

Report on the Terminal Evaluation of the Basel Convention Project on “Building local capacity to address the flow of e-wastes and electrical and electronic products destined for reuse in selected African countries and augment the sustainable management of resources through the recovery of materials in e-wastes (E-waste Africa Project)”

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List of Acronyms

Acronym	Description
BCCC	Basel Convention Coordinating Centre
BCRC	Basel Convention Regional Centre
EC	European Commission
EEE	Electrical and Electronic Equipment
ESM	Environmental Sound Management
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organization
SME	Small and Medium Enterprises
SBC	Secretariat of the Basel Convention
TOR	Terms of Reference
UNEP	United Nations Environment Programme
WEEE	Waste Electrical and Electronic Equipment

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Executive Summary

Evaluation Background

In line with the UNEP Evaluation Policy and the UNEP Evaluation Manual, the evaluation of the project “Building local capacity to address the flow of e-wastes and electric and electronic products destined for reuse in selected African countries and augment the sustainable management of resources through the recovery of materials in e-wastes (E-waste Africa Project)” was undertaken to assess project performance in terms of relevance, effectiveness and efficiency; and to determine the outcomes and impacts stemming from the project, including their sustainability.

This section describes the steps followed to attain the goals of the evaluation, and provides details on the sources used for collecting information:

- A desk review of project documents with relevant information on project activities, including progress and final reports (technical and financial);
- Interviews with stakeholders such as project partners, stakeholders at the national level, members of the Advisory Board, and officials from the Secretariat of the Basel Convention;
- Missions to two countries in Africa, aimed at collecting additional information related to project outcomes and main achievements.

It also presents the evaluation’s purpose, the criteria applied to assess the overall performance of the project, and limitations of the evaluation.

Project Performance and Impact

This section examines the categories of evaluation criteria¹ (refer to section *III. Conclusions* of this report) and provides factual evidence relevant to the questions asked and sound analysis and interpretations of such evidence. The main findings are summarized in the table below:

Criterion	Summary Assessment	Rating
A. Attainment of project objectives and results	The overall objective of enhancing capacity was successfully met in all participating countries.	HS
B. Sustainability of project outcomes	The national ESM strategies are expected to move forward necessary efforts to implement medium and long-term actions. For that to occur, political stability should be considered as a key factor	HL

¹Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU). Sustainability is rated from Highly Likely (HL) down to Highly Unlikely (HU).

Criterion	Summary Assessment	Rating
	towards sustainability.	
C. Catalytic role	The project offered a suitable platform that contributed to several policies, behavioural and institutional changes aimed to strengthen the sound management of E-waste. Pending efforts remain to implement enforcement actions and commit sustained financing in the long term.	S
D. Stakeholders involvement	The most relevant sectors at the national and regional level were identified. A high degree of engagement and participation of stakeholders highly contributed to the implementation of activities.	HS
E. Country ownership / driven-ness	Lessons learned, enhanced capacities and higher awareness made a positive impact on country ownership. Better access to data has driven efforts to better recognize and address challenges posed by of EEE and e-waste.	HS
F. Achievement of outputs and activities	All of the project components were completed in agreement with the project planning. Expected outputs were delivered satisfactorily with respective benefits to target groups. Awareness raising needs to be further strengthened, particularly within the informal sector.	S
G. Preparation and readiness	Project preparation made emphasis on key elements such as the strategy for its execution, the specific needs in the participating countries, the selection of implementing partners, financial planning, and its contributions to the Basel Convention.	HS
H. Implementation approach	The implementation arrangements and the institutional framework effectively addressed the overall objective of the project and its management requirements. The establishment of an Advisory	HS

Criterion	Summary Assessment	Rating
	Board ensured a timely and effective supervision of the project.	
I. Financial planning and management	The financial plan was delivered effectively and met its targets. The project demonstrated success in leveraging additional resources from other sources.	HS
J. Monitoring and Evaluation	Project monitoring and reporting followed standard UNEP technical and financial procedures, and tasks were conducted in alignment with project objectives and results	HS
K. SBC Supervision and backstopping	The SBC efficiently performed its functions with a leading coordination role, providing an overall supervision and management of the project, while maintaining an effective communication mechanism among partners and country leads.	HS

Conclusions and Recommendations

This section presents concluding statements and a list of recommendations based on the main findings in the evaluation, as follows:

Conclusions:

- The goals and objectives of the project were accomplished successfully. The project was able to make efficient use of available resources to deliver results that have benefited countries in the region. It also proved effective in selecting project partners; in designing a well crafted capacity building programme; and in undertaking an effective coordination mechanism.
- The project has been influential by means of increasing knowledge and fostering information exchange, and encouraging cooperation, coordination and synergies strengthening among diverse stakeholders.
- The project has produced key findings in participating countries, and has also shown positive results in providing an effective support to establish a baseline of information on e-waste in African countries.
- In respect of policy and legislation, the project has triggered efforts to discuss on the adoption of a regional approach that supports the ESM of e-waste as well as control of illegal traffic in the region as well as the national legislation on e-waste in some participating countries.

- The evidence reviewed indicates that the project has made significant contributions to raise awareness in all sectors of society and to facilitate a better understanding on the life-cycle of EEE and the challenges posed by e-waste.
- Initial efforts have been committed in Ghana and Nigeria to encourage private sector establishment of recycling facilities through sectorial partnerships.
- Due to limitations in human and financial resources, it was not always possible to replicate awareness-raising activities, particularly in provincial areas and within the recycling and trading sectors.

Recommendations

- Sustained efforts towards implementation of ESM strategies need to be accelerated to sustain project achievements. In that respect, it is advisable for national stakeholders to work together and develop a strategy to effectively mobilize resources, including a yearly planning and budgeting to address e-waste. This should be considered of particular importance in order to apply and enforce existing regulatory frameworks.
- Taking into consideration the current alliances and capacities in the region, countries are encouraged to plan and implement pilot projects with a view to demonstrate the cost-effectiveness of formal collection and recycling facilities.
- Awareness raising needs to be further promoted and facilitated. Replication of training activities with support from the Basel Convention regional and coordinating centres is advised, mainly within the informal sector and consumers in the civil society.

I. Evaluation Background

A. Context

Used and end-of-life electric and electronic products and waste, either generated locally or imported from developed countries, are accumulating in open dumpsites in a number of African countries. E-waste is often disposed of by open burning, placing entire communities at risk of exposure to releases of dangerous substances into the environment. E-waste contains toxic substances such as lead, cadmium, mercury, and brominated flame retardants. However, e-waste also provides a source of valuable income in these countries as some of these substances, as well as the valuable components comprising e-waste, are recycled and reused providing economic opportunities through the development of community based collection, recovery and recycling businesses.

The project *“Building local capacity to address the flow of e-wastes and electrical and electronic products destined for reuse in selected African countries and augment the sustainable management of resources through the recovery of materials in e-wastes (E-waste Africa Project)”* responds to the decisions adopted by the Parties to the Basel Convention on improvement of the environmentally sound management of e-wastes and their transboundary movements. In particular, the following decisions and commitments were the basis for developing the proposal:

- The Nairobi Declaration on the Environmentally Sound Management of Electrical and Electronic Wastes and decision VIII/2 were adopted by the Conference of the Parties at its eight meeting in Nairobi in June 2006. By the same decision the Conference of the Parties encouraged Parties to develop further strategic partnerships targeting e-waste and agreed to review progress at its next meeting in order to guide future work on the environmentally sound management of e-waste.
- In addition, Decision IX/6, adopted by the Parties to the Basel Convention at its ninth meeting, took note of the progress made, endorsed a new programme of work and encouraged Parties and signatories to the Convention to provide voluntary contributions to the Basel Convention programmes on e-waste and to become actively involved in partnerships and regional programmes of activities established under the programme.

The e-waste project consisted of a comprehensive programme aiming at enhancing the environmental governance of e-wastes and at creating favorable social and economic conditions for partnerships and small businesses in Africa. It was implemented in the framework of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. The project focused on West Africa: Benin, Côte d’Ivoire, Ghana, Liberia and Nigeria and in other sub regions: Egypt and Tunisia.

Countries in West Africa made a request to the Secretariat of the Basel Convention for assistance surrounding the flow and management of e-wastes. Specifically, these countries requested assistance in the identification of the flows, in the development of national plans to address the problem, assisting in taking advantage of new market opportunities related to the recovery and trade of materials, and in enhancing compliance, monitoring and enforcement capacities nationally.

The E-waste project was designed taking into consideration the absence of a baseline set of information in these countries, including: (i) lack of data on the movement of e-wastes and products destined for re-use in Africa; (ii) lack of institutional capacity to enforce national and international regulations; (iii) lack of awareness and information by the informal sector and the public in the environmentally sound collection, separation, refurbishment and recycling of e-waste and end-of-life electric and electronic products; and (iv) lack of capacity to effectively recover materials from the e-waste to put back into the market as a resource.

The country assessments conducted as one of the main activities of this project, highlighted not only the important role that EEE plays in economic development, but also the need to enhance capacities and institutional frameworks to adequately manage the environmental impacts of e-waste. In that respect, the objectives set out for the E-waste Africa project seem to adequately address the current situation in those countries.

B. The Project

The initiative of the E-waste Africa project had the overall objective of enhancing capacity of West African and other African countries to be able to tackle the growing problem of e-waste imports coming from the developed world, including Europe, and thereby protect the health of citizens, particularly children, while providing economic opportunities. The project was implemented in the framework of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. The project started activities on 14 November 2008 and finalized on 13 June 2012.

The specific objectives of the project were:

1. To improve the level of information available on flows of e-waste and e-products being imported to West African countries and other countries to enhance decision-making.
2. To increase the capacity of partner countries in Africa to manage e-waste and end-of-life electronic and electrical equipment at the national level and prepare national environmentally sound management plans.
3. To investigate the feasibility of establishing environmentally sound materials recovery operations and promoting ESM in the context of the Basel Convention in a major informal e-waste recycling area in Africa.

4. To enhance the capacity to monitor and control transboundary movements of e-waste and to prevent illegal traffic.

The project consisted of four components:

- I. A study on flows of used and end-of-life e-products imported into Benin, Côte d'Ivoire, Ghana, Liberia and Nigeria, from European countries;

- II. National assessments on used and end-of-life equipment and national environmentally sound management plans;

- III. A socio-economic study on the e-waste sector in Nigeria and a feasibility study of international cooperation between African Small and Medium Enterprises (SME) and European recycling companies; and

- IV. Development of an enforcement programme in Benin, Egypt, Ghana, Nigeria and Tunisia in order to prevent illegal transboundary movements of e-waste and to improve the control and monitoring of these movements.

The target groups and expected results for each project component included:

Component 1. The main groups targeted under this component were national authorities (Environment, Transport, Customs) in two export countries in Europe. Expected results included improved exchange of information/data between exporting and importing countries, trained national authorities on the monitoring of flows of e-wastes and e-equipment destined for reuse.

Component 2. This component targeted main national and local stakeholders in the e-waste recycling sector, including recyclers in the informal through the national e-waste assessments. National authorities were targeted through the setting up of the e-waste strategy group (including Environment, Custom, Health, Transport, Industry, etc.) as well as local associations, and relevant national technical institutions and academia. This component was designed for its implementation in Benin, Nigeria, and Ghana. Expected results included:

- a. the development of a methodology for the undertaking of country e-waste studies and assessments and the preparation of ESM plans in African countries in the context of the Basel Convention;

- b. qualitative and quantitative assessments of the management of e-waste in three African countries and definition of recommendations for the development of a national framework for the ESM of e-waste and the recovery of resources in the target countries;

- c. better informed decision-makers in the targeted African countries on the main issues relating to e-waste management.

Component 3. This component targeted the Nigerian electrical and electronic equipment recycling informal sector, Nigerian SMEs, local communities and people who are exposed to e-waste and end of life electric and electronic equipment, European recycling enterprises and the Nigerian civil society. Expected results included:

a. Enhanced capacity of the informal sector involved in pilot recycling operations in Nigeria. The three technical activities were expected to provide experience on how to create and manage a small business in the area of electronic and electrical equipment recycling. This item also included the preparation of favourable socioeconomic conditions for the establishment of small enterprises in the recycling sector in Nigeria.

b. Higher awareness of the public on ESM of e-waste. Enhanced business opportunities in EEE recycling in Nigeria.

Component 4. The main target groups of this component were enforcement authorities having competence in the monitoring of transboundary movements of e-waste and the prevention of illegal traffic, mainly; focal points and competent authorities to the Basel Convention, port and accreditation authorities, environmental and health inspectorates, police and customs agencies. Expected results included:

a. An active and practical network of focal points involved in the enforcement of waste shipments between several European and African countries, developed.

b. Assessment of needs of network of focal points in terms of capacity, cooperation, legal powers and knowledge.

c. Trained enforcement officers on the monitoring & control of imports of e-waste in five major African importing countries.

d. Joint cooperation enforcement authorities in exporting States in Europe and importing States in Africa, facilitated.

e. Reduction in cases of illegal traffic.

The principal outputs of the project were expected to be the following:

a. Production of a report for the fact-finding study on flows in used and end-of-life e-equipment imported into West Africa and other African Countries by land and by sea, in particular from European countries.

b. Reports produced for three e-waste country assessments in three selected African countries.

c. Development of national ESM plans for e-waste in the three selected African countries.

d. Production of a training/guidance manual for the undertaking of e-waste country assessments and the preparation of ESM management plans in the context of the Basel Convention.

e. Socio-economic research study on the impacts of e-wastes imported and produced in Nigeria, including a feasibility study for the establishment of environmentally sound materials recovery operations and opportunities for public-private partnerships and investment.

- f. Reports of three technical training activities for African Small and Medium Size Enterprises (SMEs) on recycling of electric and electronic equipment.
- g. Proceedings of the public presentation of the achievements under the third project component in Nigeria.
- h. Five reports containing measures for prevention and control of imports of e-wastes are published.
- i. Training manual on inspections and on the ESM of e-waste and CD ROMs, including a training curriculum for the monitoring and control of transboundary movements of e-waste to African States and the prevention of illegal traffic (training and information material).
- j. Communication tool to exchange information on imports and exports of e-wastes between African and European countries.
- k. Two reports of the training workshops/exchange programmes in Europe. These workshops would involve 3 officials from each participating country in Africa (15 participants) and be held in two different countries in Europe.

The final beneficiaries from the project identified in the long term included:

- The recycling industry in and around West African cities and ports.
- Communities located around and downstream from municipal waste disposal sites and e-waste recycling facilities in West Africa and other countries in Africa.
- Specialised e-waste recycling and metals refining industries in Europe.

The activities undertaken in this project were focused specifically on e-wastes from the consumer equipment and electronics sector of developing economies in Africa. This included undertaking country surveys, developing tools for assessing e-waste management, addressing the sound management of e-wastes, the potential for trade and export within Africa of recovered materials and tested and certified reused products, and the potential to contribute to poverty alleviation, notably by defining and developing market movements of e-waste and prevent illegal traffic of such waste. Gender equality and local community action were underlying objectives as were the objective to reduce poverty by helping to define the local business opportunities in the informal sector and benefits for formalizing the informal sector. Information collected and methodologies developed are expected to serve as a reference for replicating similar programs involving other developing regions with significant trade in e-products, which might be supported through bilateral aid programmes in the context of the Basel Convention.

The project was funded by the European Commission (EC), the United Kingdom, Norway and the Dutch Recyclers Association (NVMP). To facilitate contractual arrangements the activities of the project were split into four separate UNEP arrangements, through which four implementing partners were contracted by the Secretariat of the Basel Convention (SBC), a fifth implementing partner, the IMPEL Secretariat, was sub-contracted by the Basel Convention Coordinating Centre in Nigeria (BCCC-Nigeria). These are:

1. the Eidgenössische Materialprüfungs- und Forschungsanstalt – Swiss Federal Laboratories for Materials Testing and Research (EMPA), that led the implementation of components one and two;
2. the Öko-Institute for Applied Ecology (OKO-Institute), that implemented components one and three;
3. the Basel Convention Coordinating Centre based in Nigeria (BCCC-Nigeria) that supported field activities in English-speaking countries and coordinated the implementation of component four on enforcement;
 - a. The IMPEL Secretariat, that was sub-contracted by BCCC-Nigeria for the enforcement component; and
4. The Basel Convention Regional Centre in Senegal (BCRC-Senegal), which supports field operations in French-speaking countries.

In addition, the Basel Convention Regional Centre for the Arab States based in Cairo (BCRC-Egypt) facilitated the project activities undertaken in the field in Egypt. It also facilitated the participation of Tunisia in the project, although no field activities were conducted there. The Secretariat of the Basel Convention coordinated the project implementation.

The contribution from the EC amounts to a maximum of 1,000,000 EUR² (1,295,000 USD³). This contribution leveraged additional financial resources to the project, totaling 594,971 USD, as indicated in Table 1.

Table 1 Additional resources leveraged as a result of the project

Organization	Amount (USD)
Government of Norway	99,573
Government of the United Kingdom	65,000
Dutch Recyclers Organizations (MVMP)	331,852
Government of Canada	25,000*
Government of Norway	44,342*
Microsoft	8,850*
Sims	2,655*
Dell/HP	17,699*

*Resources received for the organization of the Pan-African Forum

C. Evaluation objectives, scope and methodology

In line with the UNEP Evaluation Policy and the UNEP Evaluation Manual, the evaluation of this project has been undertaken to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluation had two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge

² The final amount will be established based on the expenditures in accordance with articles 14 and 17 of the Special Conditions (Annex II) to the Contribution Agreement EUROPEAID/DCI-ENV/2008-149734/TPS

³ Exchange rate 1.00 EURO = 1.295 USD

sharing through results and lessons learned among SBC, the European Commission, and other partners.

Therefore, the evaluation tried to identify lessons of operational relevance for future project formulation and implementation. It focused on the following sets of key questions, based on the project's intended outcomes:

- a. To what extent did the project generate information on flows of EEE and e-waste imported into West African countries to support decision-makers in designing policies and legislation on e-waste?
- b. How well did the project strengthen national capacities to monitor and control transboundary movements of e-waste and to prevent illegal traffic?
- c. To what extent did the project promote public awareness and consensus among policy, scientific, the industry and NGO communities to garner regional action?

The terminal evaluation of the project was conducted by an independent consultant under the overall responsibility and management of the SBC, in consultation with relevant partners and the European Commission.

The overall approach for the evaluation consisted of a participatory approach whereby key stakeholders were kept informed and consulted throughout the evaluation process. The evaluation has been conducted based on the set of criteria established for the terminal evaluation (Annex 1), and on the completion of activities and the submission of expected deliverables as set out in respective work-plans of the project.

The findings of the evaluation were based in the following:

- a. A desk review of project documents (Annex 2), including, but not limited to:
 - Relevant background documentation on policies, strategies and programmes pertaining to reduction of transboundary movements of used EEE and e-waste into Africa and past and current management of e-waste in Africa;
 - Project design documents: annual work plans and budgets or equivalent, the logical framework and project financing;
 - Project reports such as progress and financial reports from participating countries, from SBC and other partners; Advisory meeting minutes; relevant correspondence;
 - Documentation related to project outputs and relevant materials published on the project website.
- b. Interviews with (Annex 3):
 - SBC, BCCC-Nigeria, BCRC-Senegal, EMPA, Oko-Institute, IMPEL, the European Commission staff;
 - Other relevant partners such as contact points in participating countries

- Representatives of other multilateral agencies and other relevant organizations

The evaluation principles are based on sound evidence and analysis, and documented according to the sources of information provided by the SBC and by stakeholders interviewed.

The evaluation assesses the project with respect to a set of criteria grouped in four categories; (1) Attainment of objectives and planned results, which comprises the assessment of outputs achieved, relevance, effectiveness and efficiency and the review of outcomes towards impacts; (2) Sustainability and catalytic role, which focuses on financial, socio-political, institutional and ecological factors conditioning sustainability of project outcomes, and also assesses efforts and achievements in terms of replication and up-scaling of project lessons and good practices; (3) Process affecting attainment of project results, which covers project preparation and readiness, implementation approach and management, stakeholder participation and public awareness, country ownership/drivenness, project finance, SBC supervision and backstopping, and project monitoring and evaluation systems; and (4) Complementarities with the Basel Convention, its decisions, the Strategic Framework and the programme of work. All evaluation criteria are rated on a six-point scale (Annex 1).

The evaluation timeframe was from 1st October 2012 until 15th January 2013. The main activities consisted in the review and analysis of data obtained from documents and sources provided by the SBC.

Desk study

Following the terms of reference, a desk review of the documentation available (was an important source of information for this report, and was conducted between October 2012 and January 2013. The information collected from the desk study was made available by the SBC and includes all documents and reports produced during the implementation of the project.

Taking into account the multi country nature of the project, with different expected outputs for each component in the participating countries, it was not always possible to compare the results obtained. Given the summarized information that is provided on some of the documents provided for the desk study, some of the analysis included in this report is mostly of a qualitative nature.

Interviews

Interviews and electronic communications were conducted either by telephone, Skype or face-to-face with the SBC and selected organizations serving as executing agencies, and project implementers (Annex 3). The objective of this task was to obtain input that was considered relevant to the aspects that have been subject to the terminal evaluation. Comments of interviewees are not attributed in this document.

Country visits

In addition to the methods described above, 2 country visits were scheduled between November and December 2012. The main objective of these missions was to conduct a general and qualitative assessment of project performance, and to obtain feedback from project implementers at the country level.

The countries where the visits took place are:

Ghana: 28-31 October 2012

Nigeria: 17-20 December 2012

The main activity carried out during these missions consisted of interviews with key stakeholders that participated in the implementation of activities. In both countries, representatives of the public sector, industry (not in Ghana), the informal sector, regional organizations, academia and NGO's were available for this purpose. Visits were also organized to visit Governmental departments and other agencies responsible for the regulation, inspection and enforcement of chemicals and waste management. In addition, field visits were undertaken to the local markets where the main trade of used EEE takes place.

Constraints

The availability of some representatives during field visits was not always possible and in those cases, it was not possible to obtain contributions from all sectors, such as the industry in Ghana. Due to funding limitations, only 2 country visits were conducted and input obtained through face-to-face interviews is based only on information collected in Ghana and Nigeria. To address these constraints, the review included in this report focuses only on the available information that was obtained during the timeframe allocated to perform the tasks as per the terms of reference.

II. Project Performance and Impact

A. Attainment of objectives and planned results

i. Achievement of Outputs and Activities.

The planned activities and products obtained through the project were completed in its entirety and in a successful way. The delivery of corresponding reports and outputs has been performed in a timely manner and pursuant to the proposal of the project and the programme of work. Although some delays were identified for the completion of certain activities, there was no evident negative impact on the overall performance of the project.

The review of the reports produced for each component makes possible to conclude that the information presented for each component is consistent with the objectives and expected outputs. The reports delivered are found to be generally of good

quality and reflect the most relevant aspects for each of the components of the project. The sequence of activities and the allotted time to carry out the work appears to be optimal, considering the design of the project and the timetable proposed.

For example, the outcomes for the first component of the project, on the production of a report on the flow of e-waste and electrical and electronic products in selected African countries, have been highly useful as a first step to obtain an overview of the movement of such products through the dynamics of exports and imports between Africa and Europe. That report also indicates the limitations when trying to obtain information and statistical data, but at the same time mentions how the work was adapted to offer a clear perspective, as well as the opportunities for improvement in the methodology, and the necessary actions to improve the quality and quantity of data in the future, particularly to accurately quantify the flows of this type of products and e-waste. While some of the information in the report of this activity is described mostly in a qualitative manner, the conclusions presented reflect the relevance of the work for the identification of such trade movements, as well as the main actors involved.

The second component of the project constitutes a fundamental basis to identify the situation prevailing in the countries selected in relation to the flow of e-waste and electrical and electronic products. The e-waste assessment reports are of great utility to understand the context in each country, as well as for setting priorities in this area. For this purpose, the methodology developed seems to be adequate to facilitate the collection and analysis of information at the national level. The methodology applied for this purpose seems to be well structured, and offers a description of its limitations and uncertainties. It can be considered as a relevant tool to promote actions to replicate this type of work in other countries and regions, which will in turn facilitate the comparison of results between countries that apply the methodology. The logical follow up output consisting of ESM strategies offers national perspectives on the actions and schemes necessary to implement management and policy measures at the local regional level.

The third project component offers a useful report which highlights the socio-economic implications on e-waste, as well as different options for an adequate implementation of management strategies in a country of important commercial activity, such as Nigeria. The report describes the aspects that seem to be of greater importance under the conditions prevailing in the country of study, and that could probably be replicated in other countries with the necessary adjustments. The socio-economic study also provides an example of the steps that can be followed to identify business opportunities through an integrated approach for the management of electronic and electrical products at the end of their life-cycle. This project product also provides relevant recommendations for decision-makers, and the feasibility of technological options for the recycling industry.

The fourth component of the project provided an exchange programme and relevant training components that allowed to familiarize participants on the enforcement provisions of the Basel Convention, the European waste electrical and electronic

equipment (WEEE) Directive, and global classification systems and regulatory regimes that are applicable to WEEE. The main output allowed strengthening capacity for the inspection and surveillance of the responsible institutions, particularly the authorities in ports and customs in the countries selected for this component. The training programme offered several advantages as it included activities in the field and practical exercises to facilitate a better understanding. The train-the-trainer concept used is also a major advantage, as it allowed for replication activities at the national level.

ii. Relevance

The project's objectives and implementation strategies seem to be consistent with the SBC and other partners' mandates. The activities were identified and designed taking into consideration the required experience and capacities of all partners that needed to be involved during the implementation phase. For example, the SBC followed its mandate and was responsible for the overall coordination of the project, while maintaining the synergies and communication with other partners. Other activities, including training components and development of methodological tools were effectively completed by relevant partners in agreement with their policies and expected intervention throughout the project.

iii. Effectiveness

The project outputs indicate an effective and broad multi-sectoral participation in the countries where the activities were carried out. This may be considered as a clear draw for attention on the issue of e-waste, with particular emphasis on the environmental problems and health, but also on the social and economic aspects of its sound and responsible management. Progress reports of the project also indicate that there was great anticipation from the various beneficiaries regarding the expected opportunities both within the national authorities and the SMEs of the informal e-waste sector. The project has also been effective in assisting stakeholders to identify needs to strengthen capabilities to respond to e-waste management issues. The active participation of the various sectors in training workshops, as well as the activities implemented to produce a national assessment on e-waste, reflect a wide interest in the subject. This outcome indicates that a better understanding and a greater sensitivity to the problems associated with e-waste have been achieved.

Similarly, specific objectives of the project have facilitated the strengthening of public institutions for inspection and enforcement, and also promoted coordination at the regional level to tackle the growing problem of e-waste in Western African countries. The communication that has been fomented among sectors has been another key factor in the success of the project, since it has promoted the exchange of information, experiences and opinions on the issue. Another relevant factor that has contributed to the project's success consists in the active intervention of

partners, such as the European Union and the SBC to equip West Africa and other African countries with improved capacities for the management of e-waste.

iv. Efficiency

Several partners implemented measures taken with respect to the cost-effectiveness of the project. For example, ensuring the involvement of relevant institutions of the participating countries in the project was a key task carried out by the SBC, while promoting synergies and coordination between stakeholders. Optimization on the division of activities in project components was fulfilled through adaptations that seem to have been adequately implemented in agreement with relevant stakeholders.

Additional co-funding provided by other donors to the project allowed for a larger number of activities (e.g. a National e-waste assessment and ESM plan in Côte d'Ivoire) to be completed within the project's timeline. Regular reports and updates on the progress of the project were also useful to share information and build upon existing initiatives on e-waste. For instance, project information and outputs were presented at several meetings and side-events related to e-waste. The Advisory Meeting report at its third meeting indicates support for cooperation and work through networks (e.g. West African Network for Environmental Compliance and Enforcement (WANECE) and EU-Africa E-waste network).

Dissemination activities have also contributed to increase project efficiency when it comes to outreach efforts beyond the countries involved. For example, the BCCC-Nigeria, together with other partners presented the Call for Action, as an outcome of the E-waste Africa Forum. Presentation of the progress made on the project during COP10 of the Basel Convention served as a platform for key countries from West Africa as well as other UN regions to share experiences. Online consultations to discuss progress and other matters related to the project, such as the development of an enforcement network, may also be considered as adequate measures implemented to save costs in an efficient manner.

In Ghana for instance, the Green Advocacy team indicated that existing data and outputs from previous E-waste projects coordinated by this NGO, were useful when working on the E-waste Africa project. A good example of this includes a fact finding study where disposal sites for e-waste were identified, with this data later incorporated to the national e-waste assessment. In addition, several policy implementers in Ghana have made efforts to strengthen collaboration among them in order to facilitate information exchange and avoid duplicities on management interventions.

v. Review of Outcomes to Impacts (ROtI)

According to country reports the project significantly improved the knowledge and understanding of the e-waste flows through the national e-waste assessments. The impact of a higher level of information facilitated a wider and better informed participation during the elaboration of the ESM plans. Feedback obtained from

interviewees conducted during missions to Africa, shows that awareness raising has been a key outcome of the Project, resulting in a higher knowledge of the e-waste problem in the region. This may be considered as a good indication that important behavioral changes have been attained.

Training workshops prove that capacity-building efforts have succeeded in triggering greater attention from officials in the customs and national ports while conducting inspection duties. This is an aspect of great importance since it promotes an early warning at points of entry into those countries. It is further encouraged through the implementation of a common methodology, which in turn, promotes the exchange of information at the regional level with a common understanding.

Financial sustainability is a complex point to assess, and although there is an early indication that communication between producers and recycling companies has initiated, there is no indication as to how or when investments in West Africa can occur in the long term. On the positive side, the project created opportunities at the operational level for communication between the enforcement authorities in Europe and Africa.

The capacity building activities have produced other relevant impacts by means of awareness-raising strategies, the training of new e-waste experts and good media coverage. This has probably influenced on the perception of public society by means of reliable information on the negative impacts associated to the poor management practices of e-waste, including those in the informal sector. This was evident while conducting interviews in Ghana and Nigeria, where stakeholders indicated that a better understanding obtained through project activities has in fact made more evident the urgent need to enforce legislation on e-waste.

Project activities also developed the capacities of participating countries to control transboundary movements of e-waste. For example, the Nigerian Environmental Authority (NESREA) intercepted the ship “Grande America” in Lagos, where 40ft containers were identified. Some of the content was analyzed and its physical state allowed classifying items under the Basel hazardous waste code A 1180.

Overall, the impacts of the project are likely to significantly contribute to follow up projects, taken into account that awareness raising has been augmented and that wider stakeholder participation has been achieved.

B. Sustainability and catalytic role

1. Sustainability

i. Socio-political sustainability

The sustainability of the achievements obtained through the project is likely to be dependent on several factors. One of them is the sustained interest and commitment from the different social sectors, both nationally and regionally. The outputs of the project indicate that a significant progress has been made to achieve greater sensitivity and understanding on e-waste. However, it is necessary to continue to promote follow-

up actions that ensure continuity to the already obtained impacts. For this purpose, it is essential that all stakeholders maintain communication and cooperation efforts in future actions related to e-waste management and the rational use of the EEE.

The awareness that the project has raised in relation to the challenges and opportunities linked to these issues, should be seen as an advantage to create business options that are economically and environmentally feasible. However, the information presented in the reports of the project indicates that further work is much needed in order to achieve a greater dissemination of information in those regions where awareness has not yet reached. In response to this issue, there seems to be indication that Government agencies and other stakeholders have placed a strong interest on continuing efforts to widen the scope of awareness raising at the national level. A good example of this commitment comes in the form of dissemination and outreach activities deriving from the project, such as the presentation of its results in different regional and international fora.

However, in order to ensure sustainability and continuous efforts for the sound management of e-waste, it is essential to obtain a long-term political will from decision makers; that in turn is likely to encourage and motivate and empower other stakeholders at the national and regional levels.

ii. Financial resources

The results yielded so far by the E-waste Africa project, show that countries have taken an important step to get a better picture at the national and regional level on the situation with regards to e-waste and electric and electronic products. Having said that, it is possible that the long-term impacts of the project may be more evident once the implementation of the ESM national plans takes place. In that respect, the availability of financial resources will be a determining factor to ensure continuity to the current project achievements. This is another essential action for which political will and commitment is required to ensure economic and technical resources. This aspect generally depends on national priorities and the political stability of a country. For example, the financial resources can be programmed for their use in activities related to e-waste, but there is always a risk of a political nature which may in turn affect conditions on access to financial resources.

It is also necessary for stakeholders to consider developing a strategy of co-financing that favors investment from other sectors and interested partners. For instance, and when taking into account technical requirements, the Basel Convention regional centres should be seen as fundamentals partners in the implementation of activities, since they seem to have the adequate capacity for management and coordination, as well as access to international resources which might constitute an important complementary financing support.

So far there is no a clear or official indication that confirms a commitment on the national level or international level to invest resources in the implementation of activities included in the ESM strategies. In order to sustain the project results and onward progress through follow-up activities, the existing national and regional

coordination mechanisms may be used to encourage discussions on this issue, and the necessary strategies to leverage the required financial resources.

iii. Institutional framework

An effective framework of governance within the institutions responsible for the management of the environmental agenda is desired in order to sustain progress. Institutional frameworks should also bring together multiple institutions, actors, and processes in a cross cutting manner by including public and private authority, national borders, and policy sectors. A desired level of governance should also foster inter-governmental and regional cooperation regarding functions and cooperation while dealing with the management of e-waste and the commerce of EEE.

iv. Environmental sustainability

When a positive impact on the state of the environment is obtained and disseminated, stakeholders generally recognize the efforts made to implement actions towards such an achievement. For example in the context of the project benefits, awareness raising in the informal sector for e-waste collection, refurbishing and recycling in Lagos, workers in the field became more aware of human health and environmental effects as a result of unsafe practices when handling materials. Positive changes in safety and occupational practices are therefore likely to sustain this type of impact by reducing exposure and promoting better management of e-waste and scrap in those facilities.

However, it is important to recognize that informal practices will continue as long as there are no alternatives to formalize a WEEE management structure. Opportunities to build up on project benefits are likely to materialize through political support and financial investments. Supplementary, further training of the informal sector should succeed in reducing adverse impacts on the environment and public health from unsound e-waste management practices.

2. Catalytic role and Replication

A project that is well designed and structured from its planning stages has usually better opportunities to achieve the expected results. This of course is generally the case when the project ensures the necessary institutional, technical and economic support. The project on E-waste in Africa is a good example that proposes an innovative scheme to integrate in a coordinated manner the efforts made by several countries in a region which share similar problems. The project has also benefited from the involvement of different partners who have participated in the implementation of activities; and finally, of a solid flow of financial support from various sources.

The way in which the project has been implemented, for instance, with the participation from a wide range of partners and with a broad geographical scope, seems to have catalyzed behavioral changes to promote the use of methodologies applicable to the context of the countries selected, so that comparative analysis of the results obtained can be made. This appears to promote the interest of stakeholders to participate in actions and projects that include guidance and proven methods to obtain positive

results.

The socio-economic assessment is another key output of the project that seems to have influenced positively in triggering, at least, stakeholder interest in follow-up activities. For example, the study of niche markets has stirred interest to start environmentally sound management practices for e-waste, although this is still an issue that requires behavioral changes to a larger extent, particularly within the informal recycling sector.

The generation of solid data obtained for the national assessments has significantly contributed with inputs to draft national management plans. This is an outcome that has led to the planning and development of regulation on e-waste and to successful cases in intercepting illegal shipments. Some other regulatory proposals are reported to be under discussion at the Cabinet level (e.g. Ghana) and if approved, significant policy changes are expected for the regulation of e-waste and hazardous waste.

Training activities carried out during the project have followed an innovative format that has fostered the creation of national capabilities by means of a catalyst format. This is an important achievement of the train the trainer scheme, for example, by forming national leaders who have led the knowledge and training to the national context and multiplying actions for capacity-building.

According to the information obtained in the field during visits to Nigeria and Ghana, the implementation of the project has also helped in promoting a greater coordination and communication at the institutional level. The multi-sectorial format provided for the project seems to offer a suitable platform to promote changes through the execution of cross-cutting actions, thus avoiding duplication of efforts and financial resources.

When it comes to the replicability of the project, it is first important to recognize that the lessons learned and experiences gained as a result of the project seem to be well aligned with the specific problems that were addressed. In addition, the objectives and goals as set out in the proposal put well into context the countries situation, while the work plan shows that the necessary resources were identified in order to ensure a successful implementation. The project management allowed for an effective and efficient overall coordination between partners, as well as for a wide range of stakeholders to participate; and for relevant institutions to work and collaborate at the national and regional levels.

The training programmes and the development of national assessments have been carefully designed and implemented through methodologies that can be easily replicated elsewhere. With that in mind, scaling up of the project is likely to be benefited from those proven methods that, in principle, should easily be applied in different geographic areas, while taking in mind any necessary adjustments.

The outcomes achieved could be indicative of the potential and success of the project, and lessons learned could be relevant for ongoing and future projects. The existing momentum in the countries that have benefited from this project is also backed up by the current baseline of information on e-waste; by the agreements between and across

institutions and other partners; and by the dissemination of results to a wide range of stakeholders in different fora.

However, other factors should also be considered and assessed during the design phase of subsequent projects aiming at scaling up results. These consist of continuous and committed involvement from stakeholders, including engaging new stakeholders if different geographical areas are considered; political and financial support; strengthening existing coordination mechanisms, and provide capacity building in the areas where the project is expected to be replicated.

C. Processes affecting attainment of project results

The information described in this section is the result of a review of the documents produced throughout the project's timeline, including: (i) project document proposal; (ii) progress reports (including financial and narrative reports); (iv) information collected during missions to Nigeria and Ghana; and (v) contributions made by the Secretariat of the Basel Convention and other partners through electronic communication.

1. Preparation and Readiness

The project document presents in a clear manner the relevant elements that make up the proposal, and also facilitates the understanding of the strategy followed for its execution. The objectives are defined according to an analysis of specific needs that have been identified and discussed in the participating countries, as well as in the framework of the Basel Convention. The components of the project also show a logical sequence in terms of the scope and expected outcomes for each component. When it comes to the legislative authority, the project responds to the proposal decisions adopted by the Parties to the Basel Convention on improvement of the environmentally sound management of e-waste and their transboundary movements.

The selection of implementing partners seems to be appropriate considering their capabilities in relation to the activities carried out during their interventions. For example, partners were in all cases approached and selected given their proven experience in the development and implementation of training programmes, or by having the necessary infrastructure to support technical or laboratory training components. The inclusion of the centres of the Basel Convention in Senegal, Egypt and Nigeria has been a great asset, and the project has benefited from their experience working in the region, as well as their coordination efforts to facilitate communication and collaboration between countries.

The programme of activities and the schedule of duration for the action plan for the implementation of the project is realistic from the offset. Although some delays occurred at different stages of the project, these were handled adequately. In fact, the project only required a 3-month extension for its final completion, which does not seem to have affected the overall performance of the project. This aspect of project design can be attributed to an adequate planning and to an efficient coordination between the SBC and the implementing partners. A review of project documentation reflects that most reports were submitted according to schedule, and although there were a few exceptions for which minor extensions were required, that did not seem to affect the

overall implementation of the project.

According to information provided by the Secretariat of the Basel Convention, the partnerships arrangements were established in an appropriate manner according to the needs of the project, as well as the resources available for each of its components. This information also reveals that the responsibilities and functions of each partner were agreed well before the start of the project, taking into account the goals, objectives and expected outputs for each component. These agreements also included considerations to make adjustments whenever necessary.

The role of the Advisory Board has been of great importance in the implementation of the project, by facilitating an open and transparent discussion on the progress and results of the project. The reports of the three meetings of the Advisory Board indicate the way in which decisions were taken to make the necessary adjustments in the execution of the project when this was considered relevant. In all cases, these decisions did not seem to affect the overall schedule of activities or the expected outputs. In addition, the Advisory Board was able to evaluate and respond to the problems that were identified along the implementation, whether these were caused by delays in administrative procedures or by conflicts of a political nature in some countries.

2. Implementation Approach and Management

The implementation arrangements and the institutional framework developed for the project seem to have effectively addressed the overall objective of the project and the management requirements for its implementation. The establishment of a steering committee in the form of an Advisory Board, integrated by the main partners and national focal points, ensured a timely and effective supervision of the project. For instance, the face-to-face meetings and consultations of the Advisory Board provided an interactive forum to secure effective coordination, monitor progress, discuss preliminary results, and decide on the necessary adjustments to the programme of work when this was required.

The methodology applied for the undertaking of activities is well described in the project document, indicating the specific role of each one of the partners. The approach followed has been effective by ensuring that all outputs were delivered in alignment with the programme of work. This is evident from the project progress reports and technical documents produced for each component, where the methods applied are descriptive and indicative of consistence with the guidelines and approach designed from the offset.

The role of the Capacity Building Unit of the Secretariat of the Basel Convention was fundamental, having been responsible for the overall project coordination and to oversee the implementation of the project components. The continuous support and work conducted by the SBC within the framework of the project has been well acknowledged by partners and by those stakeholders that were interviewed during the field missions conducted for the preparation of this report.

No major adaptations were identified in the project plan in terms of its approach, although some issues were discussed by the Advisory Board to address recommendations from participating countries and by implementing partners. For example, the reports of the meetings of the Advisory Board indicate that the programme of work underwent some readjustments, either to optimize the efficiency and delivery of outputs, or due to unforeseen circumstances not initially present during the initial phase of the project. These were mainly due to delays in administrative arrangements at the national level, and in other cases due to political crisis or as a result of activities being postponed due to elections in one of the participating countries. In all cases, practical solutions were set in place without affecting the overall performance of the project. One relevant adjustment to the project consisted in the development of updated indicators of results, which was a recommendation derived from the first monitoring of the project. This new set of indicators allowed for a better follow up on the performance of the project.

The way in which the project management was undertaken by each of the partners indicates that their functions and responsibilities have been carried out with a high degree of effectiveness and efficiency. This is supported by the fact that all of the project objectives have been met in agreement with the expected results, in terms of capacity building, institutional training, establishing a baseline set of information, dissemination of information and awareness raising. The progress reports and minutes of the advisory board meetings, as well as the outcomes of interviews with several project partners, confirms that an effective flow of communication and exchange of information between partners was achieved. It also indicates a cordial relationship between those involved in all the different stages throughout the project.

3. Stakeholder Participation and Public Awareness

Stakeholders were identified according to the needs of the project and most importantly, on those of the participating countries. For that effect, one key criteria applied included the assessment of existing capacities and the needs within each stakeholder to strengthen those capacities, both for the implementation of the project, and for future actions after its completion. For this purpose the selection included the most relevant sectors on the issue of e-waste at the national level, including the public and private sectors, local communities, NGOs, and the Basel Convention regional and coordinating centers. The role of the Basel Convention Centers in this stage of the project was quite important, both to assist in identifying national and regional stakeholders, as well as to implement awareness raising activities.

The interaction between the SBC, National Governments and the BCCC in Nigeria was also successful to approach and engage the leading sectors and partners involved in the e-waste issue in Africa and Europe. The completion of activities and the outputs obtained are a good indication of the level of engagement of stakeholders throughout the project and success would not have been possible without those interventions.

The degree and effectiveness of collaboration and interaction between the various project partners during the implementation of the project has been followed mostly

through the review of project reports and interviewees. The documentation produced throughout the project describes well the role of each stakeholder and the interaction among actors to achieve the objectives of each component. For instance, government institutions responsible for waste management have been able to enhance their collaboration by establishing formal strategies of communication by means of a working group or a national committee on e-waste. The impact of this improvement has now become evident as the flow of information and the data managed by different entities is now being shared for public decision-making purposes. This has been of particular importance for the environmental enforcement and regulatory agencies, as they now have access to information usually obtained and managed by either the customs or ports authorities.

According to information obtained through partners and interviewees, one of the major impacts of the project has been the enhanced awareness that has been achieved. In this respect, feedback collected during missions to Ghana and Nigeria, for example, clearly indicates that stakeholders have now gathered a much improved knowledge of the e-waste issue at the local, national and regional levels. This was made evident when visiting some of the local markets where second hand electronics are sold, and where some shop owners and market association representatives acknowledged the information obtained during awareness raising activities. There was also recognition on the need to raise awareness on a wider scope, and involve a larger number of stakeholders particularly in local markets. This issue is further discussed in section III of the report.

The results of awareness raising efforts within the project have also been positive when engaging local communities in activities that have contributed to reductions in emissions to the atmosphere. While not completely eliminated, the practice of open air burning has diminished in local dumpsites in Lagos and Accra. This will certainly enable a reduction in the emissions of pollutants into the air, while reducing the risk of damages to the health of the population and the environment.

4. Country Ownership and Drivenness

Prior to the implementation of the project the problem of e-waste was already widely recognized by Governments of African countries, as well as by stakeholders and project partners. However, collective and coordinated efforts had not been put into place to tackle the problem from a regional perspective. In this sense, and as a direct result of the design and effectiveness of the project, stakeholders have made important efforts to catalyze a series of complementary actions that have promoted and even higher interest in this matter at the national and regional level, and therefore increasing country ownership to follow up on lessons learned and successful stories.

The project has significantly enhanced capacities to tackle the growing problem of e-waste, and has delivered useful tools to assess the situation at the national and regional levels. As a result of information exchange and dissemination, the now increased level of understanding on the flow of EEE and e-waste seems to drive efforts and engagement towards problem solving and identifying sustainable economic

opportunities in the recycling sector. Another major output has been the generation of information through the National assessments, and its dissemination at all levels of society. In addition, the information collected throughout the project has been effective in promoting the environmentally sound management of e-waste in the context of the implementation of the Basel Convention.

In that respect, concrete plans to approve and implement national regulations and strategies to address e-waste have now a higher level of priority in the environmental agenda of all countries, indicating a significant level of commitment to incorporate the issue in the programme of work of public institutions. For example, in Nigeria a task force specific to address issues related to e-waste has been created within the Environmental Protection Agency, with dedicated human resources to enforce compliance. In Ghana, the Government in consultation with other relevant stakeholders has prepared a regulatory proposal with a focus on life-cycle, which is at the stage of review by Cabinet. In Benin and Côte d'Ivoire, there is a clear acknowledgment of the insufficient legal framework currently in place, and as a proactive response, respective national strategies have been drafted with emphasis on strengthening legislation, prevention and education. Overall, there seems to be a strong recognition among stakeholders on the achievements made through coordinated efforts while addressing this issue with a country perspective.

For example, regulatory agencies and customs officials have succeeded in establishing an effective communication network (e.g. access to customs databases) to stay informed about the flow of UEEE and e-waste in such a way that any irregularity can be looked into immediately and in accordance with the existing regulatory framework. In addition, there is a greater interest by the media and NGOs on the issue, and several reports have been published in national newspapers and bulletins, which not only address the problems to be solved, but also recognizing the achievements that have been obtained through the E-waste project African project.

The project has also catalyzed research interests to generate information and data on e-waste, including environmental and human health impacts. For instance, according to the BCCC in Nigeria, there has been an exponential increase in research activities and publications on e-waste in national and international scientific journals. Additional contributions derived from the project include funding for applied research projects currently underway, and supported by universities in Germany and the UK to Nigerian nationals. This is a significant outcome of project implementation, as it brings a closer and more tangible engagement of the research community, whose scientific input is seen as a key aspect towards supporting decision making at the political level.

Finally, the project has made effective use of information sharing and exchange to promote much needed commitment at the regional level. For instance, the EU-Africa Enforcement Network, the Basel Convention regional and coordinating centers, and the Economic Community of West African States (ECOWAS) may well serve as important technical and political fora to discuss and propose a regional approach to sustain efforts in the EEE and e-waste agenda. Additionally, the Call for Action on E-waste in Africa at the Pan-African Forum on E-waste in 2012, promoted unified action to outline a set of priorities to support development of a regional approach focused on

e-waste. In this respect, at least 20 African States, the private sector, civil society, intergovernmental organizations, academia and other stakeholders, have taken into consideration existing international and regional legal frameworks relevant to electrical and electronic waste, to harness synergies and avoid shifting challenges from one country to another.

5. Financial Supervision and Management

The financial plan developed for the project was delivered effectively and met its targets to ensure the implementation of all activities as set out in the project document. A review of the financial reports prepared for the project, allows concluding that the project management has been satisfactorily in demonstrating an efficient process in attaining all targets. According to the final report of the project prepared by the SBC, the financial reports were submitted by the contracted partners within the deadlines set by the SBC, except for one partner who submitted the reports with delay. The SBC also submitted financial reports to the donors for their review in a timely manner.

Regarding the capacity to leverage additional resources, the project played an important catalytic role to materialize involvement from other donors. For instance, the contribution from the EC was complemented by a total of 496,452 USD, coming from the Governments of Norway, the United Kingdom, and the Dutch Recyclers Organization (MVMP). These contributions were applied to develop two additional e-waste country assessments (Benin, Côte d'Ivoire), with the respective capacity building component. Therefore four e-waste assessments and ESM management plans were prepared. This additional support also allowed broadening the scope of the ESM plans by considering policy and principles for ESM of e-waste. The project also received an additional 98,546 USD to support the available resources for the organization of the Pan Africa Forum.

The finance documentation prepared by the SBC shows the updates in budget allocation and how funds were distributed among project partners. These reports also describe how fluctuations in currency exchange were addressed, and indicate to what extent project activities were affected. In this respect, and due to the minor fluctuations, no major impacts were identified and all components were completed successfully in agreement with the budget allocated for each activity. The reporting from the SBC on financial matters provides evidence that funds were disbursed in a timely manner to all project partners and linked to the individual project components.

The project also benefited from meaningful in-kind contributions by donor countries, allowing for budget reallocation for the implementation of other project activities. The applicability of these funds was project-oriented and mostly focused on broadening the scope of some of the activities. Overall, these additional contributions reveal a very positive response from donors and contributors to the project and its cost effectiveness.

6. SBC Supervision and Backstopping

The implementation of the project made effective use of previous experiences from similar activities in which the Secretariat of the Basel Convention has been involved in other regions, while adapting to the conditions of the participating countries in Africa (e.g. existing capacity and legislation, availability of information, government structures). The SBC has taken a leading coordination role according to its functions as detailed in the project document, and considering the requirements of supervision for each of the project components.

The review of information, including meeting and progress reports shows that the Secretariat of the Basel Convention performed its functions efficiently and effectively, and that it has followed the expected procedures for the overall management of the project. The SBC in coordination with project partners also ensured that the project was dynamically executed. In addition feedback collected from project partners and stakeholders at the county level, generally indicate that the secretariat provided effective guidance, feedback and a step-by-step supervision to address administrative, financial and technical matters.

The SBC also facilitated and convened face-to-face meetings and regular electronic communication between project partners, implementers and the Advisory Board; it also provided the necessary administrative support for budget disbursements and for the planning of training and capacity building activities; it also ensured that all substantive aspects were efficiently handled and supervised throughout the timeline of the project. The secretariat also dedicated efforts to prepare documents in order to keep all stakeholders informed on the outcomes of the different activities related to the project.

The supervision functions performed by the SBC followed standard procedures for the assessment of progress, while ensuring that corrective measures were implemented when necessary. For example, when administrative problems occurred the secretariat promptly intervened to resolve them in a timely manner and at the shortest delay. Some of the most common causes of these delays were experienced at the country level (e.g. data collection, submission of reports, incomplete documents), but in all cases and by means of the secretariat's capacity these were properly addressed to minimize impacts.

The format of the documents prepared by the secretariat is adequate and show a clear summary of project activities. The reporting also includes specific mention to the adjustments made to the project's timeline whenever this was required. With respect to financial and administrative issues, the progress and financial reports indicate how these issues were supervised to ensure that project objectives were met within its scope and minimizing delays.

7. Monitoring and Evaluation

The monitoring and evaluation (M&E) activities carried out for the project followed standard UNEP rules. However, the project document does not provide detailed information on the procedures required to assess project implementation, progress and achievements. These operational aspects were found to be well implemented, but need to be better described and documented in the project document.

The original project log frame presents a clear description of the action and activities for each component, allowing for a simple and easy to follow development track. Further revisions of the log frame adequately incorporate and justify adjustments that were considered necessary to adapt to changing needs. For instance, when additional funds were leveraged, certain activities were implemented in a larger number of countries (e.g. development of National e-waste assessments). In addition when administrative or logistical delays were identified, these were clearly indicated in the revised log frame, with a description of how those issues were addressed.

The M&E system implemented is found to have facilitated progress assessment, as well as a timely tracking of results throughout the timeline of the project. The feedback collected from several project partners indicates that the project benefited from a coherent monitoring plan, including the key observations delivered after external monitoring tasks were conducted. For instance, the development of indicators in cooperation with implementing partners was an important action aimed to improve project assessment.

The half-yearly project reports are considered to be complete as they offer a concise description on the status of the project, and contain relevant information on the delivery of the project with respect to outputs and indicators. Furthermore, a terminal evaluation of the project was prepared by an independent consultant and supervised by the SBC. This task was undertaken once all project activities had been finalized and when all related documentation was made available to the secretariat. The terminal evaluation of the project has made use of individual ratings for a set of evaluation criteria, using a six-point scale aimed at providing an overall assessment of the project. The results of the evaluation ratings are included in the conclusions section of this report.

In addition to the M&E plan developed for the project, an independent evaluation was conducted by the EC after the first year of implementation. The report of this work establishes the context and situation prior to implementation of activities, and provides relevant recommendations to address findings on the progress made at that point. The report adequately points out the main deficiencies in methodological aspects of the project, with emphasis on the lack of indicators that could quantify the contribution towards the achievement of project objectives. The main result coming out of this evaluation strongly recommended the development of Objectively Verifiable Indicators (OVI), with emphasis on demonstrating the feasibility of e-waste control and the exploration of economic opportunities that exist in the recycling of e-waste. Other relevant recommendations encouraged project management to closely address and anticipate potential risks and other assumptions that may slow down the project. These findings were deemed useful for project management purposes, and the Advisory Board agreed to make relevant adjustments to measure progress more effectively.

For example, some of the OVI developed included field activities that could give an indication of project impacts at the national level, as well as of what would be the situation had the project not been implemented. In addition, the development of these indicators facilitated the description of the significant changes that have been attained

through the E-Waste Africa project. For instance, the benefits of the training sessions and capacity building programmes were evident during interviews with stakeholders that participated in these activities. It was made clear by several stakeholders that a better knowledge of issues related to EEE and e-waste had been achieved, and that inspection and monitoring activities had started to follow a step by step methodology to identify any problematic issues.

D. Complementarities with the Basel Convention, its decisions and the programme of work

The implementation of the project responds to the decisions adopted by the Parties to the Basel Convention on improvement of the environmentally sound management of e-wastes and their transboundary movements, including the following:

- a. Linkage to SBC's Strategic Framework, Programme budget for 2009-2011 and 2012-2013 and the Decision BC-10/23 Capacity Building of the Basel Convention.

The E-waste Africa project supports the aim of the Strategic Framework in various aspects. To start with, the project has been successful in engaging stakeholders in African countries to articulate actions that are expected to contribute to the implementation of the Convention. For instance, the project allowed the interaction between Parties, the Secretariat of the Basel Convention, and Basel Convention regional and coordinating centers thus launching activities in cooperation with selected partners, national and regional actors to develop capacities pertaining to the ESM of electrical and electronic waste.

The project has also contributed to the Strategic Framework by responding to needs of Parties, and in that respect it has mobilized resources to implement raising awareness at the national and regional level; to provide technical assistance, training, capacity building and international cooperation, particularly between African and European countries. It is also foreseen that synergies with relevant institutions, organizations and other initiatives on e-waste issues will be strengthened as a result of the project.

One of the strongest links related to Decision BC-10/23 consists on the emphasis that the project placed on building capacity in Africa. This is evident taking into account that a wide range of stakeholders were able to increase their knowledge on EEE related issues, and recognize the importance of putting in place an agenda to regulate and manage e-waste at the national and regional level. In addition, the project has taken into account that waste management requires sound policies aimed at promoting a variety of locally sustainable, and cost-effective solutions. This has been well reflected in the ESM national plans that were developed within the scope of the project, comprising proposals to establish a regulatory framework that also includes public health and safety measures to protect the population.

Finally, the project has been instrumental in building much needed capacity to collect and manage data on EEE and e-waste, which could provide a better indication of transboundary movements and trends in major ports of Africa, such as Accra and Lagos. This type of data is critical to build statistics that are required to produce information that will help policy implementation at the national level, with relevant contributions to the Basel Convention and its Strategic Framework.

b. Alignment with the Nairobi Declaration on the Environmentally Sound Management of Electrical and Electronic Equipment

The Nairobi Declaration was adopted by the Conference of the Parties to the Basel Convention at its eight meeting. Mindful of the call for action promoted by this Declaration, and taking into consideration Decision VIII/2 adopted by the COP, which focuses on the needs of developing countries and countries with economies in transition, the implementation of the E-waste Africa project establishes direct links with the Nairobi Declaration in various forms.

For example, the project raised awareness at all levels on the issue of e-waste, its challenges and potential solutions. It also succeeded in promoting the exchange of information from developed to developing countries in both directions. In alignment with the Nairobi Declaration, the project achieved a wider recognition of the illegal traffic of e-waste and the importance to encourage national and regional comprehensive actions for the ESM of e-waste. In addition, the project has suggested improvements on e-waste management controls by means of national policy development, and its implementation through shared responsibilities from all concerned stakeholders.

The project is also supportive of the Nairobi Declaration through its accomplishments to encourage cooperation for the establishment of strategic partnerships within the context of the Basel Convention with a view to improving the ESM of e-products. In this respect, the OEMs African Alliance was formed and has facilitated activities in partnership with UNEP and governments towards finding regional solutions to e-waste issues.

c. Strengthening of the operation of the Basel Convention regional and coordinating centres.

The main function of the Basel Convention regional and coordinating centres is to launch or contribute to strategic and operational partnerships and cooperation with public and private stakeholders to leverage the impact of the Basel Convention, to raise the profile of hazardous waste and waste issues in international fora, to promote public-private partnerships, and to strengthen the operation

Dissemination of information and facilitating awareness raising on the impacts of e-waste were some of the main tasks of the Basel Convention regional and coordinating centres within the context of this project. In addition, the operation of these centres seems to have benefited through active involvement by providing support to undertake capacity building activities. The Basel centres have also made use of in-house capacities to edit and translate technical documents produced throughout the course of the project.

In addition, the participation of centres in meetings and conference calls related to the E-waste Africa project seems to have strengthened existing communication systems and coordination efforts in the region. For example, the BCRC in Nigeria was mainly responsible to establish contacts with the major relevant partners in the region to

encourage participation and commitment in project activities. This is expected to significantly contribute in maintaining and enhancing the network in the region. Additional benefits of the project towards the strengthening of the Centres include the involvement of their staff in financial reporting, communication and participation in partnership activities.

d. South-South Cooperation

The E-waste Africa project allowed for a dynamic and continuous flow of information between participating countries. For instance, during training sessions stakeholders were able to share information regarding the situation of respective national e-waste issues and how some of the problematic areas around are tackled. Collaboration efforts throughout the project also encouraged countries to discuss existing regulatory frameworks as well as the necessary changes to ensure that EEE and e-waste are managed in an environmentally sound manner. Project activities also assisted countries in providing a platform to exchange current practices for the environmentally sound refurbishment and recycling of e-waste.

III. Conclusions and Recommendations

A. Conclusions

The project design and its planning have been adequate with respect to the scope and available resources for its implementation. Management and coordination mechanisms were found to be effective throughout the lifetime of the project, while the selection of implementing partners was conducted adequately and based on proven experience and knowledge.

The financial and technical resources made available for the implementation of activities were appropriate and distributed in alignment with the project plan. In addition, the project proved successful by leveraging additional financial and in-kind resources, which allowed broadening the scope of several of the project components. For example, two additional countries were able to prepare National e-waste assessments and the respective ESM strategies.

Activities were designed to reach a wide range of actors at the national and regional level and in that respect, the project was effective in fostering a cross-sectoral approach with participation from a variety of relevant sectors in project implementation.

The project has produced key findings in participating countries, and has also shown positive results in providing an effective support to establish a baseline of information and to build capacities aimed at strengthening the regulation and the environmentally sound management of e-waste in African countries.

In respect of policy and legislation, the project has promoted the exchange and sharing of information between African countries, and triggered discussion on the adoption of a

regional approach that supports the ESM of e-waste as well as on control of illegal traffic in the region.

The project has made significant contributions to raise awareness in all sectors of society and to facilitate a better understanding on the life-cycle of EEE and the challenges posed by e-waste. Progress was also achieved through the identification of cost-effective solutions to adequately address e-waste with the participation of Government agencies and relevant stakeholders. This has been an achievement of great relevance to countries and has provided with clear elements to develop ESM national strategies for e-waste.

Achievements gained through the project were disseminated at the regional and international events, giving visibility to some of the efforts made in Africa to tackle issues related to e-waste. This action also provided with an opportunity to share experiences and lessons learned through the use of methodologies that can be replicated elsewhere. That includes, for example, the tools applied to develop the National e-waste assessments, and the guidelines and the manual used during trainings in the field.

Among the shortcomings identified from the information collected from field visits and interviews, it was not always possible to replicate awareness raising activities, particularly in provincial towns and within the recycling and trading sectors. This was apparently due to the lack of financial and human resources, as well as some time constraints given the busy schedule to complete all of the project components.

Although the project document does not include within its scope putting in place national regulations in participating countries, there seems to be a concern that additional activities should have been implemented to strengthen capacities in order to establish specific national regulation, while (?) others enforcement activities need to be strengthened and implemented.

Overall and in light of the information reviewed on the E-Waste Africa project, the goals and objectives of the project have been accomplished successfully. The project was able to make efficient use of available resources to deliver results that have benefited countries in the region. It also proved effective in selecting project partners; in designing a well-crafted capacity building programme; and in undertaking an effective coordination mechanism.

The project has been influential considering that national stakeholders have successfully increased their knowledge, and that with that they have been able to identify challenges and priorities to develop a national strategy to improve the sound management of e-waste. In the same line, the project fostered information exchange among all relevant sectors, and encouraged cooperation, coordination and synergies strengthening among diverse stakeholders.

This section of the report provides individual ratings for the evaluation criteria described in section II. D. of the Terms of Reference (See Annex 1). Some criteria contain sub-criteria that require separate ratings (i.e. sustainability and M&E).

Furthermore, an aggregated rating is provided for Relevance, effectiveness and efficiency under the category “Attainment of project objectives and results”. The results and assessment of these evaluation ratings are summarized in Table 2 below.

Most criteria are rated based on a six-point scale as follows: Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU). Sustainability is rated from Highly Likely (HL) down to Highly Unlikely (HU).

Table 2. Evaluation ratings

Criterion	Summary Assessment	Rating
A. Attainment of project objectives and results	The overall objective of enhancing capacity was successfully met in all participating countries.	HS
1. Effectiveness	Through active participation from a wide range of stakeholders it was found that a better understanding and a greater sensitivity to the challenges and opportunities associated with e-waste has been achieved.	HS
2. Relevance	The project’s objectives and implementation strategies were consistent with the mandates of the SBC and the implementing partners. It also addressed specific country needs on e-waste related issues.	HS
3. Efficiency	The project proved cost-effective in its implementation, ensuring an optimum distribution of tasks, budget and responsibilities among key partners and stakeholders	HS
B. Sustainability of project outcomes	The national ESM strategies are expected to move forward necessary efforts to implement medium and long-term actions. For that to occur, political stability should be considered as a key factor towards sustainability.	HL
1. Financial	Current national and regional coordination mechanisms should prove useful to leverage resources to follow up on project success.	HL
2. Socio-political	The project achieved	HL

Criterion	Summary Assessment	Rating
	sustained interest from key social sectors while political will seems to support development of specific regulation on E-waste.	
3. Institutional framework	Important changes took place within environmental agencies at the national level to incorporate management tasks related to EEE and E-waste.	HL
4. Environmental	Project benefits include behavioral changes on E-waste management within the informal sector. A decrease in open burning practices is likely to positively impact on emission reductions and exposure to hazardous substances.	HL
C. Catalytic role	The project offered a suitable platform that contributed to several policies, behavioural and institutional changes aimed to strengthen the sound management of E-waste. Pending efforts remain to implement enforcement actions and commit sustained financing in the long term.	S
D. Stakeholders involvement	The most relevant sectors at the national and regional level were identified. A high degree of engagement and participation of stakeholders highly contributed to the implementation of activities. The flow and exchange of information between sectors has significantly improved as a result of the project.	HS
E. Country ownership / drivenness	Lessons learned, enhanced capacities and higher awareness made a positive impact on country ownership. Better access to data has driven efforts to better recognize and address challenges posed by of EEE and e-waste.	HS
F. Achievement of outputs and activities	All of the project components were completed in agreement with the project planning. Expected outputs were	S

Criterion	Summary Assessment	Rating
	delivered satisfactorily with respective benefits to target groups. Awareness raising needs to be further strengthened, particularly within the informal sector.	
G. Preparation and readiness	Project preparation made emphasis on key elements such as the strategy for its execution, the specific needs in the participating countries, the selection of implementing partners, financial planning, and its contributions to the Basel Convention.	HS
H. Implementation approach	The implementation arrangements and the institutional framework effectively addressed the overall objective of the project and its management requirements. The establishment of an Advisory Board ensured a timely and effective supervision of the project. The approach followed has been effective by ensuring that all outputs were delivered in alignment with the programme of work.	HS
I. Financial planning and management	The financial plan was delivered effectively and met its targets. Reports by the SBC clearly indicate updates and budget distribution among partners. The project further demonstrated success in leveraging additional resources from other sources.	HS
J. Monitoring and Evaluation	Project monitoring and reporting followed standard UNEP technical and financial procedures, and tasks were conducted in alignment with project objectives and results	HS
1. M&E Design	Design was focused on results and follow-ups based on criteria and indicators stated in the logframe.	HS
2. M&E Plan Implementation	The M&E plan facilitated progress assessment, as well as a timely tracking of results. The use of indicators proved highly useful to follow up on	HS

Criterion	Summary Assessment	Rating
	activities and outputs. The plan further allowed for flexibility to make adjustments when appropriate.	
3. Budgeting and funding for M&E activities	An itemized budget lists the evaluation costs for M&E purposes, including the terminal evaluation of the project.	HS
K. SBC Supervision and backstopping	The SBC efficiently performed its functions with a leading coordination role. Feedback collected from stakeholders indicates that the SBC provided an overall supervision and management of the project, while maintaining an effective communication mechanism among partners and country leads.	HS

B. Lessons Learned

On the policy level, capacity building on EEE and e-waste has provided practical knowledge and concrete tools which have been used at the workplace by local and federal authorities. A noteworthy example is the control measures that ports and customs authorities have put in place to identify and classify incoming waste that falls under Basel Convention criteria. Although only one such example has been reported, all countries acknowledge that the methods and guidance learned will enable authorities to conduct such inspections at the main entry points on a regular basis.

The project has brought together key stakeholders and partners to facilitate discussions on the need to develop a common strategy to address the challenges posed by e-waste. For instance, the involvement of the informal sector in training activities has sensitized its main leaders which seem now committed to collaborate with the regulatory agencies to identify alternative and sustainable solutions to manage e-waste. The concrete impact of these collaborative efforts comes in the form of a country-driven ESM strategy, which has been drafted while collecting inputs and recommendations from all sectors. The next steps will be critical to sustain joint efforts towards implementing the action plans as set out in the ESM strategy.

Coordination efforts to establish a baseline set of information at the national level is an important lesson that seems to have proven sustainable throughout and after the project. Interviews with project partners and feedback obtained from stakeholders during field missions also indicate that improvements in data collection and recent agreements to grant access to internal sources of information have strengthened enforcement actions supported with solid data. For example, the environmental

authorities are now gaining better access to information on shipments and cargo details before their arrival at the ports. This in turn allows for inspection and control actions to be planned in advance. The best practices of information exchange thus constitute an important contribution to ensure compliance from all agencies involved (e.g. customs, ports and environment) in their respective duties.

C. Recommendations

The sustainability of the project will be highly dependent on the availability of funds, but also on political will and support at the highest level to push the progress forward. The main common challenge among the countries that participated in the project is the scarcity of financial resources to implement the national ESM strategies. In addition, waste management is not generally perceived as the most problematic issue in the environmental agenda. Furthermore, there is general agreement that public awareness and enforcement measures are still not enough and must to be strengthened.

When it comes to financial resources, one concrete problem that remains in the region is the lack of investment to establish a cost-effective scheme for the environmentally sound refurbishment, recycling and disposal of e-waste, or for the implementation of stricter control and regulatory measures. Sustained efforts towards implementation of ESM strategies need to be accelerated and countries should also identify external financial mechanisms (e.g. donors, bilateral cooperation, international funding agencies) to move forward.

With respect to regulatory efforts, countries may consider committing activities in their respective yearly planning/budgeting to address EEE and e-waste. Some specific actions may include (as appropriate): developing, updating and enforcing international, regional and national laws concerning the imports and exports of used EEE and e-waste. A stronger regulatory framework will also support implementation efforts under the Basel Convention. A verifiable indicator for regulatory agencies could be the number of laws and/or environmental standards addressing these issues. Another feasible indicator may come in the form of the number of inspections and classification of items that are considered as hazardous waste under the Basel Convention.

Both the private and the informal sector are key partners of the Government to put into action the National ESM strategies, and the momentum created during the project needs to be carried on with a vision to establish, for instance, formal collection and recycling facilities that support regulatory and non-regulatory actions. Under this context, seed money may be leveraged in collaboration with existing alliances, such as PACE, the West African Network for Environmental Compliance and Performance, the EU-African E-waste Network, and the Basel Convention regional and coordinating centers. For example, and if this is accomplished, initial funds may be used to design and implement pilot projects on sustainable e-waste collection, dismantling and refurbishment towards formalization of the informal sector.

A tangible impact of the project that has been consistently recognized is the increased awareness on the main issues addressed. However, human resources made available to undertake these activities appear to have been limited, and thus failing to reach a larger number of people. Furthermore, time constraints seemed to have also played a role in that respect. The logical progression to sustain and broaden what has been achieved is to encourage the representatives from the relevant institutions that benefited from the training sessions, to replicate efforts. For example, leaders of associations in the informal sector, in coordination with the environmental agency, could contribute by delivering awareness raising sessions to their members. The knowledge and experience of the Basel Convention Centers in the region is an important asset that should also be taken into consideration to promote continuous awareness raising at the regional level. A possible indicator for this type of activity could be in the form of changes in management practices onsite. For example, the number of equipment that are dismantled and refurbished in an ESM manner as a consequence of increased knowledge and awareness.

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