africa's development. The ADF is convened in collaboration with the African Union Commission (AUC), African Development Bank (ADB) and other key partners to establish an African-driven development agenda that reflects consensus and leads to specific programmes for implementation. The aim of ADF is to present the results of current research and opinions on key development issues to the key stakeholders in Africa’s development in order to formulate shared goals, priorities and programmes, and define the environment that will enable African countries to implement these programmes.

The Forum brings together a large number of participants including Heads of State and Government, African member State policymakers, development partners, other United Nations agencies, intergovernmental and non-governmental organizations (IGOs/NGOs), academia, practitioners, civil society organizations (CSOs), the private sector, eminent policy and opinion leaders and other concerned stakeholders. The Forum includes plenary and high-level parallel panel sessions as well as side-events featuring keynote/lead speakers and presenters, media representatives and other participants. (uneca.org)
2. The Issue

The term "urban mining" is the process to recover the compounds and materials from products and buildings which have reached their end of life. The concept is often referred to as recycling of waste. Urban mining as such is an alternative to the extraction of resources from geological deposits ("primary mining") for the production of goods and infrastructure.

2. Dumped electronic waste.

3. Importance of the Topic in the Region

Africa is endowed with large deposits of mineral resources, including significant reserves of bauxite, chromite, diamonds, cobalt and platinum-group metals. With recent production start-ups of several mines in many African States, the continent continues to play a leading role in the global production of mineral resources. Indeed, mineral resources contribute significantly to merchandise exports in almost half of the 54 African countries.

African countries are not only primary suppliers of such materials. Secondary materials are accumulating in large amounts as waste especially in urban settlements. These "urban mines" contain significant amounts of valuable resources, including non-renewable resources. A very interesting case of urban mines are the so-called short-term urban mines of obsolete consumer products, such as electrical and electronic equipment (EEE). Volumes of waste EEE (WEEE), or e-waste for short, will increase in the future due to higher penetration of consumer goods particularly in emerging markets and the intense trade of second-hand products to Africa. In combination with the current high primary commodity prices and comparatively low labour costs, recovery and international trade in secondary materials from urban mines in Africa will continue to increase in the coming years. Related economic opportunities are already seized through local recycling in various African countries, however often in informal settings at high social and environmental costs and at low material recovery efficiency rates.

Hence, Africa faces the challenge to implement efficient and sustainable recovery systems for secondary materials from e-waste as a new market and job creation opportunity. This requires functioning 'reverse supply chains' with adequate capabilities for recycling and refining as well as sufficient control over their material quality and the environmental and social impacts of the related processes.
3. Manual e-waste dismantling, Cape Town, South Africa

These challenges were recognized by African countries and the international community a few years ago and have since been addressed in various attempts to drive solutions forward in coordinated actions. Examples are the "Nairobi Declaration on e-Waste", which was adopted at the eighth meeting of the Conference of the Parties (COP8) to the Basel Convention on the "Control of Transboundary Movements of Hazardous Wastes" in 2006, the "Durban Declaration on E-waste Management in Africa" from 2008, the "Abuja Platform on E-waste" in 2009, as well as the "Call for Action on e-Waste in Africa", which was adopted at the "Pan African Forum" on e-waste in Nairobi in 2012. All of these documents were instrumental in moving forward the e-waste topic in national political agendas and paved grounds for first solutions, which are shaping in some African countries such as Ghana, Kenya, Nigeria, South Africa and Tanzania. However, direct links and synergies to the primary mining sector were neither established nor integrated into strategic plans so far.

4. The Workshop

The workshop “Urban Mining, Opportunities and Challenges for Africa” was attended by 40 participants from Belgium, Egypt, Ethiopia, France, Ghana, Ireland, Kenya, Mauritania, Morocco, Nigeria, Poland, Rwanda, Switzerland, Uganda, UK, Zambia and Zimbabwe. The attendees were representatives of the electronic industry,
governmental and environmental agencies, international organizations, recycling companies and NGOs.

The workshop was chaired by electronic industry representative, Hervé Guilcher, Environmental Director HP EMEA and moderated by Daniel Ott, Project Manager at Empa.

The gathering aimed at discussing issues related to the sustainable management of urban mines, with a focus on synergies between the primary mining industry and opportunities given by secondary materials from e-waste. The meeting was divided into two parts. During the first part (introduction and key note presentations) the two main areas policies and standards for primary and urban mining were explored by a number of experts in the field.

5. Daniel Ott, Empa

5. The Speakers and their Statements

During the workshop, the following persons gave their presentations:

- Betty Nzioka (Kenya), Feedback from Pan-African Forum "Call for Action" & AMCEN-14,
- Ngeri Benebo (Nigeria), Policy development for e-waste recycling in Nigeria,
- Benjamin Langwen (Kenya), Policy development for e-waste recycling in Kenya,
- Ihuoma Ekeh (Nigeria) National policies for mineral resources in Africa – example Nigeria
- Pascal Leroy (European WEEE Forum), The Importance of Standards in Electronic Waste Management,
- Jean Cox-Kearns (Dell), Extended Producer Responsibility (EPR) in the context of Africa,

The following issues were raised and highlighted in the presentations and highlighted:
• important synergies between primary and urban mining in the areas policy, standards and infrastructure;
• the recognition of urban mining as an opportunity and the need to put in place regulatory and institutional frameworks;
• the necessity of setting and monitoring technical standards for e-waste recycling;
• the need to build partnerships between producers, recyclers, consumers, government and academia;
• the need for capacity building and the exploration of a regional framework for e-waste policies, standards and infrastructure.

6. Dr. Ngeri Benebo, NESREA

The second part of the workshop was the panel debate. This part was highly interactive, the participants were taking part in the dialogue, asking questions and discussing with the experts. There were interesting interventions and different points of view about the opportunities that urban mining can offer. Still, there was a common agreement that each country should find its own model, while exploring a regional solution.

6. Recommendations from the Workshop

The participants agreed upon a set of ADF-VIII Recommendations on “Urban Mining” which were summarized in the following statements

We, the participants of the Eighth African Development Forum (ADF-VIII) pre-event “Urban Mining, Challenges and Opportunities for Africa – Synergies between e-waste recycling and mining of mineral resources”, held in Addis Ababa, Ethiopia on October 22, 2012

*are aware* that Africa is endowed with large deposits of mineral resources (in so called “primary mines”);
*recognise* that Africa is also increasingly accumulating mineral resources in end-of-life products, such as waste electrical and electronic equipment (e-waste) (in so called “urban mines”);
*also recognise* that urban mining offers opportunities to create jobs, alleviate poverty and lower health and environmental impacts;
*are concerned* that mineral resources from urban mines are recovered only partially at low material recovery rates and often at high social and environmental costs.
Noting that African countries do not have integrated resource policies for primary and urban mining to foster the sustainable use of resources, we welcome the Call for Action on e-Waste in Africa outcome statement of the Pan-Africa Forum on e-Waste (Nairobi, 14-16 March 2012) and the AMCEN-14 Decision on e-Waste of the African Ministerial Conference on the Environment (Arusha, 10-14 September 2012); also welcome the collaboration established by UN organizations, Governments, the private sector, non-governmental organizations and academia to address the issue of urban mining in Africa.

Considering the forgoing, we recommend to articulate actions around the following three important pillars:

1. Develop and enforce, through active stakeholder involvement, integrated resource policies in Africa for primary and urban mining to foster sustainable resource extraction and recovery;
2. Develop and promote tailor-made standards to address the environmental and social issues and ensure a level playing field in both, primary and urban mining;
3. Enable the development of necessary infrastructure for primary and urban mining in Africa encourage synergies between these two sectors where appropriate and facilitate access to global markets for the commodities resulting from primary and urban mining.

The above actions should be driven at both national and regional level to enable harmonized and efficient solutions for Africa.

7. Final VIII ADF Consensus Statement

As a result of the workshop, the following statement on Urban Mining was suggested:

“The ADF encouraged African countries to take appropriate action, at both the national and regional levels, to support of the development and enforcement of integrated resource policies and legislation for primary and urban mining (in particular e-waste) to foster sustainable resource extraction and recovery, the development and promotion of tailor-made standards to ensure a level playing field, and the development of necessary infrastructure. The ADF also encouraged synergies between primary and urban mining where appropriate, as a means to spur socio-economic development, and facilitate market access for the resulting commodities.”

Accordingly, the following inset was included in the VIII ADF Final Consensus Statement:

Recommendations:

4. In seeking to imbue mining activities in Africa with a much greater developmental role, African countries should:

   (a) Undertake all-round domestic policy reforms in the mining and other sectors to:
anchor the minerals sector in a broad development vision; better align mineral, industrial and trade policies; institutionalize inter-departmental collaboration within the governmental system;

(... and give attention to urban mining for the purpose of recycling extractable precious and base metals from e-waste;

7. Workshop participants

8. Next Steps

The **World Resources Forum (WRF)** is increasingly taking these issues into account in its deliberations, already last year in the WRF 2011 Conference, held in Davos, Switzerland, 21-23 September 2011. The topic was also discussed most recently during WRF 2012, held in Beijing, China, 21-23 October 2012. This workshop at the ADF will help to identify issues to focus on in the future, in particular for the preparations of the next WRF Conference, to be held in Davos, October 6-9, 2013.

9. References and Further Reading

[www.worldresourcesforum.org](http://www.worldresourcesforum.org)
[www.uneca.org](http://www.uneca.org)
[www.ewasteguide.info](http://www.ewasteguide.info)
Appendix 1. Programme of Work

UNITED NATIONS
ECONOMIC COMMISSION FOR AFRICA

Eighth African Development Forum (ADF-VIII)
GENERAL

ECA/ADF/8/Inf.3XXXX

Addis Ababa, Ethiopia
23-25 October 2012
ENGLISH

Draft Programme of Work

Urban Mining, Challenges and Opportunities for Africa

“Synergies between e-waste recycling and mining of mineral resources”
(22nd October 2012 – 9:30)

Organised by World Resources Forum, supported by Empa and Hewlett-Packard (HP)
## Agenda

### Introduction and key note presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker/Institution</th>
</tr>
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<tbody>
<tr>
<td>09:30</td>
<td>Introduction into the topic</td>
<td>Herve Guilcher (HP)</td>
</tr>
<tr>
<td>09:45</td>
<td>Feedback from Pan-African Forum “Call for Action” &amp; AMCEN-14</td>
<td>Betty Nzioka (Kenya)</td>
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<td>09:45</td>
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<tr>
<td>10:00</td>
<td>Policy development for e-waste recycling in Nigeria</td>
<td>Ngeri Benebo (Nigeria)</td>
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<tr>
<td>10:15</td>
<td>Policy development for e-waste recycling in Kenya</td>
<td>Benjamin Langwen (Kenya)</td>
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<td>10:00</td>
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<td>10:15</td>
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<tr>
<td>11:00</td>
<td>National policies for mineral resources in Africa – example Nigeria</td>
<td>Ihuoma Ekeh (Nigeria)</td>
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<tr>
<td>11:15</td>
<td>The Importance of Standards in Electronic Waste Management</td>
<td>Pascal Leroy (European WEEE Forum)</td>
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<td>11:30</td>
<td>Extended Producer Responsibility (EPR) in the context of Africa</td>
<td>Jean Cox-Kearns (Dell)</td>
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<tr>
<td>11:45</td>
<td>E-waste recycling under the Basel Convention: new developments</td>
<td>Katharina Kummer Peiry (IETC / UNEP)</td>
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<td>12:00</td>
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### Coffee Break

### Workshop / Panel

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<th>Speaker/Institution</th>
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<tr>
<td>13:45</td>
<td>Summary of main statements from the keynotes Introduction into the workshop / panel</td>
<td>Daniel Ott (Empa), Oladele Osibanjo (BCCC)</td>
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<tr>
<td>14:00</td>
<td>Leading questions on <strong>Policy, Standards and Infrastructural Issues:</strong></td>
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<tr>
<td>14:00</td>
<td>- Are national and multilateral policies in support of (i) the sustainable primary resource extraction and refining, and (ii) the sustainable recovery from urban mines?</td>
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</tbody>
</table>
- Would integrated resource policies for primary and urban mining be in support of a more sustainable use of resources?
- Do the current responsibility programmes work in the primary mining sector?
- Is it possible to extend the “conflict” attributes (e.g. “conflict free gold”) from these responsibility programmes to sustainability attributes (e.g. “gold from environmentally sound e-waste recycling”)?
- Could this then be extended to standards setting for urban mining?
- Can the current infrastructure for primary resource extraction and refining in Africa be utilized for urban mining?
- What technology knowhow and physical infrastructure needs to be developed specifically for urban mining, i.e. where is it more appropriate to partner with the global industry?

(incl. 30 minutes Coffee Break)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>16:00 – 16:30</td>
<td>Closing remarks (summary / outlook)</td>
<td>Herve Guilcher and Oladele Osibanjo</td>
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</tbody>
</table>
## Appendix 2. List of participants

### Participants ADF pre-event on Urban Mining

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Institution</th>
<th>Country</th>
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<tbody>
<tr>
<td>1</td>
<td>Pascal Leroy</td>
<td>WEEE Forum</td>
<td>Belgium</td>
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<tr>
<td>2</td>
<td>Adel Shafei Osman</td>
<td>Ministry of Environment</td>
<td>Egypt</td>
</tr>
<tr>
<td>3</td>
<td>Samson Haileyesus</td>
<td>Subsaharan Informer</td>
<td>Ethiopia</td>
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<td>4</td>
<td>Yishak Amare</td>
<td>Ministry of Communication and IT</td>
<td>Ethiopia</td>
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<td>5</td>
<td>Wondwossen Tadesse</td>
<td>Environmental Protection Authority</td>
<td>Ethiopia</td>
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<td>6</td>
<td>Angele Luh</td>
<td>UNEP</td>
<td>Ethiopia</td>
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<td>7</td>
<td>Tadesse Amera</td>
<td>PAN-Ethiopia</td>
<td>Ethiopia</td>
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<td>8</td>
<td>Mesfin Makonnen</td>
<td>HP</td>
<td>Ethiopia</td>
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<tr>
<td>9</td>
<td>Hervé Guilcher</td>
<td>HP</td>
<td>France</td>
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<td>10</td>
<td>Kenneth Nana Amoateng</td>
<td>Abibimman Foundation</td>
<td>Ghana</td>
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<tr>
<td>11</td>
<td>Jean Cox-Kearns</td>
<td>Dell</td>
<td>Ireland</td>
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<td>Betty Nzioka</td>
<td>NEMA</td>
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<td>13</td>
<td>Vicky Onderi</td>
<td>NEMA</td>
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<td>14</td>
<td>Karim Hirsi</td>
<td>Dell</td>
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<td>Patrick Mwesigye</td>
<td>UNEP</td>
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<td>Mohamed Abdel Monem</td>
<td>UNEP</td>
<td>Kenya</td>
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<td>17</td>
<td>Trio Karivici</td>
<td>Pan African Climate Justice Alliance (PACJA)</td>
<td>Kenya</td>
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<td>18</td>
<td>K.M. Rwiza</td>
<td>Regional Center for Mapping of Resources for Development (RCMRD)</td>
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<tr>
<td>19</td>
<td>Benjamin Langwen</td>
<td>NEMA</td>
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<td>Ba Aliou Coulibaly</td>
<td>PWYP</td>
<td>Mauritania</td>
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<tr>
<td>21</td>
<td>Marieme Bekaye</td>
<td>UNECA - Subregional Office for Northern Africa</td>
<td>Morocco</td>
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<td>22</td>
<td>Ihuoma Ekeh</td>
<td>MSD</td>
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<td>Nengi J Taiwo</td>
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<td>Tessy Ugo Mabu</td>
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<td>Samson Samuel Ogallah</td>
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<td>Djeri-Alassani Bougonou</td>
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<td>Oladele Osibanjo</td>
<td>BCCC - Africa</td>
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<td>Marcela Mogilska</td>
<td>World Resources Forum</td>
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<td>Yohannes Hailu</td>
<td>UNECA - Subregional Office for Eastern Africa</td>
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<td>Daya Bragante</td>
<td>UNECA - Subregional Office for Eastern Africa</td>
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<td>32</td>
<td>Charles Gahire</td>
<td>Rwanda Climate Change Network (PACJA)</td>
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<td>33</td>
<td>Katharina Kummer Peiry</td>
<td>Kummer Ecoconsult / UNEP / IETC</td>
<td>Switzerland</td>
</tr>
<tr>
<td>34</td>
<td>Daniel Ott</td>
<td>Federal Institute for Materials Science &amp; Technology (EMPA)</td>
<td>Switzerland</td>
</tr>
<tr>
<td>35</td>
<td>Monday Kintu</td>
<td>Deputy Resident City Commissioner</td>
<td>Uganda</td>
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<tr>
<td>36</td>
<td>Roberto Truscott</td>
<td>Reclaimed Appliances</td>
<td>UK</td>
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<tr>
<td>37</td>
<td>James Mulolo</td>
<td>Zambia Environmental Management Agency</td>
<td>Zambia</td>
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<td>Johannes Chigwada</td>
<td>Pan African Climate Justice Alliance (PACJA)</td>
<td>Zimbabwe</td>
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<tr>
<td>39</td>
<td>Strike Mkandla</td>
<td>APARI</td>
<td>Zimbabwe</td>
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CONCEPT NOTE

Urban Mining, Challenges and Opportunities for Africa

"Synergies between e-waste recycling and mining of mineral resources" (22nd October 2012 – 9:30)

Organised by World Resources Forum, supported by Empa and Hewlett-Packard (HP)
Introduction

“Urban mining” is the process to recover the compounds and materials from products which have reached their end of life. The concept is often referred to as recycling of waste. As such urban mining is an alternative to the extraction of resources from geological deposits (“primary mining”) for the production of goods and infrastructure. Africa is endowed with large deposits of mineral resources, including significant reserves of bauxite, chromite, diamonds, cobalt and platinum-group metals. With recent production start-ups of several mines in many African States, the continent continues to play a leading role in the global production of mineral resources. Indeed, mineral resources contribute significantly to merchandise exports in almost half of the 54 African countries [2].

African countries are however not only primary suppliers of such materials. Secondary materials are accumulating in large amounts as waste especially in urban settlements. These “urban mines” contain significant amounts of valuable resources, including non-renewable resources. A very interesting case of urban mines are the so-called short-term urban mines of obsolete consumer products, such as electrical and electronic equipment (EEE). Volumes of waste EEE (WEEE), or e-waste for short, will increase in the future due to higher penetration of consumer goods particularly in emerging markets and the intense trade of second-hand products to Africa. In combination with the current high primary commodity prices and comparatively low labour costs, recovery and international trade in secondary materials from urban mines in Africa will continue to increase in the coming years. Related economic opportunities are already seized through local recycling in various African countries, however often in informal settings at high social and environmental costs and at low material recovery efficiency rates.

Hence Africa faces the challenge to implement efficient and sustainable recovery systems for secondary materials from e-waste as a new market and job creation opportunity. This requires functioning 'reverse supply chains' with adequate capabilities for recycling and refining as well as sufficient control over their material quality and the environmental and social impacts of the related processes.

These challenges are recognized by African countries and the international community since a few years and were addressed in various attempts to drive solutions forward in coordinated actions. Examples are the "Nairobi Declaration on e-Waste", which was adopted at the eighth meeting of the Conference of the Parties (COP8) to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes in 2006, the Durban Declaration on E-waste Management in Africa from 2008, the Abuja Platform on E-waste from 2009, as well as the “Call for Action on e-Waste in Africa”, which was adopted at the Pan African Forum on e-waste in Nairobi in 2012. All of these documents were instrumental in moving forward the e-waste topic in national political agendas and paved grounds for first solutions, which are shaping in some African countries such as Ghana, Kenya, Nigeria, South Africa and Tanzania. However direct links and synergies to the primary mining sector were neither established nor integrated into strategic plans so far.

The World Resources Forum (WRF) is increasingly taking these issues into account in its deliberations, most recently in the 2011 WRF Conference, held in Davos, Switzerland, 21-23
The topic will also be discussed in the upcoming WRF 2012, to be held in Beijing, China, 21-23 October 2012. This workshop at the ADF will help identify issues to further work on, in preparation of WRF 2013, to be held in Davos, October 6-9, 2013.

This ADF pre-event aims at discussing these issues with a focus on synergies between Africa’s primary mining industry and opportunities given by urban mining of secondary materials from obsolete electrical and electronic equipment. These synergies will be analysed with experts in the fields of policy issues related to mineral resources in Africa and to urban mining in general, infrastructure issues regarding mining, recycling and refining, and standards issues for responsible mining and electronics recycling.

**Policy Issues**

A first step towards an innovative and holistic vision for governing the mineral sector in Africa for growth and sustainable development was made possible through the African Mining Vision (AMV). It was drafted in 2009 by a technical taskforce jointly established by the African Union and United Nations Economic Commission for Africa (ECA). The AMV advocates for “transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development” and is anchored on the understanding that mineral resources are part of the stock of natural capital that can encourage Africa’s development [3]. It further underscores that development can occur if Africa succeeds to transform transient mineral wealth into other forms of lasting capital which outlive the currency of mining.

In the past, African countries have had liberal mining regimes and a number of countries have signed extensive Bilateral Investment Treaties (BITs) as a means to securing foreign direct investments (FDI). While BITs are important internationally binding instruments, they are more focused on investment protection against nationalization or expropriation, assurances for the free transfer of funds and the provision for dispute settlement mechanisms between investors and host countries rather than their value addition to the host country.

Besides the efforts made in the mining sector, an innovative and sustainable way to contribute to creating jobs and added value in many African countries will be the development of a specialized recycling industry for electrical and electronic equipment. Since the numbers of sold new and imported second-hand products has experienced a rapid increase over the past few years, a considerable amount of the extracted resources actually return to the African countries. By efficiently managing these secondary resources, a complementary and mostly independent system for the production of mineral resources can be established. Urban mining knowingly reduces the dependence on rising commodity prices and imports, but also reduces significantly the environmental impact of production [4]. The prudent use of resources also allows people in less developed regions of the world, such as Africa, to improve sustainably the standard of living.

In most countries in Africa, the local business sector is rather weak and not very capable of adequately taking advantage of the various opportunities provided by the extractive industries, including in the provision of goods and services. Nevertheless, the building up of take-back and dismantling infrastructure for e-waste could serve as a trigger for
development of sustainable business models for small and medium enterprises in Africa. The advantages and opportunities that lie in the field of urban mining in general and e-waste management in particular are undisputed, but in order to promote such a development, appropriate policies have to be developed.

A first step into this direction has been undertaken by the various international, regional and national platforms and its associated declaration documents as listed in the introduction. In addition, various African governments have stated the processes to develop and implement policy and legislative frameworks related to e-waste management. Currently the fourteenth session of the African Ministerial Conference on the Environment (AMCEN-14) is preparing a decision on e-waste as an attempt to coordinate national activities on a regional level and implement an action plan.

**Infrastructure Issues**

A brief glance at the primary mining industry in Africa reveals that at present Canadian, Australian and European mining companies dominate the industry, while Chinese companies are gaining considerable traction through large Greenfield investments and the acquisitions of incumbent western firms.

However, the importance of Artisanal and Small-scale Mining (ASM) in Africa is not to be neglected. ASM is a marginalized sector and the informal miners are trapped in a poverty loop from which it is difficult to escape. Very often, mining operations employ rudimentary equipment and techniques, and access to finance is constrained. In addition, many miners lack the necessary business skills and information to upscale their operations. Environmental impacts are serious, labor conditions harsh and access to extension services and other administrative support is reduced [2]. ASM is labor-intensive and provides more employment than large-scale mining. Between 15 to 20% of the world’s non-fuel minerals, approximately 18% of Africa’s gold and almost all of Africa’s gemstones, except diamonds, are produced by ASM. Furthermore, ASM is a precursor to large mines and allows the exploitation of deposits that are not amenable to large-scale mining [5].

The situation in the “urban mining sector”, at least regarding the recovery of e-waste, presents itself in a similar manner. This industry in many African countries is comprised of mainly informal small or family enterprises which recover the valuable materials under mostly artisanal practices causing severe negative impacts on their health and the environment. Huge quantities of cables are burnt and plastic casings generally suffer from the same fate; CRT glass is most often dumped in the outskirts or even within the city. Even though there are a growing number of initiatives looking to develop sustainable business models for e-waste recycling, there is still a striking lack of formal recycling infrastructure and a need for the development of appropriate technology or partnerships with global players. In addition, hardly any country in Africa counts on effective systems for the collection of the products that are no longer desired by public entities, private companies and households.

One of the main challenges in this field, apart from setting up effective collection of obsolete and discarded equipment and from assuring environmentally sound local dismantling
practices, is the diversion of the flows to a formal downstream recovery process. Even though this management system of secondary mineral resources is independent from the primary mining sector, it has to be analyzed more in detail how the existing mining infrastructure could be used also for the downstream processing of secondary materials recovered from e-waste.

**Standards Issues**

It cannot be ignored that the exploitation of mineral resources leaves permanent adverse marks on the environment. Environmental degradation and the social impact of mining are often linked to poor governance, weak regulatory frameworks and insufficient enforcement capacity[2]. In the past two decades, initiatives designed to recognize and expand the scope of social responsibility of mining companies have grown. Several non-governmental organizations (NGOs), such as the Alliance for Responsible Mining (ARM), the Framework for Responsible Mining and the Initiative for Responsible Mining Assurance (IRMA) have advocated the reformation of mining activity into "responsible mining".

Mining Assurance (IRMA) have advocated the reformation of mining activity into "responsible mining".

The mining companies have been called upon to go beyond maximizing profits and assume their Corporate Social Responsibility (CSR). CSR is a framework for formulating and implementing the expanded roles and responsibilities of the corporate sector to incorporate expectations and needs of the society in their business model. It has an immense potential to mitigate the negative reputation of mining, lead to reduced conflicts with communities and employees, and ultimately result in a higher value for the company as part of their business model.

However, the ultimate goal should be the development of transparent and sustainable supply chains. On the demand side, consumers in industrial countries are increasingly concerned about production circumstances of imported goods and wish to have transparent product declarations. They have made clear that they request standards, benchmarks, codes of conduct and guidelines on the management of the mineral resources sector.

Recognizing these trends, some corporations have moved to distinguish themselves from competitors by subjecting their operations to independent scrutiny and establishing a verifiable chain of custody for products. Many have come to realize that compliance with the laws of the countries in which they operate may not be sufficient to protect the environment or vulnerable communities. Some corporations acknowledge the need for compliance with international codes, protocols, covenants, declarations, instruments, and customs that protect basic human rights, self-determination, cultural integrity, labour and social rights, and the natural environment[6].

This call for "certified trading chains" also applies to the production of secondary mineral resources, especially because developing and countries with economies in transition are mainly suppliers of primary, but in the last years increasingly also of secondary commodities or resources. International trade in non-renewable secondary commodities from developing countries will continue to increase in the coming years, due to multiple reasons: Higher
penetration of consumer goods particularly in emerging markets, high primary commodity prices, geopolitical strategies and comparatively low labour costs.

While quality and sustainability labelling is established for some renewable commodities (e.g. Forest Stewardship Council – FSC) it is nearly inexistent for non-renewable and completely unknown for non-renewable secondary commodities (e.g. recycled printed wiring boards). Though the existence of instruments to address the social and environmental impacts of primary and secondary (urban) mining is crucial, the key challenge is the capacity to enforce the application of such instruments, and assess, monitor and regulate the impacts.

In this context, the following components should be discussed in the light of primary vs. urban mining: International Standard (e.g. ISO), verification systems (e.g. auditing, reporting, certification and accreditation), incentive systems (e.g. labelling, registration, long-term marketing programme) and long term governance and management.

**Outlook and Objectives of the Workshop**

Green economy concepts are becoming part of the mainstream vocabulary in development economics. This includes approaches such as urban mining and decoupling resource intensity and economic growth from environmental degradation. There is a growing consensus that a more sustainable economy requires an absolute reduction in resource use at a global level and the reduction of the environmental impact of such a use[2].

The collection and recycling of obsolete electronic equipment can make an important contribution towards a more sustainable economy and the responsible management of our non-renewable mineral resources. At present, Africa faces the challenge to implement efficient and sustainable recovery systems for secondary materials from e-waste as a new market opportunity. This requires the development of functioning ‘reverse supply chains’ with adequate capabilities for recycling and refining. But besides the setting up of appropriate collection and recycling infrastructure, there is a strong need for policies, which allow for the establishment of a level playing field, and technical standards for the recycling, which guarantee sufficient control over the material quality and the environmental and social impacts of the related recovery processes.

Recognizing these demands, the synergies with primary mining seem rather apparent. Nevertheless, it is important to reflect on this topic with experts from both fields, the primary and the secondary mining sector and further explore the synergies, challenges and opportunities for Africa.

This is what the workshop “Urban Mining: Challenges and Opportunities for Africa - Synergies between e-waste recycling and mining of mineral resources” wants to achieve. The workshop is developed in the context of the Eighth African Development Forum, organized by the World Resources Forum, a global science-based platform for sharing knowledge about the economic, political, social and environmental implications of global resource use, and supported by Empa, an interdisciplinary research and services institution for material sciences and technology development and Hewlett-Packard (HP), the world’s largest
technology company for solutions in printing, personal computing, software, services and IT infrastructure.

**Agenda of the Workshop**

The Workshop took place on Monday 22 October, from 09:30 – 16:30 at the UN Conference Center, at UNECA headquarters in Addis Ababa, Ethiopia. The Workshop programme was divided into two sections:

1. Introduction and keynote presentations
2. Panel discussion in the afternoon

Details can be found in the separate “Agenda” document.

**References**

[1] Stephan Lutter & Stefan Giljum (SERI; Vienna/Austria), taken from World Resources Forum www.worldresourcesforum.org


Consensus Statement

Addis Ababa, Ethiopia
23-25 October 2012

Distr.: General
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25 October 2012

Consensus Statement
Preamble

We, participants at the Eighth African Development Forum (ADF-VIII) on the theme, "Governing and Harnessing Natural Resources for Africa’s Development",

Representing stakeholders from across the African continent, including Governments, academia, civil society, traditional rulers, the private sector, the United Nations family and development partners, met in Addis Ababa, Ethiopia, from 23 to 25 October 2012, at the invitation of the African Union Commission (AUC), the United Nations Economic Commission for Africa (ECA) and the African Development Bank (AfDB);

Cognizant of the vast natural resource endowments that the African continent enjoys in the form of land, minerals, fisheries, and forests;

Aware of the significant role which the natural resource endowments of the continent can and should play in the structural transformation of the economies of African countries and the all-round improvement in the lives of the citizenry;

Conscious of the unwholesome history of natural resource exploitation on the continent and determined to put an end to that history so that Africa’s endowments can become a source of developmental transformation that benefits its peoples;

Convinced that the fabled natural resource curse is not a fatality to which Africa is condemned, in whole or in part, and committed to the transformation of Africa’s resource wealth into a blessing for its peoples;

Noting the increased international interest in and demand for Africa’s natural resources and aware that this presents an opportunity which, if properly harnessed and managed, can rapidly help to turn the table of underdevelopment on the continent;

Committed to the promotion of wholesome participation by African women and the youth in the harnessing of Africa's natural resource endowments and the achievement of gender and inter-generational equity in all domains and dimensions of natural resource management;

Recognizing that some of the natural resource endowments of the continent are finite and the commodity price boom which is currently being enjoyed in some sectors will not continue indefinitely;

Noting the importance of the sustainable exploitation of Africa’s natural resource endowment for the environment, local communities and the present and future generations of Africans;

Conscious of the salience of all-round multi-level contract transparency and accountability to the effective governance of natural resources for the attainment of development ends that will benefit the citizenry;
Committed to the achievement of a natural resource development regime and strategy in which private investors are supported as much as they are also held accountable and required to fulfill their financial, economic, social, environmental, ethical, and other associated obligations;

Affirming the obligations of governments and private investors to protect communities that are affected by the exploitation and development of natural resources;

Aware of the importance of research and innovation in the quest by African countries to derive optimal benefits from their natural resource endowments;

Cognizant of the role of energy as a key resource in the development of the other natural endowments of Africa;

Welcoming the adoption of the Africa Mining Vision (AMV) by African leaders in 2009 as the overarching continental framework for a more development-centred and equitable management of the natural resource wealth of the continent;

Recognizing the importance of ensuring that Africa speaks with one voice and Africans believe in their own visions, ideas, and programmes;

Recalling all the relevant declarations and programmes of the African Union and the United Nations on natural resources, which African countries have endorsed.

Adopt this consensus statement as follows:

I. Mineral Resources for Africa's Development

1. Africa's considerable mineral wealth endowment ranks the continent first or second in known world reserves of bauxite, chromites, cobalt, industrial diamond, manganese, phosphate rock, platinum-group metals, soda ash, vermiculite and zirconium. The continent is also a major global producer of these and other minerals. These mineral resources represent a considerable asset base and an opportunity for broad-based economic development. Yet, Africa continues to suffer from a high incidence of poverty and underdevelopment even as the full potentiality of its mineral wealth endowment remains largely untapped due to structural and institutional challenges. These constraints include the absence of an integrated planning and management framework; the adverse impact of an improperly managed minerals sector boom on the rest of the economy; the lack of forward and backward linkages; the unequal sharing of the mineral resource rent across the value chain; poor legal, fiscal and regulatory frameworks; weak institutional capacity, including the capacity to negotiate beneficial mineral agreements; and financial benefits that are lost by Africa through transfer pricing, illicit transfers and other covert mechanisms.

2. In its effort to overcome constraints and ensure that exploitation of its mineral wealth plays a greater role in its development, Africa can capitalize on the strategic and comparative advantages it enjoys. These include the much improved investor attractiveness of the continent;
increased competition for mineral acreage; a rising demand for mineral commodities that has translated into booming global commodity prices; improved domestic governance; strong participation of civil society organizations in public affairs; a more favourable political climate, including greater awareness of the important role which a properly anchored and structured developmental State could play; strong interest in articulating and operationalizing a more development-oriented policy framework for the minerals sector; and a much broader recognition of the imperatives of the social license to mine.

3. The AMV, which was adopted in February 2009 by the Assembly of Heads of States and Governments of the African Union, was a watershed in the collective desire by African countries to break with an unhappy history of mineral resource exploitation and transit towards resource-based growth and industrialization to help drive the progressive structural transformation of the continent. Achieving the goals set out in the AMV, including the "transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development", is the major challenge for African countries today.

Recommendations

4. In seeking to imbue mining activities in Africa with a much greater developmental role, African countries should:

(a) Undertake all-round domestic policy reforms in the mining and other sectors to: anchor the minerals sector in a broad development vision; better align mineral, industrial and trade policies; institutionalize inter-departmental collaboration within the governmental system; expand local ownership, participation and control in the mining sector; significantly increase local content; boost mining revenue/taxation receipts whilst plugging financial leakages; enhance the contribution of mining activities to various backward and forward linkages in the local economy throughout the entire mineral value chain, and overcome the phenomenon of enclave economies; catalyze the emergence of domestic and regional economic corridors across the continent; improve geological and geo-scientific knowledge; promote environmental, social and material stewardship; and give attention to urban mining for the purpose of recycling extractable precious and base metals from e-waste;

(b) Commit to entrenching democratic governance principles along the mineral value chain, including strengthening the African Peer Review Mechanism (APRM) with a view to strategically repositioning it to become the primary instrument for promoting a shared understanding of mineral value creation, eliminating mineral resource-driven conflicts, institutionalizing mandatory mineral revenue disclosure, and improving overall mineral sector governance in Africa;

(c) Embrace the transparency and accountability advocated for by the AMV, the Extractive Industries Transparency Initiative and similar reciprocal accountability standards and mechanisms to ensure that the minerals sector delivers development dividends to Governments and communities while rewarding investors for the risk they take. This outcome can and should be achieved alongside strong commitment to curb human rights
violations, address issues of child labour, overcome gender-based violence, redress the abuse of migrant labour, improve mining safety, achieve sustainable wages, provide decent housing and cater to the health needs of miners and their families;

(d) Extend significant support to Artisanal and Small-scale Miners (ASM) in recognition of the important role they play as legitimate actors in creating employment, rolling back household poverty, enhancing women’s and youth participation, generating backward and forward linkages and overcoming underdevelopment in rural communities. Also, Governments should strive to address the technical equipment, skills and financial challenges faced by ASM, as an integral part of a development-oriented mining policy. This should be done in the knowledge that their full integration into rural development programmes, including their formalization as may be appropriate, could be a potent strategy for raising the living standards of communities, improving gender equity, encouraging youth participation, and promoting sustainable local economies;

(e) Enhance their knowledge of the continent’s geological endowment as a good thing in itself but also with a view to employing that knowledge as a key tool for strengthening the continent’s bargaining power with other international actors interested in Africa’s mineral wealth. Better knowledge of Africa’s mineral wealth will also allow Governments to experiment more effectively with innovative mechanisms of allocating exploration ground such as auctioning, and entering into better informed and more optimal “resources for infrastructure” deals. To this end, careful consideration should be given to the strategic importance of a stable funding mechanism that would support the geological mapping of the continent on an on-going basis;

(f) Urgently invest in tackling the institutional and human capacity challenges faced by stakeholders along the mineral value chain, doing so by strengthening existing institutions and, as necessary, building new, specialist ones. This will make for the emergence of a well-capacitated African minerals sector, anchored in a clear developmental vision, and able to negotiate beneficial contracts and contribute to innovation and development of a knowledge-based African minerals sector. In this connection, approval, by the continent’s political leadership for the creation of the African Minerals Development Centre (AMDC), to contribute to an education programme for the mining sector is to be saluted as a sign of the collective commitment of African countries to address issues of capacity and related flaws in Africa’s mining sector. The establishment of the African Mineral Skills Initiative and the proposal to launch the African Mineral Geoscience Initiative under the overall auspices of the AMDC, are all contributions to building general, technical, and strategic capacity for individuals and institutions in the mining sector, which all stakeholders should embrace and own;

(g) Commit themselves to achieving sustainable mineral exploitation that addresses environmental challenges in the sector for the sake of inter- and intra-generational equity. To this end, African Governments should provide and enforce a strong environmental management framework for all actors in the mining sector, while mining companies should proactively put in place mechanisms for compliance and going beyond the dictates of policy, as part of their own environmental stewardship; and
(h) Break with past experience by assiduously implementing the AMV in order to achieve the much-needed paradigm shift in the African mining sector that has eluded much of the continent for decades. To this end, efforts should be made to popularize the Vision across Africa among a multiplicity of stakeholders who could partner with Governments to advance its goals towards full realization.

II. Land and Africa's Development Future

5. Africa has abundant agricultural land that can be harnessed to address its food security concerns and serve as a basis for a model of structural transformation to boost employment, income and livelihoods. The continent holds about 60 per cent of the world’s total non-cultivated land area that is suitable for cropping and which lies in non-forested and non-protected areas with low population density. Land abundance on the continent has contributed to the recent upsurge of local and, in particular, international interest and investments in African land.

6. In the face of the upsurge in investor interest, Governments have come under considerable pressure to allocate arable lands for a variety of purposes, including export-oriented crop production aimed at satisfying the foreign markets from which many of the investors originate. In seeking to respond to these pressures, African Governments, traditional leaders and private citizens involved in domestic and foreign large-scale investments in land face two immediate challenges. The first is to identify and quantify the land available and unutilized, under both conventional and traditional land-use systems. The second is the inadequate recognition of customary-based land tenure rights and claims by statutory land laws and administration systems which results in the rendering of the land rights and livelihoods of local communities precarious in the face of large scale land acquisitions and the accompanying increase in land values.

7. While increased domestic and foreign investments in African agricultural lands comes with its challenges, it also offers the continent an opportunity to address its yield gap and enhance agricultural technology, infrastructure, mechanization, market access and value-adding possibilities that can play an important role in boosting productivity and output. Although African countries have made great progress in meeting their commitment under the 2003 Maputo Declaration to increase public spending to agriculture, it is also well-recognized that the 10 per cent allocation is not adequate to transform a sector after years of neglect. In this regard, partnerships with local and foreign investors in agricultural lands could provide much needed complementary resources to the sector over and above what Governments are able to offer.

Recommendations

8. In the light of the challenges and opportunities associated with the increased domestic and external pressure on their land resources, African countries are called upon to:

(a) Commit to fast tracking the implementation of the African Union Declaration on Land Issues and Challenges in Africa in accordance with the Framework and Guidelines on Land Policy in Africa so as to realize the reform of land policies, laws, and administration systems
at the national level. In so doing, the prospects of successfully addressing the challenges of land ownership, use and management across the continent would be enhanced;

(b) Identify established local land rights, interests and claims, and clearly determine how much land is available and where it is located before engaging in large-scale land allocations. The process should take into account, land that is under traditional systems of agriculture, including shifting cultivation, fallow farming and pastoral grazing. Mapping and documenting land rights, interests and claims of communities and individuals should go beyond ownership rights and include user rights to land and related resources. Spatially referenced information on land will provide an evidence base that will be indispensable to planning at the local, meso, and national levels, and will also help overcome unfair dispossession or stripping of the land rights of communities;

(c) Explore innovative and inclusive large-scale land-based investment (LSLBI) models that empower smallholder farmers and communities and offer provisions to protect national food security, thereby achieving equitable agricultural and rural transformation in Africa. To this end, LSLBIs should adhere to the principles of the Comprehensive African Agriculture Development Programme (CAADP) which enjoin African Governments and stakeholders to reverse unhelpful and inconsistent macro and sectoral policies that are biased against agriculture in general, and smallholder farmers in particular;

(d) Adopt appropriate policy and legislative frameworks that articulate modalities for access to land by both domestic and foreign investors and recognize the land rights of local communities and investors in order to facilitate and secure profitable and equitable LSLBIs. Optimal structuring of land deals requires evidence-based, transparent and consultative negotiations on the main elements. Some of the key elements that must be carefully considered are: optimal land size and land lease period; potential costs and benefits and how they are to be shared and distributed; terms for further allocations; basis and terms of compensation; protection of well-being of smallholder farmers, including the women among them; community participation and a sense of ownership; provisions for withholding production for domestic use to address food and energy security; fiscal and other provisions to minimize land speculation; and regulatory mechanisms for enforcement;

(e) Strengthen property rights, especially those falling under customary jurisdictions that serve as the principal regime under which most of Africa’s abundant land lies. In this regard, there is an urgent need to fast track implementation of the African Union (AU) Declaration on Land Issues and Challenges in Africa, in accordance with the Framework and Guidelines on Land Policy in Africa that aims to reform land policies, laws and administration systems, with a view to entrenching the land rights of local communities and facilitating the security of all bundles of land rights, interests and claims, especially for women and other vulnerable groups;

(f) Ensure, in partnership with other stakeholders, that LSLBIs give due consideration to environmental sustainability and climate change concerns. In addition, make effectively enforced and properly monitored environmental stewardship a central component of contractual arrangements with land investors;
Strengthen institutions that govern land rights, along with those that facilitate investments and oversee the regulatory environment, to ensure that land deals attain their economic, social, gender, inter-generational, and environmental goals. Well-functioning land markets that facilitate transparent land transfers are critical to creating an enabling environment for investments by large-scale investors and smallholder producers alike. Not only is this essential to reducing the yield gap, but also to providing the basis for a structural economic transformation that allows the rural population to move into non-farm employment as appropriate;

Mobilize financial and human resource capacity support for the implementation of the Nairobi Action Plan on LSLBIs in order to enhance the governance of LSLBIs in Africa. Resources are urgently needed to ensure that African Governments and stakeholders validate these principles to create the sense of ownership that is critical to implementation. Support is also needed for capacity development and monitoring for responsive LSLBIs; and

Engage the Land Policy Initiative (LPI) as a possible institutional resource for the implementation of the AU Declaration on Land and the Nairobi Action Plan on LSLBIs. This would mean that all the activities contained in the LPI strategic plan, including capacity-building, would have to be adequately mainstreamed at the national, regional, and continental levels.

III. Harnessing Fishery Resources

Africa's fisheries and aquaculture endowments are a renewable natural capital with large socio-economic, nutritional and ecosystem benefits. This capital offers the continent a golden opportunity to continue to reap benefits from these resources over a long period of time. Fish has excellent nutritional value, providing high quality protein and a wide variety of vitamins and minerals. Besides, exploitation of fishery resources creates revenue for Government and economic opportunities in fishing communities (including the most vulnerable and marginalized), leads to diversification of exports and generates shared wealth for a nation. To sustain the benefits provided by fishery resources, they must be used and managed in line with socio-economic goals and within the means of society and limits of ecosystems. Fishery resources, therefore, will be a strategic asset for achieving sustainable economic transformation of the African continent and the well-being of its peoples if adequate policy reforms and well-targeted investments along the fishery value chains are carried out.

The magnitude of annual catches of fish in African marine ecosystems, inland waters and fish farms delivers gross annual revenues of close to US$5 billion and directly supports the jobs and livelihoods of about 4 million people. The fisheries sector, therefore, makes a valuable contribution to the GDP and total exports earnings of many African countries, especially the coastal ones. However, the contribution of the continent to the world capture production is still low in marine waters, in part, because of important supply-side challenges facing African countries in spite of the huge potential it has. Per capita fish production is half the global average. It is expected to decline further, leading to diminishing contribution to food security and the trade balance. About 1 million tons of fish are lost due to overfishing, which reduces potential incomes and undermines the productivity of Africa's
marine ecosystems. Overall, the main fish stocks are fully exploited and are, therefore, producing catches that have reached, or are very close to, their maximum limit, with limited expected space for further expansion given current practices. Catches are likely to decrease if remedial action is not taken to reduce overfishing. The fact that the resource base is shrinking and that African fisheries and aquaculture are not living up to their economic potential is an issue that needs to be addressed urgently.

11. Aquaculture is becoming the main source of supply of fish products worldwide. Africa currently accounts for only a marginal proportion of global aquaculture fish production although it is also the region that is enjoying the fastest growth. Aquaculture has the potential to contribute to meeting animal protein requirements at a time of rapid population growth worldwide. It should thus be carried out such that the sector: adds to the physical quantity of fish available for human consumption; produces economic value; supports community and social development; operates in an environmentally-sustainable way; and respects the limits set by nature. This requires consistent effort to upgrade the sector’s operations from the largely subsistence practices to cage culture. Net revenue from marine fishing is estimated at $4.2 billion a year if the fisheries sector is effectively governed. Moreover, Africa could increase its “fish wealth” from the current $2 billion to $30 billion within 25 years.

12. Addressing the challenges of reversing current systems of exploitation, restoring depleted stocks, maintaining biodiversity and optimizing economic and biological efficiency in fisheries production, calls for a complete paradigm shift in perception. Indeed, fishery resources should be recognized as “capital assets” from which wealth could be profitably and sustainably derived and productivity enhanced. African countries could use tax and expenditure policies as leverage for better managing the continent’s fishery resources. African countries must also reclaim their maritime territory, expand aquaculture and promote industrialization of fishery value chains in processing and marketing. This will entail accelerating the transition from subsistence to integrated and inclusive aquaculture-agriculture farming systems and commercial fishing. Curbing illegal unreported and unregulated fishing (IUU) is key to capturing or recapturing regional and global markets, optimizing rents and other socio-economic benefits and the sustainable management of the resource base.

Recommendations

13. Cognizant of the opportunities, potentialities and challenges involved in Africa’s efforts to harnesses its fishery resources for its economic transformation and sustainable development, the countries of the continent should strive to:

(a) Promote national strategies that focus on the many facets of policy and governance, especially in relation to employment, poverty alleviation, gender equality, youth participation, and environmental sustainability in the fisheries sector. This would require tackling specific challenges in these policy areas at the national and regional levels;

(b) Implement the first set of priority actions of the NEPAD Action Plan for the Development of African Fisheries and Aquaculture, with close attention to inland fisheries,
coastal and marine fisheries and aquaculture at the national and regional economic community levels, taking ongoing initiatives and development priorities into account;

(c) Pursue sustainable financing of fisheries governance, through appropriate taxation and fees, greater transparency of revenue management and increased reinvestment of fisheries revenue;

(d) Adopt policies that optimize nutritional and economic benefits from the regional and global fisheries trade, while reducing overfishing and post-harvest catch losses to more benign levels, and rebuilding overexploited resources;

(e) Align existing policy, legal and regulatory frameworks to adequately support the implementation of fisheries and aquaculture sector action plans such as the Conference of African Ministers of Fisheries and Aquaculture and NEPAD Action Plan for the Development of African Fisheries and Aquaculture;

(f) Promote the participation of small- and medium-sized enterprises, including artisanal fishing, in the fishery and aquaculture sectors while strengthening the nexus between fisheries and aquaculture resource-based industrialization within the framework of the African Union Plan of Action for the Accelerated Industrial Development of Africa;

(g) Mainstream the fisheries sector into the existing sector-specific package of governance instruments and develop, accordingly, the required capacities at all levels so as to enable African countries to effectively domesticate these mechanisms;

(h) Develop policy monitoring and control systems in combination with legal and judicial systems that could be internally agreed to curb IUU fishing, and fast track the implementation of the Food and Agricultural Organization (FAO)-AU Plan of Action on IUU as a possible first step in that direction;

(i) Strengthen the transformative capacities and bargaining power of national and regional decision-making bodies by lifting impending constraints on strategic management, research and development, and financial and technical resources;

(j) Promote peer learning and knowledge-sharing within Africa and between Africa and the rest of the world on efficient, sustainable and equitable fisheries and aquaculture management and governance systems.

(k) Support strengthened collaboration between regional fisheries bodies and regional economic communities in regional fisheries governance, as an integral part of the African Union initiative on policy framework and mechanism for the fisheries sector; and

(l) Include fisheries and aquaculture in the climate change adaptation plans of African countries.
IV. Forest Resources

14. Africa is endowed with enormous and diverse natural and plantation forest resources that cover 675 million hectares or 23 per cent of the land area of the continent. The continent accounts for 17 per cent of the world’s forest cover and has a higher per capita forest cover of 0.8ha/person compared to the global average of 0.6ha/person. This forest base supports the livelihoods of about 60 million people and contributes to about 6 per cent of the gross national product of African countries. This great wealth of forest resources is currently exploited and traded mostly in its raw form. Where initiatives have been made to add value, it is still at the lower end of the chain, compared to other continents. This is partly because of poor forest technologies and inadequate or limited processing capacity and skills. In fact, Africa’s processed forest products account for only 2 to 3 per cent of the global value added trade. Continuing exploitation of forests in this manner is unsustainable since it is wasteful and denies countries revenue and employment. Exporting Africa’s raw round wood or semi-processed products is tantamount to exporting jobs from the continent at a time when massive unemployment, especially among the youth, is a big challenge.

15. African forests are home to many valuable non-wood forest products, such as Gum Arabic, some of which are of very high value in international trade and whose production is dominated by the continent. Nonetheless, these non-wood forest products are still exported in semi-processed forms and fetch little by way of earnings, denying the continent the full value of the processed products. African forests provide a diversity of services for agricultural production, ecotourism and hydropower generation. Forests stabilize agricultural production by reducing soil erosion, supporting downstream flood control and facilitating water reserves for irrigation. They are also critical to bee-keeping activities. However, these important services provided by forests are often not reflected in national accounting systems or their value is wrongly apportioned to other areas of the economy.

16. Sustainable management of Africa’s forest resources with a developmental vision comes up against a range of policy, legal, regulatory, economic, governance, equity, knowledge, institutional and environmental constraints. Overcoming these constraints is key to attaining inter-sectoral linkages between agriculture, forest, industries, energy, water, and human settlement in Africa. If the sector’s contribution to national development is to be achieved and the accelerated depletion of the continent’s forest resources stemmed and reversed, weaknesses in forest governance and management must be addressed, forest technologies improved and the illegal exploitation of forests and trade in forest products tackled. Strategies for significantly increasing the level of local value addition in the forest sector speak to the need to end the untenable situation in which the continent continues to export forest products in their raw form.

17. Sustainable forest management must be based on comprehensive knowledge of forest resources available. It is thus vital for African Governments to invest in the expansion and quality upgrade of forest education and research. Recognizing the central role and place of indigenous knowledge is also critical and could serve, among other strategies, to strengthen the participation of communities in sustainable forest management. Furthermore, it is important to mobilize the participation of other stakeholders such as civil society and the
private sector in the management of the continent’s forest resources. Also, women play a vital role in the development of the forest sector. This includes tapping into major new and emerging forest-based opportunities under green growth development, reaping potential benefits from reduction in deforestation and forest degradation emissions, and enhancement of forest carbon stocks.

**Recommendations**

18. African countries should aim to:

(a) Implement the non-legally-binding instruments on all types of forests and the Ministerial Declaration of the High-Level segment of the Ninth Session of the United Nations Forum on Forests on the occasion of the launch of the International Year of Forests;

(b) Review and, as appropriate, reform national policies and legislation, embrace new initiatives in forest management such as forest certification and put in place strong regional and continental frameworks to effectively stamp out illegal exploitation and trade of forest products to ensure sustainable forest management;

(c) Strengthen human and institutional capacity in forest management and governance at different levels - community, national and regional, including the private sector and non-government organizations – in order to achieve sustainable forest management;

(d) Develop comprehensive and participatory national forest plans with multi-stakeholder involvement, and formulate forest level management plans and ensure their implementation;

(e) Establish and apply in a transparent manner, Criteria and Indicators (C&I) for Sustainable Forest Management and ensuring that all types of forests are sustainably managed irrespective of tenure and ownership. In this connection, efforts should also be redoubled in reforestation, restoration, and afforestation in order to halt and reverse forest degradation and overcome deforestation;

(f) Promote intra-African trade in wood and other forest products as part of an overall strategy of regional development;

(g) Create an enabling environment to encourage private sector investment in forest plantation and tree planting and processing in order to reduce pressures for the over-exploitation of natural forests, increase revenue flows, and achieve value addition of forest products;

(h) Strengthen the capacity of forest education institutions to develop appropriate modules and research institutions to conduct appropriate research relevant to African conditions and development aspirations, and ensure that sustainable forest management in Africa is driven by best scientific knowledge;
(i) Transform the forest sector industry from its present role as a producer of round woods and other basic processed products into one characterized by a diversified range of valued added products that encompass secondary and tertiary processing, and increase the contribution of the forest sector to the socio-economic transformation of African economies;

(j) Review and, as necessary, reformulate existing forest policies to reflect cross sector-linkages and harmonize policies for the holistic and management of forest resources in light of emerging competing users of forest land;

(k) Develop policy and legal frameworks to embrace and harness opportunities offered by such new initiatives as REDD+ and the increasing world-wide quest for green growth, and enable countries, communities, and other stakeholders to tap available finances for sustainable forest management and human livelihoods;

(l) Consider sustainable forest management in Regional Economic Communities development programmes, strengthen collaboration and cooperation between countries in forest management especially in education, research and information exchange, fighting illicit timber and non-timber forest product trade and negotiating with one voice on matters of global concern;

(m) Promote the use of affordable and clean alternative sources of energy; and

(n) Reinvest a significant proportion of revenues derived from such sources as forest fees into the crucial task of conservation and renewal.
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