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Independent Terminal Evaluation

Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities

UNIDO SAP ID: 100340
EU Ref: Europe Aid/DCI-ENV/2011/261448/TPS

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Independent Terminal Evaluation

of the EC-Funded UNIDO Project

Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities

(EU Ref: Europe Aid/DCI-ENV/2011/261448/TPS; UNIDO Ref: SAP ID: 100340)

Project Technical Implementation by Pure Earth (formerly Blacksmith Institute)

EVALUATION REPORT

15 OCTOBER 2015

A Report for UNIDO

Report Author: Seán J. Burke (New Frontier Services)

Project financed by the European Union

Technical Implementation by Pure Earth (Blacksmith Institute)

PURE EARTH
BLACKSMITH INSTITUTE

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Reader Orientation

When reading this report, please note that Pure Earth and Blacksmith Institute are used interchangeably to reference Pure Earth (formerly Blacksmith Institute). However, as the Executing Agency's name was Blacksmith Institute at the time of contracting for this project, this is the name that is predominantly used for the purpose of this evaluation reporting.

Acknowledgements

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Disclaimer

The views expressed in this report are those compiled by the author and reflect a best effort to compile and cross-analysis different sources of data and information about the project. The views expressed in this report do not necessarily represent the views of UNIDO, the EC or Pure Earth. Any errors of factor or in assessment are the responsibility of the evaluation consultant.

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Glossary

DEVCO	European Commission Directorate General for Development Cooperation
EC	European Commission
EIB	European Investment Bank
EQ	Evaluation Question
EU	European Union
GAHP	Global Alliance on Health and Pollution
ISS	Initial Site Screening
LAC	Latin America and the Caribbean
NTAP	National Toxic Action Plan
Prodoc	Project Document
SDG(s)	Sustainable Development Goal(s)
TAP	Toxic Action Plan
ToR	Terms of Reference
TSIP	Toxic Sites Identification Programme
UNDP	United Nations Development Programme
UNEG	United Nations Evaluation Group
UNEP	United Nations Environmental Programme
UNIDO	United Nations Industrial Development Organisation
WB	World Bank
WHO	World Health Organisation

1. EXECUTIVE SUMMARY

1.1 About this Evaluation

This document comprises the draft evaluation report from the project '*Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities*'. The over-arching project goal is to help governments and communities heavily impacted by legacy toxic pollution in Africa and select countries of Eastern Europe[1], Latin America and the Caribbean to take locally-led action to improve the health of those communities by breaking pollution exposure pathways and preventing future toxic emissions. More specifically, the project aimed at i) expanding and reinforce the current review of toxic pollution in countries in Africa, Eastern Europe, Latin America and the Caribbean, and create an inventory of pollution hotspots in those regions; ii) building national and local capacity in Africa, and select countries in Eastern Europe, Latin America and the Caribbean to develop national toxics action plans and implement remediation/clean-up interventions to improve the health of those populations directly affected by legacy or active pollution; iii) promote awareness regarding the scope of toxic pollution and the need to address the issue globally and assist in the development of an international response. These objectives are mainly attained through a series of activities, among which there are: i) refinement of the risk screening methodology; ii) recruitment of field staff for site assessments; iii) polluted sites identification and assessment; iv) encouragement of government participation; v) improvement of data quality.

The project ran from February 2012 to end May 2015 (i.e. a duration of 3.33 years or 40 months), while all project activities were deemed by the project to have been completed by the end of April 2015. The project is funded through a European Commission grant, amounting to EUR 5,000,000, and is contracted to UNIDO with the Blacksmith Institute (now renamed as Pure Earth) responsible for technical implementation. Of the total EC EUR 5 million grant financing, EUR 350,000 (7%) is allocated to UNIDO as a management fee, with the rest allocated to the Blacksmith Institute, while Blacksmith Institute also provides co-financing of EUR 1,232,196.

An independent terminal evaluation for this project was foreseen as part of the Budgeted Monitoring and Evaluation Plan in the project document, with the purpose of conducting a systematic and independent assessment of the project in line with UNIDO and EC Evaluation policies. The evaluation of this project was initiated in July 2015, and comprised three core work phases. The first Phase consisted in the Inception Phase and comprised the reviewing of the project's documents, the mapping of the project's stakeholders and the development of the evaluation approach and evaluation tools. The second phase comprised field missions to Blacksmith Headquarters in New York, as well as field missions to project sites in Mexico (Morelos), Ghana (Accra) and Azerbaijan (Baku-Sumgayit). Finally, the third evaluation phase consisted in the analysis of the data and findings and in the development of the evaluation reporting.

[1] Former Soviet Union.

1.2 Evaluation Findings and Conclusions

Regarding project relevance, the *Reduction of Toxic Pollution* project is highly relevant on a number of levels. Firstly, within the broader sustainable development context, the project addresses a gap where insufficient attention has been paid to the health costs of pollution in developing countries, in particular on the poorer and more vulnerable population segments. In this regard, the project is highly relevant to the Millennium Development Goals (MDGs), and are also highly relevant to the forthcoming Sustainable Development Goals (SDGs).

The project is relevant to the *EC's Global Public Goods and Challenges operational programme* and its strategies, as well as being relevant to UNIDO's mandate and thematic priorities, in particular UNIDO's mandate to eradicate poverty through inclusive and sustainable industrial development, given that pollution weighs mostly on poor communities and contributes to hindering their development. There is also potential for UNIDO to increase the relevance to its work, as there is scope to contribute UNIDO experience in areas such as e-waste, business linkages and developing business networks or value chain improvement. The project's site identification and remediation work also makes it relevant to citizens and local communities affected by pollution and its attendant health risks. Relevance to national policy is at least in theory ensured via the project's process of development National Toxic Action Plans (NTAP), even this has proved more challenging than initially foreseen.

Regarding the **quality of the project design**, the design can be considered to have numerous strengths, not least leveraging technology and building out a global online data platform in the form of the TSIP (Toxic Sites Identification Programme) Database, the ISS (Initial Site Screening) approach, as well as the strong focus on local capacity development and a relatively cost-effective manner of training local stakeholders in the rapid site assessment approach. With the benefit of hindsight, a weakness has been to some extent the NTAP (National Toxic Action Plan) approach, with the expectation that NTAPs could be developed by and with national governments probably showing an overly project- centred thinking as well as being somewhat over-ambitious and optimistic.

Regarding overall **project efficiency**, the preliminary finding show mixed performance with regard to efficiency. Strong elements have been the rather global and strategic approach to toxic pollution, and in particular developing approaches and tools that show good cost-effectiveness – the development of the TSIP database as a global platform (and the development and scalability potential that this offers) is one key factor that deserves mention, as is the Blacksmith rapid screening approach and its significantly reduced costs per site assessment compared to conventional site assessment approaches. Another efficiency positive here is the use of local country stakeholders in site assessment work, following local training workshops.

Regarding project management, preliminary findings suggest that the project has been efficient with regard to the number of sites assessed and uploaded on the TSIP database and in terms of number of participants trained at in-country training workshops, even if the picture regarding the sustained impact of the latter (rapid assessment protocol training) is less clear. Regarding **efficiency of project inputs and costs**, it is difficult to say if the project has been efficient with regard to personnel-related costs, as the project reporting provides almost no justification of personnel and human resource costs against specific work inputs and outputs and achievements. However, the overall staff work effort provided by Blacksmith HQ staff shows in part the correlation between this effort and the strongest areas of output result, in particular

the volume of site assessment work and related training of local partner country staff, as well as implementation of pilot remediation projects.

Regarding **project effectiveness and the extent to which the project achieved its aims**, the project has recorded partial, and sometimes significant, achievement of its target outputs and results. Some of the core results obtained by the project have significantly exceeded targets – the number of sites assessed has been 772, in contrast to the project target of 450. This has involved a team of more than 200 trained investigators coordinated by Blacksmith are actively worked in 15 countries to collect health and pollution data in collaboration with local and national authorities. In terms of in-country training workshops the results are significant, with capacity building of 345 persons having been delivered, of which 194 have been researchers/investigators and 151 have been government staff members. Country-level reports of TSIP data have been presented to governments in 12 or 13 countries, across the Caucuses (2), Latin America (4), Africa (3) and Asia (3), while 11 of the project countries were completing or had completed a National Toxic Action Plan (NTAP) at the end of the project period, although it is not clear what this will mean in the short term or what will be the impact in the medium-to-long term.

Considerable work and outputs have been generated with regard to raising awareness on the negative impact (and development cost) of toxic pollution, with a significant awareness-raising and communications effort have been mounted. Regarding generating an international response, an important strategic result has been the creation of the Global Alliance on Health and Pollution (GAHP), and a notable achievement has been securing its mention in the Sustainable Development Goals commitments, specifically by adding soil and water (in addition to the existing mention of air-borne pollution) in order to make for a comprehensive coverage of pollution pathways. This is a highly significant achievement, in what it could mean for the future, and shows the strength of the campaigning, advocacy, lobbying work carried out by Blacksmith and the GAHP. These have been two of the project's most important achievements, and all involved in producing these results are to be congratulated.

The project's strong areas of impact relate in part to core Blacksmith Institute strengths, in particular site identification, local site assessment training and engaging local stakeholders to carry out pilot toxic pollution remediation. The leveraging of ICT (Information and Communication Technologies) in the development of the global TSIP database has a strong impact potential although it is not clear that the database is currently sufficiently oriented to provide a 'development' impact beyond the narrower environmental impact that has been the focus of Blacksmith's work. The evaluation findings suggest that strong points with regard to sustainability are the leveraging of ICT in the development of the global TSIP database, and the leveraging of local stakeholders in the training workshops and the lower-cost approach of the rapid site assessment approach. Part of the intelligence impact is a TSIP database with 3,200+ sites and an estimated affected population of more than 90 million people. However, going forward, the impact potential of the TSIP database asset is significant, in particular if a wider focus is made on capturing wider development impacts, in particular in terms of site remediation.

Regarding the development **impact**, GAHP estimates that the small-scale pilot projects implemented under this project have been assisting a total population of 149,000 people, including 29,800 children and adolescents. With an investment of $585,000 of GAHP resources, GAHP calculates that this means a financial contribution of just under $4 per person. However, some of the field visit work suggest that optimal sustainability will require significant work in all three sites, and while this seems to be understood

in the case of Morelos (Mexico), it is less clear that clear analysis and planning has been done in the Accra Agbogbloshie (Ghana) and in Azerbaijan Sumgayit site. Related to leveraging impact and sustainability prospects, the current functioning of the project, in particular in terms of detail of reporting and in level of focus on socio-economic, governmental and business dimensions of sustainability, does not seem optimal with a view to leveraging the potential of GAHP nor the potential to bring increased funding into this area. Regarding **project visibility**, the site visits generally suggest that Blacksmith needs to do more in promoting the visibility of the EC as the project funder and of UNIDO, with site placards in Accra and Sumgayit for example containing no mention of the role or either the EC or UNIDO.

Lessons Learned

With regard to learning and development of the project approach to developing national government take-up and support for addressing toxic pollution, it may be worth considering in part the approach and experience of the EC-funded and UNDP-implemented *Parliamentary Action for Renewable Action (PARE)* project. Financed by the EC and implemented by UNDP and a UK-headquartered organisation called Climate Parliament, the project targeted capacity building in renewable energy for Parliamentarians in eleven countries across Africa, the Middle East and Asia. Some of the results were impressive, such as Tunisia's Parliament passing a constitutional commitment to environmental conservation and a landmark Renewable Energy bill while in countries in India and Bangladesh the work of the PARE project cross-party group's advocacy and lobbying work has played a significant role in significantly increasing the funding available for sustainable energy, with more than USD 1,600 million in additional funding for renewable energy being created.

The above PARE project achievements have involved awareness-raising and capacity building among parliamentarians in these countries, and like the Covenant of Mayors example mentioned above provide examples of how capacity building can be particularly effective when linked to specific policy objectives, political commitments of financing goals. For this reason they may relevant to internal stakeholder reflection exercise on what can be learned from this project's show what can be achieved when awareness raising, campaigning, capacity-development and advocacy are anchored in a wider action-based framework, in particular given the questions raised by the implementation experience of the NTAPs to-date.

Review of the Proposed Follow-up Project

A summary desk review of the Action Fiche for the foreseen follow-up project "*Mitigating Toxic Health Exposures in Low- and Middle-Income Countries: Global Alliance on Health and Pollution (GAHP)"* has been carried out at the request of UNIDO and the EC. With regard to future pilot projects, this evaluation's findings would seem to suggest that the focus should include an important shift to 'learning from what has been done', and in particular an exhaustive inventorying of lessons learned, successes and failures, success-enhancing factors etc., and to provide these in operational tools that can drive the creation of larger and more successful projects going forward.

The creation of the GAHP offers new possibilities, and has potential to become a significant new voice, but it is not clear that these have been as fully explored as it might in the new project proposal. What would appear to be more important/strategic is to focus more on developing large scale projects (sub-national, national, regional) that can build upon existing TSIP knowledge and pilot projects carried out in the target country or elsewhere, that are designed upon rigorous needs assessment and with a holistic view on

national government engagement. Such projects could then be reviewed by GAHP members and other relevant national, regional and international donors and actors with a view to providing funding support. This could potentially bring far more funding into the area – a core goal of GAHP – and possibly (if not probably) accelerate the development of the TSIP database. In other words, this evaluation would question if the project approach (and related design) of the foreseen follow-up project needs to be focussed more around being a catalyst and enabler of bigger responses? It is also not clear to this evaluation if expansion to new countries and identifying and assessing new sites should be such a high priority. If the goal is to progress the toxic-pollution health agenda, would it not be equally valuable to consolidate and accelerate work in countries where Blacksmith has made more progress, with a view to developing scaled-up examples of national success that can be replicated in other countries and regions?

A further point for consideration is to create a specific project component focusses on developing pilot-projects that show examples of toxic pollution remediation and health benefits that i) are driven to an important extent by business-led and market-led solutions (examples from current sites could be Morelos and Agbogbloshie); ii) show strong prospects for complete or partial financial sustainability; and iii) are designed and managed a view to being scaled and/or replicated (across the country or region, or globally in similar sites) and thus are managed with a strong business rigour and with a sense of urgency. Furthermore, the proposed role of UNIDO beyond a continuation of contract management and administration (i.e. to carry out site identification and assessment in one country, possibly Columbia) does not seem that convincing, as it is not explained what is the real added value of UNIDO implementing site assessment and remediation work in one country (although there could certainly be a valuable learning process in that). It would seem much more useful that UNIDO takes on a project mandate related to identifying, supporting and scaling pilot project solutions either implemented to-date (of selected future ones) with a view to providing pilot project models and success stories that are scalable or replicable (i.e. point 'h' immediately above). Finally, the significant funding allocation earmarked for the GAHP makes it all the more important that GAHP development and institutionalisation proceeds on the basis of a clear plan, milestones and timing, such that the Alliance is institutionalised and follows international standards with regard to good governance. While Objective 3 of the project concept is focussed on the establishment of an independent and effective GAHP, a more detailed strategy and development plan (including options analysis as appropriate) needs to be developed rapidly and in a consultative manner with GAHP members. Ideally, this timeline for full GAHP institutionalisation should be set out in the project concept, or form at least one of the early deliverables from the project.

Recommendations are provided in Chapter 8.2 that develop further some of the above learning and reflection points and some of the comments above regarding the proposed follow-up project. Again, it should be emphasised that the above are based upon a summary desk review of the draft project Action Fiche, and are intended as comments and reflection points and not as an assessment of the draft project Action Fiche.

1.3 Evaluation Recommendations

The recommendations in many respects are set out as points for reflection and consideration, as the issues are complex. Their core purpose is to build on some of the strengths and good results of the project under evaluation, and to provide suggestions as to how some design weaknesses and implementation weaknesses can be addressed. **Twelve recommendations are provided** and these 12 recommendations can be grouped into **4 Categories**: i) **Recommendations R1 and R2:** Recommendations that are **strategic** in nature and relating

to the project concept, relating to what should be the objectives of the next phase and how can the project be set up to deliver the biggest impact for all stakeholders; ii) **Recommendations R3, R4, R5, R6, R7:** Recommendations that are **more operational, but relate to key work processes or intervention approaches, and seek to translate the strategic recommendations into operational processes** to deliver the suggest part shift in focus; iii) **Recommendations R8, R9:** Recommendations targeted to **developing specific frameworks, strategies and tools to improve sustainability design and performance** in pilot projects and other pollution remediation projects more generally; and iv) **Recommendations R10, R11, R12:** Recommendations targeted to leveraging potential or strong points of the **pilot projects** visited during the evaluation field visit programme, or addressing weaknesses of these projects

Category 1	**Strategic Recommendations relating to core project concept and objectives**	**R1, R2**
Category 2	**Operational Recommendations that seek to translate the strategic recommendations into operational processes**	**R3, R4, R5, R6, R7**
Category 3	Recommendations targeted to **developing specific frameworks, strategies and tools to improve sustainability design and performance**	**R8, R9**
Category 4	Recommendations targeted to Pilot Projects in Morelos, Accra and Sumgayit	**R10, R11, R12**

The first strategic recommendation is to **Review the Project Approach Going forward to Reflect Lessons Learned, Address Weaknesses, Reflect Stakeholder and Donor Interests**, and Increase Projects Capacity to Raise Global Interest and Increased Funding Support **(R1)**. A second strategic recommendation is to **create a Needs Review and Project Formulation Process between the next Project Phase and GAHP**, to allow the project to act as a formulation vehicle for new national and regional programmes that can attract funding support from GAHP members **(R2)**.

Regarding the 5 recommendations targeting the operationalisation of the above strategic recommendations and institutionalisation of GAHP within core project processes, the first of these recommendations is to **Adapt the Project Approach to Fostering National Government Commitment and Action through NTAPs/MoUs (R3)**. A second recommendation is to **Develop a multi-stakeholder governance advisory and oversight mechanism for the core rapid screening approach (R4)**, and a third relates to Development of the TSIP, specifically to **Review TSIP Site Classification with a view to increasing 'development return' of TSIP (R5)**. A fourth recommendation is to **Consider developing a formal project pollution and health reporting programme to GAHP members** at defined regular intervals to support GAHP formulation and take-up of new country, regional and/or thematic projects **(R6)**. The fifth of these operational recommendations is **Increased Involvement of UNIDO in Supporting Development and Delivery of Market/Business-Led Solutions and Improved Financial Sustainability of Pollution Remediation Projects (R7)**.

Two recommendations are provided with a view to improving sustainability design, prospects and performance with pilot projects financed under the future EC-supported project foreseen, as well as ensuring non-pollution and non-health dimensions are sufficiently taking into account, in particular economic and business/market factors and financial leveraging. The first is to **Develop a Robust Pilot**

Project Proposal and Work Plan Template for all future pilot projects (R8), and the second is to **Develop a detailed site sustainability framework, templates and strategy** to ensure that the wider sustainability and related development potential and benefits are maximised **(R9)**.

Finally, three recommendations are provided with respect to the pilot projects visited during the evaluation field visit programme: i) Accelerating Work in the Morelos Pilot in order to Leverage its Potential of Act as a Demonstration of Market-driven Solution to Toxic Pollution **(R10)**; ii) Developing a More Rigorous Project and Business Plan for the Ghana Agbogbloshie eWaste pilot project **(R11)**; and iii) Exploring how the Sumgayit Pilot's public demonstration value can be increased, as well as increasing involvement from the local municipality **(R12)**.

2. PROJECT OVERVIEW

Section Guide

This section provides an overview of the following:

- *The project background context and intervention rationale (Section 3.1)*
- *The project's objectives, strategy and target outcomes (Section 3.2)*
- *The project's target stakeholder groups (Section 3.3)*
- *The project's contribution to EC, UN and SDGs Policy Frameworks (Section 3.4)*
- *The project's implementation arrangements (Section 3.5)*

2.1 About this Report

This document comprises the draft evaluation report from the project '*Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities*'. The over-arching project goal is to help governments and communities heavily impacted by legacy toxic pollution in Africa and select countries of Eastern Europe[2], Latin America and the Caribbean to take locally-led action to improve the health of those communities by breaking pollution exposure pathways and preventing future toxic emissions.

The project ran from February 2012 to end May 2015 (i.e. a duration of 3.33 years or 40 months), while all project activities were deemed by the project to have been completed by the end of April 2015. The project is funded through a European Commission grant, amounting to EUR 5,000,000, and is contracted to UNIDO with the Blacksmith Institute (now renamed as Pure Earth) responsible for technical implementation. Of the total EC EUR 5 million grant financing, EUR 350,000 (7%) is allocated to UNIDO as a management fee, with the rest allocated to the Blacksmith Institute, while Blacksmith Institute also provides co-financing of EUR 1,232,196.

An independent terminal evaluation for this project was foreseen as part of the Budgeted Monitoring and Evaluation Plan in the project document, with the purpose of conducting a systematic and independent assessment of the project in line with UNIDO and EC Evaluation policies. The terminal evaluation is planned to take place from July to September 2015.

2.2 Project Objectives and Intervention Rationale

Project Goal and Specific Project Objectives

As mentioned above, the over-arching project goal is to help governments and communities heavily impacted by legacy toxic pollution in Africa and select Eastern Europe/FSU and the LAC region to take locally-led action to improve the health of those communities by breaking pollution exposure pathways and

[2] Former Soviet Union.

preventing future toxic emissions. Within this framework, the specific objectives of this project are threefold, as set out in the table below:

Table 1.1. - Overview Project's Specific Objectives

SO	Summary	Specific Objective
SO1	*Toxic pollution review expansion and reinforcement*	Expand and reinforce existing toxic pollution review in countries in Africa, Eastern Europe, and LAC Create an inventory of pollution hotspots in these regions
SO2	*Build national and local capacity*	Build national & local capacity in Africa, and select countries in Eastern Europe and LAC to i) develop national toxics action plans and ii) implement remediation/clean-up interventions to improve the health of those populations directly affected by legacy or active pollution
SO3	*Promote global awareness of toxic pollution*	Promote awareness regarding the scope of toxic pollution and the need to address the issue globally and assist in the development of an international response

The project is expected to achieve its overall goal through the *provision of technical expertise and support for expanding the inventory of toxic hotspots and strengthening local and national capacity to design, implement and replicate remediation interventions*. Additionally, the project is to collaborate with the UN system and other existing initiatives with a view to raising awareness nationally and internationally about the global scope of pollution and in turn to generate support for an international response.

Table 1.2 – Project Factsheet

Project Title	Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities
EC ID Number	Europe Aid/DCI-ENV/2011/261448/TPS
UNIDO ID (SAP Number)	100340
Country(ies)	Global
Implementing Agency	UNIDO
Project Executing Partner	Blacksmith Institute
Project Implementation Start Date	February 2012
Project Duration (Months)	40
EC Grant	EUR 5,000,000
UNIDO Management Fee	EUR 350,000
Counterpart Inputs - Co-financing	EUR 1,232,196

(Source: Project document)

Project Intervention Rationale – the Toxic Pollution – Health Nexus

Toxins in the environment affect millions of people in low and middle-income countries. Without clean-up, they pose real long-term environmental and health problems, and can significantly impede economic and social development, as well as achievement of the Millennium Development Goals (MDGs), particularly those related to poverty, environmental sustainability and maternal health.

Unhealthy physical environments, especially polluted areas, are often characterised by impoverishment and economic exploitation. As a result, pollution overwhelmingly affects poor and marginalised populations living in high densities near or in industrial areas, abandoned factories, waste dumps and urban slums, which commonly have unsanitary living conditions and little or no access to clean water. People affected by pollution are much more likely to get sick from other diseases, be chronically ill, have reduced neurological development, physical and mental disabilities and a shortened lifespan. Environmental degradation, including that caused by toxic pollution, aggravates poverty and makes growth unsustainable. Emerging evidence indicates that economic deprivation increases the magnitude of pollution-related morbidity and mortality. Environmental damage reduces quality of life and has significant costs for public health.

This toxic pollution causes immense harm to humans, especially in children by virtue of their smaller bodies being more vulnerable and capable of absorbing store toxic chemicals at higher rates than adults. Women and children, especially unborn foetuses, and under-fives, are particularly at risk and most vulnerable to the effects of toxins. Health impacts include physical and mental disabilities, organ dysfunction, neurological disorders, cancers and death. These pollutants exacerbate other health concerns by weakening the body's immune system, rendering it more susceptible to disease. An initial exposure to toxic pollution can be the undocumented cause of later illnesses, such as respiratory infections, tuberculosis, gastrointestinal disorders, and maternal health problems.

In addition, toxins can negatively impact biodiversity, contaminate groundwater, and poison or kill local wildlife, fish and food crops. This can in turn exacerbate food and water shortages, and result in the build-up of critical levels of toxins in the local food chain, as well as have negative implications for poverty and economic growth. Also, although most toxic pollution is localised, some pollutants, such as mercury, are transboundary and end up in food chains in oceans and distant countries.

The international community in general has poor understanding of the area of toxic pollution in low- and middle-income countries. Few national governments comprehend the full scope of pollution in their countries. Existing mechanisms and treaties regulating chemicals and toxins, such as the Basel, Stockholm and POPs Conventions, the Montreal Protocol and the Strategic Approach to International Chemicals Management (SAICM) are excellent initiatives but have some constraints such as sign-up being voluntary and insufficient funding for implementation. Furthermore, low- and middle-income countries often do not have the regulatory frameworks to adequately monitor toxic pollution, nor sufficient resources or technical capacity necessary to clean up polluted sites or implement guidelines for sound chemicals management. However, despite varying levels of knowledge and national capacity within developing country governments, there is significant political will to address the problems of toxic pollution. The international community can contribute to local and national efforts to clean up polluted sites. However, such contributions are limited by a lack of understanding of the scope of the problem and an uncertainty about how to identify and prioritise clean-up projects. Blacksmith Institute's efforts to identify and assess polluted sites can facilitate collaborative international efforts to identify and clean up these sites and reduce the risks they pose.

The Global Inventory of toxic hotspots, conducted by Blacksmith Institute in collaboration with the United Nations Industrial Development Organisation (UNIDO), and co-funded by the European Commission, has been extremely successful in conducting inventory work in the Asia Pacific region in countries such as India, Philippines and Indonesia. This is mainly because funding from the Asian Development Bank (ADB) focused

inventory activities in that region. Comprehensive inventory work in other regions has been slower to develop primarily due to lack of funding and lack of information. Funds are needed to expand efforts to identify toxic hotspots in Africa, Latin America and the Caribbean, the Middle East, Central Asia, and Eastern Europe.[3]

Additional funds are foreseen to enable the project to conduct thorough national reviews and build capacity to address the issue of toxic pollution at the country level. This is necessary to contribute to a more accurate picture of the global scope of toxic pollution and its health effects, as well as to identify priority sites for remediation. In addition, this work will promote awareness in the international community of toxic issues globally.

2.3 Project Target Results

National capacity to address toxic pollution will be strengthened via the following expected results:

1. Rapid risk assessments are conducted throughout Africa, Eastern Europe, Latin America and the Caribbean and integrated into the existing Global Inventory.
2. Comprehensive country data on polluted sites are shared with relevant national government agencies (i.e. Ministries of Health, Environment, Mining, and Industry) in all countries participating in the Global Inventory.
3. In three countries, national strategic management plans for toxic hotspots (or National Toxics Action Plans –NTAPs) are developed, priority sites for intervention are identified, and one intervention project is implemented in each country.
4. International awareness of the scope of toxic pollution is promoted within bilateral and multilateral agencies and the UN system.
5. Tangible progress is made toward establishing an international response to toxic pollution, especially to address legacy, artisanal and emergency-situation pollution. For example, interest in further presentations and data, incorporation of toxic pollution into international donors development agendas, or other initiatives to increase funding for chemicals and waste.
6. Private corporations and industry groups engaged in international efforts to deal with chemicals and wastes.

2.4 Project Implementation Arrangements

The implementing agency for this project has been UNIDO and the Blacksmith Institute has been the main executing partner agency, with the latter signing a contract[4] in February 2012 with UNIDO for the complete implementation of the project, against which UNIDO pays the Blacksmith Institute (the Contractor) EUR 4,565,752 for the full and proper performance of his obligations under this contract. This amount covers all of the contractor's expenses, including but not limited to provision of equipment, services and personnel costs. UNIDO has thus played a coordinating, monitoring and reporting role to the project donor, the European Commission, while Blacksmith Institute was responsible for the provision of technical expertise, project stakeholder coordination and management of in-country pilot project.

[3] Countries excluded from the Inventory include those with ongoing conflict (i.e. DRC, Iraq, Sudan, and Afghanistan), or other government (i.e. North Korea, Myanmar, and Somalia), small industrial base or population (e.g. Micronesia and Nauru), or existing pollution remediation is well established and in place (e.g. Turkey, Western Europe, USA, Australia and Canada).
[4] Contract Number 16002517, signed on 28 February 2012 between UNIDO and the Blacksmith Institute.

2.5 Evaluation Context and Objectives

This terminal evaluation is intended to cover the full duration of the project from its starting date in February 2012 to its completion in April-May 2015. Regarding **evaluation objectives**, the evaluation's main objectives will be to assess the project's performance in terms of relevance, effectiveness, efficiency, sustainability and impact. Additionally, the evaluation is to seek to draw lessons and develop recommendations for UNIDO and the EC that may help for improving the selection, enhancing the design and implementation of similar future projects. **The key question of the terminal evaluation is whether the project has achieved or is likely to achieve the project objective, i.e. if the project has reduced or is likely to reduce the impacts of toxic pollution to vulnerable communities.** The assessment has also sought to take into account both anticipated and unanticipated key results, analysing a broad spectrum of possible areas touched by the project. The focus of the analysis has been the project itself, the way in which it was designed and implemented, and the effects that it had. The assessment has been undertaken in accordance with the provisions contained in the Project Document. The assessment will be conducted in line with the norms, standards and ethical principles of the United Nations Evaluation Group (UNEG)[5].

The **evaluation approach** has been based upon desk research and field missions, and a limited number of telephone interviews. The desk research has included a review of relevant project document, as well as wider international policy and initiatives in the area of pollution and development. The field work has included missions to Blacksmith Headquarters in New York, as well as field missions to project sites in Mexico (Morelos), Ghana (Accra) and Azerbaijan (Baku-Sumgayit). In total, the evaluation has involved interviews with more than 60 stakeholders.

Regarding **evaluation management**, the evaluation is under the management of UNIDO, and as per the ToR the evaluator has worked independently, reporting to UNIDO counterparts throughout the evaluation exercise, in particular the UNIDO Office for Independent Evaluation (EVA) on the conduct of the evaluation and methodological issues. This has included briefing and liaison meetings with UNIDO staff at UNIDO Headquarters in Vienna. A member of UNIDO's evaluation unit also participated in the evaluation missions to the Blacksmith Institute in New York as well as the field mission to Morelos, Mexico. The evaluator has also consulted with EC staff in Brussels during the course of the evaluation.

[5] Standards for Evaluation in the UN System, UNEG, April 2005: http://www.unevaluation.org/document/detail/22
Norms for Evaluation in the UN System, UNEG, April 2005: http://www.uneval.org/document/detail/21
UNEG Ethical Guidelines for Evaluation, UNEG, March 2008: http://www.unevaluation.org/document/detail/102

3. EVALUATION FINDINGS – PROJECT RELEVANCE

Section Guide

This section provides an overview of the following:

- *Relevance of the project to the global development context (Section 3.1)*
- *Relevance of the project to Target Country Needs and Priorities (Section 3.2)*
- *Relevance of the project to EU Policies and Programmes (Section 3.3)*
- *Relevance of the project to UNIDO Policies and Programmes (Section 3.4)*
- *Extent of Participatory project identification process (Section 3.5)*
- *Quality of the Project Design (Section 3.6)*

3.1 Relevance to the Global Development Context

The evaluation findings show that the project is highly relevant to developing country needs, and to the wider development context in which international donor organisations are working. Not only to toxic pollutants affect a significant proportion of people living in low and middle-income countries, but they generate long-term environmental and health problems that can have a variety of health and socio-economic impacts, including higher illness incidence and reduced adult capacity to work, increased economic marginalisation in part due to the unattractive and high-risk profile of the physical environment that is polluted. Thus, toxic pollutants can significantly impede economic and social development, as well as achievement of the Millennium Development Goals (MDGs), particularly those related to poverty, environmental sustainability and maternal health.

Project Intervention Rationale – the Toxic Pollution – Health Nexus

Unhealthy physical environments, especially polluted areas, are often characterised by impoverishment and economic exploitation. As a result, pollution overwhelmingly affects poor and marginalised populations living in high densities near or in industrial areas, abandoned factories, waste dumps and urban slums, which commonly have unsanitary living conditions and little or no access to clean water. People affected by pollution are much more likely to get sick from other diseases, be chronically ill, have reduced neurological development, physical and mental disabilities and a shortened lifespan. Environmental degradation, including that caused by toxic pollution, aggravates poverty and makes growth unsustainable. Emerging evidence indicates that economic deprivation increases the magnitude of pollution-related morbidity and mortality. Environmental damage reduces quality of life and has significant costs for public health.

This toxic pollution causes immense harm to humans, especially in children by virtue of their smaller bodies being more vulnerable and capable of absorbing store toxic chemicals at higher rates than adults. Women and children, especially unborn foetuses, and under-fives, are particularly at risk and most vulnerable to the effects of toxins. Health impacts include physical and mental disabilities, organ dysfunction, neurological

disorders, cancers and death. These pollutants exacerbate other health concerns by weakening the body's immune system, rendering it more susceptible to disease. An initial exposure to toxic pollution can be the undocumented cause of later illnesses, such as respiratory infections, tuberculosis, gastrointestinal disorders, and maternal health problems. Negative effects run much farther than the above health damage - toxins can furthermore negatively impact biodiversity, contaminate groundwater, and poison or kill local wildlife, fish and food crops. This can in turn exacerbate food and water shortages, and result in the build-up of critical levels of toxins in the local food chain, as well as have negative implications for poverty and economic growth. Also, although most toxic pollution is localised, some pollutants, such as mercury, are transboundary and end up in food chains in oceans and distant countries.

Another area of relevance is the limited understanding in the international community of the toxic pollution area in low- and middle-income countries. Few national governments comprehend the full scope of pollution in their countries. Existing mechanisms and treaties regulating chemicals and toxins, such as the Basel, Stockholm and POPs Conventions, the Montreal Protocol and the Strategic Approach to International Chemicals Management (SAICM) are excellent initiatives but have some constraints such as sign-up being voluntary and insufficient funding for implementation. Furthermore, low- and middle-income countries often do not have the regulatory frameworks to adequately monitor toxic pollution, nor sufficient resources or technical capacity necessary to clean up polluted sites or implement guidelines for sound chemicals management. However, despite varying levels of knowledge and national capacity within developing country governments, there is significant political will to address the problems of toxic pollution. The international community can contribute to local and national efforts to clean up polluted sites. However, such contributions are limited by a lack of understanding of the scope of the problem and an uncertainty about how to identify and prioritise clean-up projects. Blacksmith Institute's efforts to identify and assess polluted sites can facilitate collaborative international efforts to identify and clean up these sites and reduce the risks they pose.

The **extent to which the project had a thematically focused development objective is quite wide, and the related achievements,** can be clearly measured and identified. The project has as its aim to produce country-specific matrixes allowing identifying pollutants and their effect on the health of their population, building then national action plans on the basis of these results. The number of sites sampled, the number of clean up actions and the number of NTAPs produced are a set of verifiable indicators used to measure the attainment of the objective.

3.2 Relevance to Target Country Needs and Environmental Priorities

Regarding the **extent to which the project was relevant to national development, environmental priorities and target groups (companies, civil society, beneficiaries of capacity building and training, etc.)**, relevance was in part built into the project design and approach, through the project goal of working with partner countries to develop a National Toxic Action Plan (NTAP).

At the end of the project period, 11 of the project countries were completing or had completed a National Toxic Action Plan (NTAP). These programmes were supposed to be broad in scope, but ended up being more thematic in their focus. This stemmed from the project implementation, where specific pollutants were isolated as the main issue of specific areas. As the project implementation progresses, a more flexible approach was adopted, allowing the NTAP process to comprise a simpler submission of existing national programmes, supplemented and aided by the project results and structures. These programmes are in

particular supported by Memorandums of Understanding which focus on possible areas of collaboration on polluted areas and human health.

While the short term relevance of the project is high, as mentioned before, the extent of the long-term relevance of the project can be questionable, as the commitment of national governments to the continuation of the actions is harder to assess, for a number of reasons. In the case of the pilot projects visited, the role or connection of national government to these projects varies. In Morelos, the work has focussed primarily with one territorial jurisdiction, while in Azerbaijan there has been support from the national government for the pilot project site work. Moreover, the limited progress with the NTAPs means that it is too early to pass any definitive judgement, and assessment will require waiting to see what real difference that signed NTAPs actually make. From an international point of view, the relevance of the project seems higher, thanks to the creation of the Global Alliance on Health and Pollution (GAHP), which has also been invited as an adviser to the WHO.

The relevance of the project to target groups has been adequate, with the clean-up actions in particular bringing the most direct positive impact. Instruments such as the DALYs (Disability Adjusted Life Years) calculator, even if in beta version, have a high potential of impact on beneficiaries: as the direct effects of toxic pollution on people's health becomes more visible, policies in this direction become a political necessity, easing the work of civil society organisation. Trainings and similar activities also were sufficiently relevant to government officials and professionals, as they trained them in the ISS methodology and REA protocol. These methods aimed at sampling polluted areas and isolating specific pollutants and their effects on the residents' health.

The field visits to pilot projects also showed a **clear perception of the project being relevant to national needs**. For example, in Morelos, interviews with local craft persons engaged in pottery making confirmed the relevance to their situation, with the benefit for their families' health and wider well-being being particularly emphasised. Moreover, interviews with local and regional public health officials confirmed the high relevance of the project, with local government health officials' support and continued willingness to support and scale the work effort being particularly noteworthy. Similarly, feedback from stakeholders at the Agbogbloshie site in Ghana and the Sumgayit site in Azerbaijan confirmed the relevance of the site work to local needs. Moreover, in the case of Morelos, the work of the pilot project is considers as highly relevant to other areas in the South East of the country that are affected by lead poisoning, and there is strong interest among public health stakeholders in this state to support the pilot project in expanding to other regions, and to support contact with appropriate national government stakeholders to facilitate this process.

3.3 Relevance to EU Policy and Programmes

Regarding the **extent to which the project was relevant to EC's operational programme strategies and to UNIDO's thematic priorities**, the project is quite relevant to the ***EC's Global Public Goods and Challenges operational programme*** and its strategies. In particular it is relevant to Objective 3, Expected Result 3.3, as it allows "partner countries to adopt reforms encouraging zero waste, recycling and safe disposal, and identify, monitor and control risks of pollution and pollution sources at the national level". The project identifies several polluted areas, enacted cleaning of said areas and encouraged country policies aimed at continuing these actions.

Moreover, the project is also relevant to Objective 4, Expected Result 4.1, as it "International environment and climate governance as well as "international partnerships and alliances on environment and climate change are strengthened and promoted", namely through the GAHP, an international organization aimed at protecting the environment reducing pollution and protecting peoples' health. The project contributed to the EC's objective in pollution reduction and capacity development to a sufficient extent. The actions taken were certainly successful in reducing pollution: pollutants were identified and clean-up actions were undertaken. However, the project has also promoted development of local capacities, in particular at the project in-country training workshops where a variety of local stakeholders (including government officials, environmental research stakeholders, local civil society and local authorities) received training on the rapid assessment approach.

3.4 Relevance to UNIDO Policies and Programmes

The project is also relevant to UNIDO's thematic priorities, in that it is relevant to UNIDO's mandate, objectives and outcomes as defined in the Programme & Budget and core competencies. In particular, it is relevant to UNIDO's mandate to eradicate poverty through inclusive and sustainable industrial development, as pollution weighs mostly on poor communities, hindering their development. It is also relevant to the work programmes from 2012 to 2015, concentrated mostly on projects removing pollutants and ODS (ozone-depleting substances) from the environment, shifting industrial production to more environmentally-friendly materials.

Moreover, at a broader level, the project's work in cleaning polluted sites (for example legacy industrial sites or live industrial sites) and promoting new policies and commitments to tackle environmental damage from industrial activity fits well with UNIDO's commitment to fostering sustainable industrial development. As the project has progressed, the evaluation has also noted an **increasing relevance to some of UNIDO's sector and global programmes and initiatives**. An example is the project's work in the Agbogbloshie waste site, where there is potential for UNIDO to contribute with its experience from working in e-waste in other parts of Africa and the world.

3.5 Participatory Identification Processes

The **extent to which a participatory project identification process was instrumental in selecting problem areas and national counterparts** is difficult to assess precisely. While it is not clear from project documentation how specific investigation areas were chosen Annex VI to the 2012 Activity Report does report that sites for GAHP pilot project were chosen among proposals coming from GAHP members. As the alliance was quite new and comprised mostly international associations at the time of the submission, it does not seem that there was sufficient participation from the countries where the projects were implemented and local civil society.

Regarding **national and local government participation**, this has generally been satisfactory - Government stakeholders have bene been involved in the site identification and screening process, with government agencies' staff participating in each of the 23 training workshops organised during the project duration (see chapter on effectiveness) as well as being given access to the online database of contaminated sites. In addition to their presence at the trainings, government officials regularly accompanied Field Investigators

on site visits in several countries. MoUs have been signed or are in the process of being drafted in all countries where TSIP is being implemented.

Where national or local government participation might be assessed as being weak, this should not necessarily be interpreted negatively as in some instances it may be difficult to solicit meaningful involvement for local or national government stakeholders, or for example very limited awareness and understanding of the negative health implications of local pollutants may mean that local communities do not share a sense of urgency to address the problem, at least not until sufficient awareness-raising and education efforts have been undertaken to sensitive them to the health issues and risks. However, in other cases this would certainly be an issue, and some of the field evidence from pilot site visits suggests that not enough is always being done to ensure meaningful involvement of local or national authorities

3.6 Quality of Project Design

Regarding whether the project remains relevant by taking into account changing environment conditions, the project has demonstrated that it is able to take into account the changing environment, and has reformulated the project results framework in response to some changing needs or realities. This can for example be seen regarding the NTPAs - these were initially conceived as a documents that would be quite broad in scope, a direct consequence of the project, covering several strategies aimed at programming to fight pollution coming from different sources at a national level.

However, during project implementation it became clear that this kind of document was not a realistic result, and that the actions themselves tended to focus mostly on specific pollutants. Thus, the documents the project aimed at became rather more pollutant-specific, and different in nature, as they shifted to integrations of existing national programmes and memorandums of understanding on collaboration. These changes though might be interpreted as a loss in relevance of the project, as they might represent a less binding and compelling commitment of the countries towards the reduction of toxic pollutants in the environment.

Furthermore, the extent to which the **project design properly addressed the problems at hand** is satisfactory. The project aims at sampling the largest possible amount of areas to identify toxic pollutants and their effects on the population. To do so, the project has several Field Investigators tasked with carrying out the sampling. There is also a system of National Coordinators of the sampling Field Investigators who report directly to the Head Office. They also report to Regional Program Directors at Blacksmith, who have Regional Program Officers and Assistants to support them. These experts increased from a number of 1-2 to a number of 5-10 per country. This created a quite efficient system aimed at filling in country-specific Key Pollutant matrixes, which have been translated and adapted to the specific countries. The idea to create the GAHP represents a good example of solid project design. Not only has it allowed the project to put together two key elements of the project - practical actions and awareness building, but represents an important platform to increase awareness of the toxic pollution challenge across the international community.

Regarding the **extent to which the project was formulated based on the logical framework (project results framework) approach** the formulation of the project stems clearly from the logical framework, provided with the ToR to this evaluation. The trainings involved the relevant government officials who would then be in charge of drafting NTPAs; trained technicians implemented sampling actions in each country, providing data for the different country matrixes, which fed into the NTPAs. The **extent to which the project has**

been formulated with the participation of national counterpart and/or target beneficiaries and relevant country representatives[6] is not always clearly evident from the project documentation itself. It appears rather that the identification of the targeted areas and the main pollutants has stemmed more from previous sampling work than from direct involvement of local stakeholders. However, during the project implementation pilot projects have been selected in consultation with local and national stakeholders, while development of NTAPs was done in consultation with partner governments.

[6] For example, participation from government, industries and civil society) have been involved and were participating in the identification of problem areas and technical cooperation strategies.

4. EVALUATION FINDINGS – PROJECT EFFICIENCY

Section Guide

This section provides an overview of the following:

- *Quality Of the Support Received from BSI (Section 4.1)*
- *Beneficiary Satisfaction with (Section 4.2)*
- *Efficiency of the project in in the use of Human Resources (Section 4.3)*
- *Efficiency of the Project Management and Management Support Activities(4.4)*
- *Monitoring and Evaluation systems (Section 4.5)*
- *Project coordination and management (4.6)*
- *Assessment of processes affecting achievement of project results(4.7)*
- *Procurement issues (4.8)*

4.1 Efficiency of Project Implementation and Project Management

Regarding project co-ordination resourcing, the project reporting emphasises the increase in coordination staff compared with previous related projects. The purpose of this change has been to improve interaction with government agencies as well as the quality of data collected. Where previously Regional Coordinators had been responsible for several countries and Field Investigators, National Coordinators now report directly to the Head Office and manage Field Investigators. Several Regional Program Officers and Assistants have also been added to Blacksmith's fulltime staff to support Regional Program Directors and assist with administrative responsibilities. In addition to more coordination staff, more Field Investigators have been contracted for each country. Where previously 1-2 Field Investigators were contracted for a given country, currently 5-10 are hired and trained. The consultants contracted under the project are typically professionals in a relevant area with a Master's Degree in Environmental Engineering, Public Health or related field.

Regarding **budget commitment**, the total budget of the project (including support costs) is EUR **6,232,196** with co-funding from the Blacksmith Institute. The total budget provided by the EC to UNIDO to implement the project was EUR 5,000,000, including agency support cost of EUR 350,000. So far, 100 percent of the EC-funded budget has been committed and/or spent. What is difficult to assess in any conclusive manner is the relative efficiency of the project with regard to cost-effectiveness in terms of project personnel costs, and the reporting does not link personnel costs or human resources to specific project work areas and results. The table below provides a breakdown of Blacksmith Institute HQ staff time spent on core work activity groups of the project over the project duration[7]. Project activities are clustered into four work groups – work on NTAPs, TSIP, GAHP and Pilot Projects (with the last category including both EC Pilots and

[7] It should be noted that under the Blacksmith Institute's internal organizational policies only HQ staff in New York are technically considered "employees". Country/Regional Coordinators, Tech Experts, In-country staff are all technically considered "consultants."

GAHP Pilots[8]). Work related to the TSIP accounts for more than 40% of time used (19,938 hours), followed by work on pilot projects (15,554 hours), with these two activity groups accounting for more than 70% of total time.

Table 4.1 - Overview Blacksmith Institute HQ Staff Time Spent on Core Project Work Activity Groups

Blacksmith Institute Staff Member	NTAPs	TSIP	GAHP	Pilot Projects
Richard Fuller (CEO)	-	-	4,906	345
Meredith Block (Regional Director, Asia)	-	1,588	79	1,261
Bret Ericson (Director, Operations)	886	3,417	-	511
Andrew McCartor (Regional Director, FSU)	104	4,531	-	590
Sandra Gualtero (Regional Director, LAC)	13	3,786	12	21
Kira Traore (Regional Director, Africa)	-	4,980	103	-
Lina Hernandez Gutierrez (TSIP QC, Program Asst LAC)		1,636		
Anthony Rivera (Pgm Asst Asia)	-	-	-	290
Megi (Intern, FSU)	-	-	-	347
Corinne Ahearn (Financial Manager)	-	-	-	5,206
Rohan Lawrence (Financial Asst/Bookkeeper)	-	-	-	4,497
Julius Ngalim (Financial Asst/ Bookkeeper)	-	-	-	1,952
Rachael Vinyard (Manager, GAHP)	-	-	6,139	69
Rachel Forkel	-	-	-	-
Angela Bernhardt (Director, Communications)	-	-	-	466
Total	*1,003*	*19,938*	*11,238*	*15,554*

Regarding work processes, Blacksmith Institute reports improved efficiency in the management of data as a result in a more streamline data flow from field sites to HQ/TSIP, rather than first reporting to the Regional Coordinators as was previously the practice.

4.2 Implementation Challenges

Challenges encountered during the project are reported as limited, and were identified by project management as difficulty identifying sites of industries that tend to be clandestine (e.g. informal car battery processing in Peru). Another challenge has been data quality control and assurance due to the large number of sites now being entered into the online database.

Another area of challenge has been the work under Outcome 2, where the project seeks to translate the knowledge gained from site assessments and local capacity development of stakeholders into a plan of action at national level. While the National Toxic Action Plans (NTAPs) were initially intended to review a large array of pollution issues and intervention strategies, with their preparation including meetings with relevant national agencies in the respective target countries, but as the project implementation progressed it became apparent that this approach was in to some extent over ambitious, if not over-optimistic, and

[8] Both EC and GAHP pilot projects are funded under the EC-UNIDO funding, the difference is that GAHP projects go through a GAHP-managed application, review and approval process.

this led to a re-assessment and re-adaptation of the approach (See report sub-section relating to NTAPs section in Chapter 5).

4.3 Project Monitoring and Reporting

While the project has duly filed project progress reports, there was no specific effort towards an integrated M&E system with clear progress indicators. We can find the GAHP 2015-2020 plan with clear and quantifiable indicators of the number of sites and countries to involve for the next 5 years, but no other specific monitoring system seems in place.

Moreover, it has to be noted that the yearly progress reports, although clear and to the point in showing progress in terms of sites sampled, clean-up operations, trainings and NTPAs/MoUs produced, have nonetheless lacked more detailed information on the activities carried out, and do not provide for example provide sufficient information on the involvement of project partners and eventual project responsibility, the money spent on each single project, who used it, and all details relative to NTPAs and MoUs for each country in which they were produced.

Regarding monitoring long-term change or impact the scientific approach to isolate certain pollutants and their effects and to direct remediation efforts specifically to those pollutants has been rational and realistic. While trying to assess if **this project contributed to the establishment of a long-term monitoring system**, it has to be noted that the whole project itself has as its core practical aim to contribute to a collection of data and to teach as much as it can how to collect those data to the locals(ISS methodology and REA protocol). In this perspective, the project itself establishes a long-term monitoring system of the polluted areas, encouraging keeping sampling and fill-in the country matrixes. However, the ambitious objective to cover so many countries in its activities may have hindered the capability of the project to be sustainable in terms of monitoring in the long-term, with the scale of geographical coverage and site coverage.

5. EVALUATION FINDINGS – PROJECT EFFECTIVENESS

Section Guide

This section provides an overview of the effectiveness of the project:

- *TSIP Sites Database Development and ISS Development (5.1)*
- *Project Results - ISS National Training Workshops (5.2)*
- *Site Assessments Carried Out (5.3)*
- *Pilot Projects (5.4)*
- *Progress on Developing National Toxic Action Plans (NTAPs) (5.5)*
- *Increasing International Awareness and International Response (5.6)*

5.1 TSIP Sites Database Development and ISS Development

From a methodological perspective some refinement work was also carried out on Blacksmith's **Risk Screening Methodology**, the rapid risk assessment methodology used by the Blacksmith Institute for assessment of sites[9] and upon which data is collated for the database of contaminated sites – referred to as the Initial Site Screening (ISS). The text box below provides a summary explanation of the ISS approach.

About the Initial Site Screening (ISS) Methodology
An ISS is carried out over a 1-2 day visit to a contaminated site. During the site visit key information is gathered on the type and extent of contamination, the source of the pollutant, and the possible receptor risk (population), amongst other data. The ISS approach relies heavily on environmental sampling to determine the risk posed by a given site. As sampling for a full site characterization is very expensive the ISS approach is based upon a smaller evenly-distributed set of samples (defined as 5-10 composite samples per site). These samples are taken from a likely human exposure pathway, such as drinking water or contaminated residential soil, and the likely number of people in contact with the sampled pathway is taken as the number of possibly affected people.

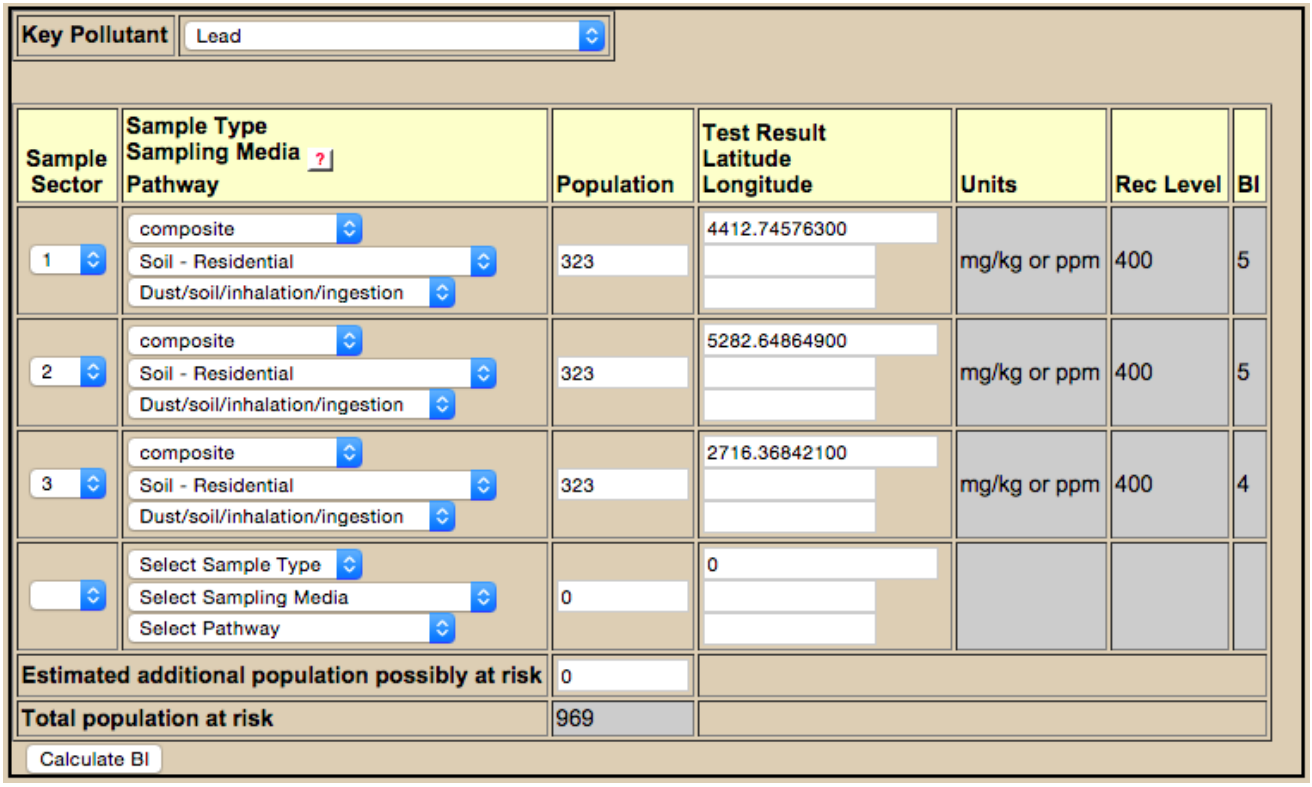
A number of changes were made to the online component of the ISS, including development of a beta version of a real-time calculator of Disability Adjusted Life Years (DALYs) that has been integrated into the TSIP database and which is now fully operational[10]. The screen shot of the "Key Pollutant Matrix" database

[9] The rapid assessment approach used (Initial Site Screening or ISS) comprises development of estimates of pollution source, migration and receptor risks based on data collection at a given site.

[10] Disability Adjusted Life Years (DALYs) are the global standard metric for disease burden calculation, and is based upon a methodology to estimate the health burden of a contaminated site on a given population. The project's DALYSs-based calculator relies on a complex formula and includes a GIS system that tags individual sampling locations that were trialled in a parallel database (and which as mentioned are now integrated into the TSIP database). The system shows the location of soil, air and samples to facilitate proper targeting of site interventions.

view below illustrates some of these changes. This new Key Pollutant Matrix feature of the TSIP database disaggregates population estimates by exposure pathway and sampling data, as well as specifying whether the relevant sample is a targeted (spot) sample or a composite sample that is indicative of a wider area. The Key Pollutant Matrix allows individual sampling locations to be geotagged, with these samples then being projected on an ESRI plugin map[11].

Figure 5.1 - Overview of the Key Pollutant Matrix Screen View of the Contaminated Sites Database



Blacksmith have reported that some challenges were experienced in managing data quality and providing appropriate quality assurance, due in significant part to the increasing volume of site data being entered into TSIP. This issue was addressed by the project team through hiring a halftime staff person dedicated to data quality assurance.

The ISS methodology is now well in place and 12 country-level reports of TSIP data have been presented to governments in Armenia, Argentina, Azerbaijan, Ghana, Indonesia, Kenya, Mexico, Peru, the Philippines, Tanzania, Uruguay, and Vietnam, partly as a precursor to raising national government awareness on local toxic pollution challenges and their associated impacts, and as part of the preparatory information sharing and dialoguing to start exploring interest to move towards an NTAP.

5.2 Project Results - ISS National Training Workshops

In terms of **capacity building of local stakeholders on site assessment the project has exceed the target results carried out, and the results are impressive**. In total, 345 persons have received training on site assessment. Of this total of 345 persons, 194 have been researchers/investigators and 151 have been

[11] It should be noted that this final change was adapted from a parallel FAO project where it was first trialled and following trialling was integrated into the TSIP database in April 2015.

government officials, while regional breakdown has comprised 118 persons trained in Africa, 145 persons trained in Eastern Europe and Central Asia, and X80persons trained in Latin America. The table below summarises the dates, locations and participant composition of these workshops.

Table 5.1: Overview ISS Training Targets vs Results

Region and Country	No Countries	Project Result	Of which Investigators	Of which Gov't. Staff
Total Persons Trained	23	**343**	194	149
Persons Trained - Regional Breakdown:				
No. Persons Trained – Africa	6	118	82	36
No. Persons Trained – FSU (#1)	11	145	67	78
No. Persons Trained – Latin America	6	80	45	35

Note: *Former Soviet Union (FSU) denotes Eastern Europe & Central Asia*

The ISS training workshops involve all consultants being trained over two-day workshop held jointly with government representatives. Technical in nature, the training workshop is focussed almost entirely on explaining the ISS approach, and involves a field visit by workshop participants to demonstrate the methodology. As mentioned above total of 23 national Training Workshops had been carried out by the end of April 2015, with already 14 workshops being delivered in 2012 (see table below).

Table 5.2: Overview ISS Training Targets vs Results

Investigator Training Workshops	Number	Regional Breakdown	Workshop Countries
Trainings: 2012	14	Africa (4) /ECA (5) /LAC (5)	Ghana, Nigeria, Tanzania, Kenya, Azerbaijan, Armenia, Tajikistan, Kyrgyzstan, Russia, Mexico, Chile, Peru, Argentina, Uruguay
Trainings: 2013	4	Africa (1) / ECA (2) / LAC (1)	Senegal; Mongolia; Bolivia; Kazakhstan.
Trainings: 2014	5	Africa (1) ECA (4)	Armenia, Georgia, Belarus, Madagascar and Kyrgyzstan.
Total (All years)	**23**		

Note: *Former Soviet Union (FSU) denotes Eastern Europe & Central Asia*

As mentioned earlier, government stakeholders have been consistently **i**nvolved in the site identification and screening process, and have regularly participated in site visits alongside field investigators. MoUs have been signed or are in the process of being drafted in all countries where a TSIP is being implemented. What is less clear is the nature and scale of use of these skills afterwards for government staff, and the sustainability of such training.

5.3 Site Assessments Carried Out and Pollution Issues Identified

Regarding site assessments, **the project has assessed an impressive 772 sites, more than 70% more than the project target of 450 sites**[12]. This has required a significant mobilisation of project staff and in developing the necessary local capacities to carry out site assessment work. Of this total the number of sites assessed in Eastern Europe and Central Asia (FSU) was 281 sites, representing just over 36% of the total number of sites assessed. Africa had the next largest proportion, with some 264 sites assessed, representing 34% of the total number of sites assessed. 227 sites (just under 30% of all sites) have been assessed in Latin America.

Table 5.3: Overview Project Site Assessment and TSIP Training Targets vs Results

Region and Country	No Countries	Project Target	Project Result	Of which Invest-igators	Of which Gov't. Staff
Total Sites Assessed		**450**	**772**		-
Site Screening - Regional breakdown:					
No. Sites Screened – Africa	6	Not indicated	264	82	36
No. Sites Screened – FSU (#1)	11		281	67	78
No. Sites Screened – Latin America	6		227	45	35

Note: *Former Soviet Union (FSU) denotes Eastern Europe & Central Asia*

Regarding site assessment work in **Africa and the types of toxic pollution issues identified** there**,** three primary types of sites have dominated the TSIP work: i) informal e-waste recycling; ii) Artisanal Small-scale Gold Mining (ASGM); and informal Used Lead Acid Battery (ULAB) processing. Pollution and health issues related to informal e-waste recycling activity that have been identified by the project site work include occupational and wider public exposure from open-air burning of mixed wastes. As these waste sites are often in or adjacent to populated urban areas the level of public exposure tends to be high – in the case of the Agbogbloshie waste site in Accra the site is located relatively near the centre of Accra, adjacent to residential areas and bordered by the second largest food market in Accra (see later sub-section in this report chapter on the Agbogbloshie pilot). The exposure to metals in such waste sites results from contaminated soil (primarily lead) migrating throughout the community and this pollution occurs across waste sites in Africa. However, according to Blacksmith, the Agbogbloshie waste site in Accra contains the highest contamination levels identified to-date by the project work. The second pollution area, Artisanal Small-scale Gold Mining (ASGM) has been identified as a priority area by the governments of three African countries governments (Senegal, Tanzania, and Kenya) and is better known as a pollution challenge area. Additional sites have been identified and characterized as part of this project, while the governments of Senegal, Tanzania, and Kenya have all identified ASGM as a priority area. The third pollution area of

[12] The project results have also been complemented by results achieved under parallel projects being carried out by Blacksmith. For example, more than 100 site assessments of pesticide-contaminated locations have been carried out under an FAO-financed project (Project reference number: FAO (GCP/RER/040/EC)), which has involved recruiting and training additional staff in Central Asia and Eastern Europe which have been integrated into the TSIP database and of which 41 sites have been approved.

informal Used Lead Acid Battery (ULAB) processing is common across Africa and believed by the Blacksmith Institute to be on the rise.

Regarding the types of toxic pollution issues identified in **Eastern Europe and Central Asia (FSU territories)** the two principal pollution issues identified by the project have been I) legacy mining locations and II) pesticide-contaminated land from former pesticides storages or burial sites. Other pollution issues have also been identified at sub-regional level – for example former poly-metallic mines have been identified as a risk in the Caucuses while pollution from uranium mines has been identified as a risk in Central Asia. The project site screening has also included a number of former industrial facilities such as former lead smelters. Blacksmith have noted that such sites present more challenges, as they are often very large and show high exposure levels across multiple pathways and with intervention in such sites likely to require significant investment in many cases. Regarding the pollution challenge of pesticides sites mentioned above, these sites often offer similar challenges to former industrial sites, insofar as they can have large-scale and complex exposure pathways. During the project Blacksmith partnered with FAO to help develop a better understanding of this pollution risk and to refine their pesticides assessment methodology and conduct assessments at sites contaminated by banned or obsolete pesticides. The data obtained from these site assessments is being entered into an FAO database of pesticides contaminated sites.

Regarding the **Latin America region**, the types of pollutants identified have been lead, chromium and mercury. In the case of Montevideo the main source of toxic pollution is former waste dumps where irregular settlements (asentamientos) have been built. In many of these asentamientos, informal e-waste recycling is emerging as a significant new source of toxic pollution. According to Blacksmith Institute's project reporting the sources in other locations vary, and include mining, chemical manufacture, tannery operations, and informal waste recycling. The table below provides a summary overview of key pollution issues in the regions of Africa, Latin America and Eastern Europe and Central Asia.

Table 5.4: Overview Key Pollution Issues - Sites

Region	Overview Key Pollutants	Overview Key Pollution Issues by Economic Activity
Africa	Lead Used Lead Acid Battery PAH exposure	Informal e-waste recycling Artisanal, small-scale mining Used Lead Acid Battery processing
Eastern Europe & Central Asia (FSU)	Heavy metals Chemical waste Pesticides	Legacy mining Former industrial facilities Pesticides storage sites
Latin America	Lead Chromium Mercury	Mining Chemical manufacture Tannery operations Informal waste recycling

Note: *Former Soviet Union (FSU) denotes Eastern Europe & Central Asia*

5.4 Work Carried out in Pilot Projects - Overview

The section below provides a summary overview of selected pilot projects implemented during this project's duration, and the core problem they sought to address.

Table 5.5: Overview Selected Pilot Projects as Reported in Project Reporting

Country	Pilot Project	Key Project Activities and Results
Zambia *(Kabwe)*	Pilot Project for lead remediation techniques *(Nov. 2014 – Jan. 2015)*	*Pilot project purpose:* Demonstrating how they are cost-effective and low-technology. • Approx. 30 yards to be cleaned in the Kasanda Block M neighbourhood, (vulnerable low income neighbourhood with a high soil lead concentrations in soil (as high as 12,000ppm of lead in soil). • Teach people how to properly clean out their homes and how to avoid recontamination from fugitive dust (with help of local health workers).
Senegal *(Maristes Lake)*	GAHP pilot project (funded with *Action et Developpement* Senegal (ACDEV)	• Focus area is the Maristes Lake, polluted with pesticides and other hazardous materials. • The local workshop organised created i) a working group and a ii) guidance document to help the locals to prevent contamination and to remediate the lake pollution.
Peru *(Lima)*	GAHP project - used lead-acid battery (ULAB) recycling	This GAHP project analysed used lead-acid battery (ULAB) recycling in Lima, Peru. Two main project activities were carried out in the project: • Firstly ULAB recycling sites have been identified with community surveys and focus groups. Soil sampling was then implemented to examine the concentration of lead. • Development of an ULAB guide to prevent health risk related to contamination, which was validated by local, regional, and national government agencies.
Uruguay *(Pantanoso River Basin)*	In partnership with the *Intendencia de Montevideo*.	• Clean-up of toxic hotspots in the "Cuenca del Arroyo Pantanoso" (Pantanoso River Basin), in two neighbourhood areas ("Aquiles Lanza") • Pilot project focus was on lead contamination, in partnership with the Intendencia de Montevideo. The main issue was the extraction of copper for sale burning electronic trash and electrical cables. • Project activities involved also blood sampling of local children, since they had previously shown signs of contamination. • A project committee including representatives from the Intendencia as well as other stakeholders was established in 2013. • The local population also received graphic material to inform them on the objectives and activities of the project, while two workshops have been held for the community.
Argentina *(Buenos Aires)*	Pilot project *(April 2015)* USD 75,000	• Target areas was the "Ex - Astillero Osvaldo Taconni" located in the "Matanza - Riachuelo Basin" • Project aim was the scoping and remediation design for a contaminated location for ship dismantling: this was necessary to support land-use projections for the construction of affordable housing
Uruguay *(Montevideo)*	GAHP pilot project *(April 2015)*	• Develop citywide monitoring and remediation for lead contaminated hotspots in residential areas.

Country	Pilot Project	Key Project Activities and Results
	USD 80,000	
Mexico *(Morelos)*	GAHP pilot project *(April 2015)* USD 80,000	The project concentrated on the use of Ceramic glazes with lead, spread among nearly 50,000 artisanal ceramicists across the country. See below for further details.

The following sections describe briefly the pilot projects visited during the evaluation field visit programme.

5.5 Field Mission Findings – Morelos Pilot Project (Mexico)

In Mexico project funds were used to promote lead free ceramic glazes in the state of Morelos – project documentation shows that in the estimated number of traditional Mexican pottery-making workshops (estimated between 10,000 and 50,000 workshops) lead-glazed pottery is by far the predominant approach, with less than 1% (less than 100 workshops) producing lead free pottery exclusively.

The Pilot project objectives are threefold: i) reduce health risks to artisans and their families by promoting the substitution of lead-free glaze and remediating contaminated workshops in Morelos; ii) promote the demand for lead-free pottery with the general public and commercial sector in Morelos; and iii) assist the Government of Morelos to apply and enforce existing legislation prohibiting the use of lead in glaze. This GAHP project was carried out jointly with the National Institute for Public Health (INSP) and it aimed at reducing the use of leaded glazes in a single state, Morelos. The project also included the creation of a lead-free certification for restaurants and vendors, a public health education campaign, and blood monitoring of children.

In order to support potters switching to lead free glazes in their pottery production, the project has supported the introduction of lead free glazes, providing training in entrepreneurship, and carried out lead-related assessment of potters' workshops and where needed appropriate remediation. The pilot project activities have also involved a well-designed "Barro Aprobado" campaign and quality designation to influence market demand in particular encourage and persuade restaurants and hotels to switch to lead-free pottery. Other core activities have been providing lead test kits, carrying out publicity and awareness-raising campaigns and events, as well as developing a lead free pottery directory. A significant lead screening work effort has also been carried out in the state of Morelos, with the objective of demonstrating the need to establish a lead screening for newborns/children, and a strength of this activity has been the close cooperation with local hospitals and health centres.

The field work programme allowed the evaluator to visit some of the workshops that has switched to lead free pottery production, while a focus group with restaurants and hotels that are working with the project was also part of the field programme. These interviews and discussions showed the considerable trust that Blacksmith has developed in its work here, and the interest in the demand side (hotels, restaurants etc.) to progress the general rate of conversion to lead-free pottery purchasing.

Results to-date in terms of progressing the required behaviour and market-side change include 4 restaurants and hotels having switched to purchasing only lead free pottery, with a further 10 are in the process of switching. Field meetings also showed high levels of appreciate and support from the local and state health authorities and hospitals, and a real willingness to work with the project team to secure

government support to scale the project to all areas across South-East Mexico that are confronted with this lead poisoning challenge. In this respect, the Morelos pilot project was the most impressive of the pilot projects visited, as it best exhibited a holistic approach to sustained impact that will be important in ensuring the project can secure maximum – and sustained – impact.

5.6 Field Mission Findings - Agbogbloshie Pilot Project (Ghana)

At the start of 2014, Green Advocacy Ghana (GreenAd) identified with the National Youth Authority (NYA), a government agency, as well as the Greater Accra Scrap Dealers Association (GASDA) a plot of land owned by NYA as a site project: the Agbogbloshie market land. The National Youth Authority lent full support, and the operations started. The land near the entrance of the market was cleaned during the second part of 2014; then shipping containers and wire stripping devices have been installed and made operational. The project aimed at introducing simple wire stripping in place of the practice of open burning of cables, with the incentive that clean-stripped copper wire can be sold at a higher price on the market. The project involved since the start local workers organizations, NGOs and government. The facility can recycle around ten tons of copper per month, with a net profit of GHC 66,000 monthly. For this GAHP project, Blacksmith leveraged a $112,000 grant from the Addax & Oryx Foundation for continued expansion of the e-waste recycling facility.

The pilot project has been reported as completed by Blacksmith with the opening of the e-waste recycling centre in August 2014. The project introduced simple wire stripping technologies to replace the practice of open burning of cables. The project strongly involved local workers organizations, NGOs and government. The effort exploits a profit motive as clean (stripped) copper wires fetch a higher market price than burned cables. The project reporting estimated that the facility is able to recycle nearly ten tons of copper per month, with a net profit of GHC 66,000 monthly. With the success of this GAHP project Blacksmith leveraged a $112,000 grant from the Addax & Oryx Foundation for continued expansion of the e-waste recycling facility.

The field visit work however shows a more nuanced picture, with these numbers not being confirmed by local e-waste staff. There appears also to have been insufficient focus on working with local staff (no formalised staffing and financing of the stripper facility has yet been put in place) to develop their capacity to run this tightly has a demonstration business activity, nor work on core business fundamentals of costs and revenue. Yet this will be critical to scaling the pilot project. Moreover, the pilot project is just one small part of a huge waste site and a wider and strategic assessment of this will be required to see if and how a more long-term solution can be developed, which will in any case require the involvement and commitment of the municipality. In the short term, a more focussed pilot project with clear target results and timelines needs to be developed, and more support to the local partner in developing and implementing this.

5.7 Field Mission Findings - Sumgayit Pilot Project (Azerbaijan)

Of the two pilot projects initiated in the FSU region (Armenia – village profiling w.r.t. contamination from a poly-metallic mine and chemical waste site remediation in Azerbaijan), the evaluation field work included a field visit to Azerbaijan. The site visited is in Sumgayit, about 45 minutes' drive from the capital Baku. Formerly a major industrial centre during the Soviet era, the area possessed more than 40 factories that produced metals and chemicals. During the past ten years both the municipal and national government

have taken important steps to reduce the impacts of the city's industrial legacy, including closing polluting factories, upgrading facilities, treating contaminated wastewater and transferring contaminated materials to a secure facility. However, despite this progress, area soil test results showed that large areas are still highly contaminated with heavy metals and other pollutants known to impact human health. The pilot project to deal with chemical wastes in Sumgayit Azerbaijan was completed in the first quarter of 2015, with the site adjacent to the sea chosen following consultation with local stakeholders, including the state-owned chemicals company Azerkimya. The chosen site was previously owned by Azerkimya but after production activity stopped the area became an open access area.

The field visit work showed the significant mobilisation of effort to clean up the site. Regarding the non-hazardous waste on the site, some 5,000 tonnes of garbage was transported to a special polygone waste complex for non-hazardous waste, while 804 m3 tonnes of hazardous waste was transported to the government polyglone waste complex outside of Baku. Some government in-kind contribution was in evidence here, with approximately 500 m3 tonnes of this hazardous waste being accepted by the polyglone free of charge, while transport lorries where provided by Azerkimya. Moreover, some 14,000 m3 of clean soil was brought from construction sites to replace the removed soil, and to level the uneven topography of the formerly polluted site. Further contributions in kind were provided by Azerkimya in planting trees on the site, matching trees planted with project funding by Blacksmith, and with a further 500-600 more trees during coming planting season. The sea water is now basically clean and people are swimming there, with increasing numbers of local citizens coming in the evening to walk there.

When asked what the value of the in kind support provided was, feedback suggests it was greater than USD 300,000. The strong local in kind contribution has been one of the strengths of this project. For the time being, Azerkimya foresee continuing direct management and oversight of the site until the trees planted have matured, as the municipality doesn't have the resources. Weaknesses, or areas for improvement, include the lack of a clear sustainability plan or also how this site might have an increased local impact – for example discussing with the municipality to also re-landscape the adjacent (unpolluted) land on both sides of the site (more than 2-3 times the size of the project site) to create a larger beach front and park of 6+ hectares instead of the current two.

As a general remark, regarding **project visibility**, the site visits generally suggest that Blacksmith needs to do more in promoting the visibility of the EC as the project funder and of UNIDO, with site placards in Accra and Sumgayit for example containing no mention of the role or either the EC or UNIDO. In contrast, visibility of the EC and UNIDO in some of the other project communications materials – for example the Barro Aprobado materials in the Morelos pilot project - is satisfactory.

5.8 Progress on Developing National Toxic Action Plans (NTAPs)

A key part of the project objectives under Outcome 2 of the project is to translate the knowledge gained from site assessments and local capacity development of stakeholders into a plan of action at national level.

The focus of this work has changed somewhat compared to the thinking at the time of formulation of the project. Initially the National Toxic Action Plans (NTAPs) were intended to review a large array of pollution issues and intervention strategies, with their preparation including meetings with relevant national

agencies in the respective target countries. However, as the project implementation progressed it became apparent that this approach was in to some extent over ambitious, if not over-optimistic. Following the initial meetings with national authorities in some countries, which involved presenting current TSIP data and knowledge on contamination issues as well as possible intervention strategies and funding mechanisms, it was decided to reassess the approach.

Following this reassessment the original NTAP outline was adapted from its initial broad scope to instead focus on specific thematic areas rather than toxic pollution as a whole (e.g. Artisanal Small-Scale Gold Mining in Peru). A second modification was to bring more flexibility in reaching the goal of obtaining national commitment to take action against one or more pollution issues by not requiring that the NTAP process has to generate a stand-alone NTAP document, but could also dovetail with existing national initiatives and policies. It was also decided that the NTAP process does not have to produce a document, but rather can supplement current programs or plans enacted by government. In Ghana, Blacksmith is working closely with the Ghana EPA to screen and address contaminated sites. And in Uruguay, Blacksmith has provided technical assistance and equipment for a municipal program that strives to identify and reduce exposures from contaminated sites.

By April 2015, at the end of the project, National Toxic Action Plans (NTAPs) were under development or completed in eleven of Blacksmith's project countries. In two countries in the Caucuses, Armenia and Azerbaijan, official documents have not only been drafted but have also gone into effect.

As a basis for developing NTAPs **Memorandums of Understanding** (MoUs) have been signed in eleven countries, specifically Armenia, Argentina (Municipalities of Buenos Aires, Cordoba, Salta), Azerbaijan, Ghana, Indonesia, Ghana, Kazakhstan, Kenya, Kyrgyzstan, Madagascar, and Uruguay (Municipality of Montevideo). This gives a regional breakdown of MoUs signed in 3 countries in Africa, 5 in Eastern Europe, Central Asia and Asia and MoUs signed in two countries in Latin America (see table below).
The MoUs are broad in nature and outline areas of possible collaboration do deal with the issue of polluted sites and human health. No additional commitments are made on the part of Blacksmith or partner organizations, beyond what has already been committed under this project.

Table 5.6: Overview Countries with which MoUs have been signed

	Africa	Eastern Europe, Central Asia, Asia	Latin America
MoUs	Ghana Kenya Madagascar	Armenia Azerbaijan Indonesia Kazakhstan Kyrgyzstan	Argentina [#1] Uruguay [#2] *[#1] Buenos Aires, Cordoba, Salta* *[#2] Montevideo*
NTAPs	_	Armenia (draft) Azerbaijan (draft)	_

A desk review of the Armenian NTAP draft shows that it contains a description of its objectives, a description of some of the pollution issues facing the country, as well as an overview of the legal and regulatory framework with regarding to environmental protection and pollution control.

However, there is no mention of national remediation or prevention programmes targeting the pollution issues described in the NTAP, a sign of a lack of framework for future actions. Even if national legislation exists to cover these pollution issues there is no mention of operational planning in this regard. Moreover, the specific objectives of the NTAP are expressed in terms of "recommendations", which is quite mild, and there is no timeline to implement the actions recommended. Thus, it is difficult to assess what is the real commitment of the Armenian Government in ensuring implementation of the recommended actions. If national government commitment in a given country to tackle toxic pollution has not been at the desired level.

In some cases, it is possible that remediation of sites in a given country may create goodwill and momentum to prompt national governments, but it more likely that individual site work is likely to be narrow (focussed on one specific incidence of toxic pollution). Moreover, the evaluation findings suggest that pilot projects are not being designed and implemented with sufficient rigour to assess or maximise impact, sustainability and scaling potential, and thus this may be a project area who's value as one of a wider range of influence tools might be increased, in particular where successfully implemented pilot projects were shown to generate significant benefits, have a potential for scaling, and show some capacity to secure funding from sources beyond international donors and national government.

But beyond this, more analysis and information is likely to be required as to national government and relevant stakeholders' awareness of toxic pollution, their likely or existing interest in (and commitment to) tackling it. Such information, or rather a more comprehensive country analysis (or countries' analysis carried out a regional or sub-regional level) would likely allow for a more informed decision about what might be the impact of toxic pollution remediate in specific countries. Furthermore, involving the GAHP in this process in a more structured manner would also seem to offer a number of advantages, including benefitting from the views of other bilateral and multilateral agencies and donors active in these countries and regions, considering how GHAP individual members networks and government contacts could be leveraged to maximise awareness-raising and advocacy towards government, considering which funding programmes could eventually support a scaling of successful pilot projects etc.

5.9 Progress in Increasing International Awareness

Regarding **progress towards increasing international awareness of toxic pollution's global scope**, the project has implemented a series of activities dedicated to awareness-raising, mostly focused on expanding the Global Alliance on Health and Pollution (GAHP) and on spreading awareness about the global scope of pollution, especially in low- and middle-income countries. Three types of activities were undertaken: i) meeting with Multilateral Agencies, Bilateral Agencies, Country Government Agencies, International Organizations and other actors; ii) presenting the project and the toxic pollution at several conferences; and iii) producing a number of articles and reports. The aim of these activities was to ensure the support of the international community for GAHP and its activities. In particular, the GAHP sought to convince organizations and national governments to include the reduction of the health impact of toxic pollution among the post-2015 Sustainable Development Goals (SDGs). These meetings also aimed at expanding the

GAHP membership: in this context, meetings were held with 25 country government agencies in 23 countries, 14 bilateral agencies in 10 countries, 4 multilateral agencies, 5 international organizations in 9 countries and 8 meetings with other entities, mostly in India (See Annex 4).

The GAHP, its scope and the present project were also presented in a number of international conferences, 16 in 10 different countries (See Annex 5). During these meetings and conferences, the results of the TSIP database were also presented, along with relevant scientific articles produced on the basis of the results of the project. The articles were 11, published on a number of international journals (See Annex 6). Several of these articles were cited elsewhere; in particular in journals including Environmental Monitoring and Health, Environmental Health Perspectives, Environmental Research, and The Annals of Global Health. Press coverage included articles in Scientific American, The Lancet, ScienceNews and PBS Newshour.

In addition to these occasions and materials, GAHP has produced reports more accessible to the public and of more technical nature to spread not only the results but the application of the knowledge acquired. In particular it has published a report called "The Poisoned Poor", and a more technical one called "Regulatory Best Practices for Remediation of Legacy Toxic Contamination". GAHP also created a social media campaign (#SpotlightPollution) based on a specific position paper aimed at countries and organizations negotiating SDGs to include all types of pollution and its health impacts in the Health SDG and the SDG on Sustainable Consumption and Production. The campaign resulted in support from several actors, among which 38 different agencies/organizations from 25 countries, and manifestations of support from 19 government agencies from 19 countries. As a result, the target related to air pollution under the Health SDG was broadened to include water and soil pollution/contamination. The GAHP also released a summary two-page factsheet on global deaths from pollution (all types) in 2012. The #SpotlightPollution campaign, the summary factsheet and a press release related to the Mexican project on lead free pottery were covered by several media, up to a total of 12 media appearances (See Annex 7).

Furthermore, Blacksmith's own Journal of Health and Pollution released one issue in 2012 and two issues each in 2013 and 2014. In June 2012, 1 editorial, 1 emerging issue paper and 3 research papers were published. In 2013 3 editorials, 1 narrative review, 1 emerging issue paper, 3 research papers, and 1 case study were published. And in 2014, 1 editorial, 9 research papers, 1 case study, and 2 reviews were published. The first issue of the journal in 2015 will be published in June (see http://www.journalhealthpollution.org/loi/hapn).

5.10 Progress in Securing an Increased International Response

The principal manner in which an international response was built was through the creation of the GAHP and implementing its activities. Several efforts were made towards building and broadening membership of the GAHP as well as implementing its activities, GAHP Executive Committee and Subcommittee meetings and the carrying out of activities such as organising national toxic action planning workshops, carrying out and expanding TSIP activities, developing and publishing scientific research papers using TSIP data. In order to build and expand GAHP membership, 30 letters to new potential partners were sent during the project. GAHP has now 32 official members: 3 banks, 2 Bilateral agencies, 12 Ministries of Environment, 2 Cities, 1 Ministry of Health, 4 UN agencies, 4 NGOs, 4 members from Academia and several Observers (See Annex VIII).

GAHP has implemented 7 Pilot projects in Argentina, Armenia, Azerbaijan, Ghana, Indonesia, Peru and Uruguay. The GAHP Executive Committee met generally twice a year, sometimes 4, and the second annual meeting has produced a new 5-year plan (2015-2020). The GAHP also had a Technical Advisory Group, which met via virtual meeting 1-2 times each year during the project. In 2014 this body drafted 4 guidance documents based on the best practices found during the project. There is also a quite exhaustive website (www.gahp.net), where among detailed and clear information about GAHP project, we can also find the First Annual Report. The GAHP has also promoted the creation of a WB multi-donor trust fund on Pollution Management and Environmental Health (PMEH), officially established in November 2014 with funding from the Norwegian Ministry of Foreign Affairs.

An increasing international response can also be evidenced in Blacksmith's successfully obtaining four grants related to GAHP projects: two for work on lead in Indonesia and Jakarta from the Asian Development Bank ($1.5 million) and the GEF ($838,000), and two other grants to work on mercury-free ASGM practices in Peru from US Department of State ($990,099) and the Inter American Foundation ($236,000).

Regarding progress in increased involvement of corporations and private sector Blacksmith has engaged with several private sector entities about GAHP, the scope of toxic pollution worldwide and how the private sector can get involved. To this end, meetings were held with: the International Lead Association (ILA), EcoGlobal (Philippines battery organization), CLSA India, HSBC (Philippines and India), Indian Institute of Technology, ICCA and the India Lead Zinc Development Association (ILZDA). On this issue, more work could have possibly have been done to develop this dialogue. In particular, when private entities are themselves involved in the pollution, to get their cooperation in the changing of production practices could be crucial to ensure sustainability of all remediation actions. Overall, this is an area of work effort that should seek to build upon these initial results and adopt a more strategic and structured approach to brining in private funding as part of an increased focus on sustainability of project interventions.

6. EVALUATION FINDINGS – PROJECT IMPACT & SUSTAINABILITY AND LEARNING

Section Guide

This section provides an overview of the project's impact and sustainability:

- *Impact of the project's outcomes and results (Section 6.1)*
- *Prospects for Sustained Impact (Section 6.2)*

6.1 Impact of Project Outcomes and Results

The project has had a range of impacts on different stakeholder and target audiences, even if this impact is not always easy to measure. Regarding toxic site identification, the data collected and inserted into the country matrices have been completed with a series of materials (reports, brief summaries, scientific articles) indicating not only the effects of toxic pollution on human health, but also how to change regulation to prevent pollution, and how to implement remediation. There has been a considerable work effort by the project to disseminate this information and the corresponding pollution-health nexus message to the general public. Furthermore, the countries involved in data collection on toxic pollution and toxic pollution remediation have received training of local staff and government officials, and assisted in writing plans (NTAPs) to implement remediation work plans in the future.

However, there are a number of important limitations on the project's impact. The first one is the size of the remediation projects. In particular, the dump site chosen in Ghana for e-waste recycling is quite vast, and presents a large number of pollutants. Nevertheless, the facility created for wire-stripping is quite small, and the pollution issues addressed are just one part of much larger pollution challenge at the waste site. While the negative health effects of that specific pollutant on the population will decrease, the site remains dangerous for human health, and the project will change but a small part of that. The second one is related to market sustainability: for example, the pottery project in Morelos has certainly changed production practices, but much will need to be done to build on the initial work in involving key purchasers of craft pottery (e.g. restaurants, hotels) and who constitute one part of the pollution pathway This is without the awareness-raising work that will been need to continue and expand to persuade local families to switch to non-lead produced pottery for their kitchen cooking pottery ware.

Regarding the **extent to which the project improved the participants' skills and knowledge and capacities** the evaluation work suggests that the project has registered a relatively significant impact in terms of skills and knowledge development and training. As already mentioned, an impressive amount of in-country training has been carried out, while another positive has been the high proportion of government staff which have taken part. The participants were successfully trained in the TSIP, allowing them to have first-hand knowledge about the scope of pollution and the effects it had on the population. The public was also trained on how to avoid contamination risks, like in the site of Akhtala, in Armenia, where the community was given information about the types of risk posed by different contaminants, and reviewed behaviours

that increase and decrease the risk and severity of exposure. Capacities were thus improved everywhere on several levels thanks to the project.

Another issue is whether key **impacts at the individual level** were i) first**,** knowledge acquisition and capacity development; and ii) secondly, application and use of this knowledge, for example in the development of new policies. We can safely say that during this project both aspects were covered. While locals were trained to collect data and to use new pollution-free methods or implementing remediation measures, the local government was also provided with regulatory best practices to improve the situation of the sites in the long term. Moreover, local relevant authorities were involved in most cases in all activities, providing information and direct involvement in the project.

Regarding **impact on national capacities and impact at the organisational level**, for every project an effort was made to liaise with local authorities and NGOs. Although the project did not lead to the creation of specific agencies or specific units within the government or local associations to deal with toxic pollution, most relevant actors already in charge at national level of these matters have been trained to do so. Furthermore, all actions involved not only training, but also some level of cooperation with local authorities and NGOs in both sampling and remediation of toxic pollution. For example, the project in Morelos (Mexico) is implemented with the National Institute for Public Health (INSP), and the project in Ghana was developed in cooperation with the National Youth Authority.

The main impact of the project in terms **of increased awareness** was the trainings implemented for all actions. They consisted in training not only the professionals implementing the sampling, but also the local population in recognizing dangerous areas and practices to avoid. This has an impact in the future interaction of the population with the contaminated areas and materials, reducing their exposure and improving their health. In addition, including government officials in the training and the site screening is likely to have a great impact in the concern of local government towards the issue of toxic pollution. Moreover, the creation of GAHP and the awareness campaign related to the achievements of the project produced some relevant impact in terms of awareness (see above under “Effectiveness” and Annexes from 4 to 8). The project has obtained the inclusion among the Health SDGs of strong language regarding air, water and soil pollution, and has gained for GAHP the status of observer at the WHO.

6.2 Sustainability and Prospects for Sustained Impact

The evaluation findings in general offer a mixed picture in terms of the **extent to which the project outputs delivered will be sustained by national capacities after project completion**. The financing support from the EC, allied to that of other public and private donors, has contributed to a steadily increasing global footprint of the TSIP database. Thirteen country-level reports of TSIP data have been presented to governments in countries across Africa, Eurasia, the Asian subcontinent, Latin America and the Philippines (Armenia, Argentina, Azerbaijan, Ghana, Indonesia, Kenya, Mexico, Peru, the Philippines, Tanzania, Uruguay, and Vietnam).

Regarding **national and local government participation and ownership** there have been numerous positive aspects that increase prospects for sustainability. As mentioned earlier, government agency staff have bene been involved in the site identification and screening process and been present in the 23 training workshops organised during the project duration, and were provided with access to the online database of

contaminated sites. Additionally, government officials have also accompanied field investigators on a regular basis during site visits in several countries, further contributing to increased government awareness and understanding of pollution challenges in specific sites.

As mentioned in the previous chapter, a total of 11 MoUs (Memorandums of Understanding) have been signed or are in the process of being drafted, one for each country where TSIP has been implemented. MoUs have been signed in the following countries: Armenia, Argentina (Municipalities of Buenos Aires, Cordoba, Salta), Azerbaijan, Ghana, Indonesia, Ghana, Kazakhstan, Kenya, Kyrgyzstan, Madagascar, and Uruguay (Municipality of Montevideo). The MoUs have served as basis for NTPAs, and as NTPAs they cover a wide number of issues: mainly, they indicate areas of possible collaboration between the project partners and their administrations to deal with pollution and its effects on human health.

Some pilot projects have been implemented with additional funding from other sources, especially GAHP projects, in two cases: two grants for work on lead in Indonesia and Jakarta in collaboration with UNDP, ADB, MoE Indonesia, and DENR Philippines (funding from the ADB, $1.5 million, and the GEF, $838,000); two grants to promote mercury-free ASGM practices in Peru (funding from US Department of State, $990,099 and the Inter American Foundation, $236,000). This seems promising for future support to the actions implemented if GAHP proves successful in winning additional funding for them. In addition, it should be noted that the practice of training local people and creating a system of country specific matrixes to log the data makes the system quite sustainable in the long-run: the skills and the capacity to keep up these activities have been certainly provided.

Moreover, the project also contributed to the development of a World Bank multi-donor trust fund on Pollution Management and Environmental Health (PMEH), which was officially established in November 2014 with funding from the Norwegian Ministry of Foreign Affairs. The trust fund became operational during 2015, with the addition of two more donors.

In terms of socio-political risks, it seems difficult to assess sustainability with a certainty, since the project covers several different areas of the world. Moreover, the scope of the project is so practical in nature (assessing pollution and health risk), that local political sensitivities are not always an issue. However, it should be noted that sometimes the wrong perception of the actions may lead to some kind of disturbance of the activities, like it happened in Armanis (Armenia). This was the original site to lead a sampling and clean-up of a mine waste area containing arsenic. Once the project was announced, tons of waste disappeared, possibly out of fear of negative publicity for the mining companies. This kind of risk is to be avoided by a stronger involvement of private companies as partners, and especially polluters, as stated earlier in this report. Nevertheless, stakeholders' involvement in other projects seemed quite strong in most other projects, and Blacksmith should simply consider a stronger involvement of other kind of partners.

In terms of risks coming from the institutional and governance framework, as stated above, they vary greatly in different countries. However, throughout the project the involvement of government officials has been so heavy that if there were consistent risks in this area, they would have probably emerged during trainings or site visits. Moreover, the drafting of MoUs and NTPAs with project partners has given appropriate spaces to discuss the matters and adapt policies and strategies for each country involved.

Finally, the establishment of the GAHP is significant and some of its successes during the project emphasis the potential of such an alliance. However, if the potential of the GAHP is to be maximised, the Alliance's own sustainability will need to be secured through a clear strategy, development plan and full institutionalisation as an independent and credible voice in this area, including a sustainable funding model and the requisite moral and financial commitment from its key stakeholders and member ship base. While this is the focus of Objective 3 of the follow-up project concept (see Section 7.2 below), a fully-fledged strategy and development plan do not yet appear to be exist.

7. LESSONS LEARNED AND IMPLICATIONS GOING FORWARD

Section Guide

This section considers some of the learning / lessons learned from the project implementation experience.

- *Covering a summary of selected lessons learned (Section 7.1)*
- *A summary review of the proposed EC co-funded follow-up project (Section 7.2)*

7.1 Lessons Learned

A number of learning points or lessons can be distilled from the project's implementation experience over its 36 month duration.

The evaluation findings emphasise the importance of this global asset that has been built up with significant legacy funding support by the EC (and other international donors?). One of the issues that has made this project hard to evaluate at one level is separating the work on site identification, data uploading and any related remediation from wider development-focussed and using this data and information to address development challenges. Going forward, it is important that consideration is given to how appropriate **multi-stakeholder governance advisory and oversight** is put in place for this valuable public good, as well as considering how maximum utility can be derived from it.

The evaluation had found overall the **project reporting** to be sub-standard, notwithstanding the availability of Blacksmith Institute staff to respond rapidly and professionally to requests for additional information. The level of detail does not allow any third party to draw real learning and to assess what the project is delivering in terms of development return, and it is surprising that UNIDO did not take measures to address this. Going forward, the project oversight and management will need to be strengthened, and the detail and quality of the project reporting will be have to be considerably strengthened. UNIDO's role has, somewhat surprisingly, been limited to a contract management role, even if there is significant scope for UNIDO to play a much bigger role, either within any follow-up project to this current project and/or in developing complementary parallel projects that focus in particular on economic and business and wider socio-economic dimensions of sustainability of polluted sites.

Notwithstanding some of the significant and real achievements of the project, the evaluation findings, in particular the field visits to three sites, suggest that the **overall attention to sustainability of site-related interventions is inadequate**. More will be done to focus on the wide aspects to sustainability beyond pollution, environmental and health dimensions, even if the importance of non-environmental and non-health factors may vary considerable in significant depending on the nature of the site. What is clear is that **greater sustained impact has been reduced by the lack of a more strategic approach to at least some pilot sites**. The approach to the wider socio-economic context and sustainability of some sites was not

sufficiently present, in terms of how local ownership and/or funding or in-kind support can be maximised, or how to maximise prospects for financial viability.

Related to leveraging impact and sustainability prospects, the current functioning of the project, in particular in terms of detail of reporting and in level of focus on socio-economic, governmental and business dimensions of sustainability, does not – as mentioned above - seem optimal with a view to leveraging the potential of GAHP nor the potential to bring increased funding into this area. Significantly increasing the focus on the development dimension and on improving livelihoods is not only important for the EC as this is development co-operation funding, but feedback also suggests it is an important issue for at least some of the GAHP members, in particular donor organisations. Changing part of the focus to reflect this will likely be one of the important recommendations to take forward, and this is developed further in the evaluation recommendations.

The evaluation findings suggest that the progress with regard to NTAPs and securing national government support has been mixed. Of necessity, the approach was refined during the implementation to allow for more flexibility to merge or coalesce toxic pollution agendas with existing national programmes or policies. However, where NTAPs have been signed, it is too early to predict what will be the real impact of this. As mentioned earlier, the Armenia NTAP for example does not provide for a timeline to implement the actions recommended, nor is there a formal commitment to resource or fund specific actions.

But beyond this, more analysis and information is likely to be required as to national government and relevant stakeholders' awareness of toxic pollution, their likely or existing interest in (and commitment to) tackling it. Such information, or rather a more comprehensive country analysis (or countries' analysis carried out a regional or sub-regional level) would likely allow for a more informed decision about what might be the impact of toxic pollution remediate in specific countries. Furthermore, involving the GAHP in this process in a more structured manner would also seem to offer a number of advantages, including benefitting from the views of other bilateral and multilateral agencies and donors active in these countries and regions, considering how GHAP individual members networks and government contacts could be leveraged to maximise awareness-raising and advocacy towards government, considering which funding programmes could eventually support a scaling of successful pilot projects, etc.

Regarding extracting the maximum value from this project's implementation experience, it may be worthwhile in reflecting how the project can increase effectiveness in getting national governments to commit to increased support and action in addressing toxic pollution. One point for consideration might be if some discretionary funding was provisioned for credible government commitment to policy, and legal targets, in tandem with specific actions to achieve these objectives. For example where the government in Country X agreed to set specific targets to address toxic pollution, based on a NTAP-type analysis done by the project, some discretionary co-funding could be made available by the project. Alternatively, another option might be that such 'scaled-up' national (or regional) programmes are developed and put to GAHP members for consideration (using a structure process)?

The experience of some other programmes and initiative may also provide further food for thought in this regard. One example of an initiative that has proved very successful in mobilising commitment from local government level is the EU's **Covenant of Mayors** (www.eumayors.eu). Launched in 2008 following the

approval of the EU Climate and Energy Package the EU Climate and Energy Package[13] the Covenant of Mayors was intended by the EU to support EU efforts to reach the 20-20-20 as well as provide recognition of the crucial role that local governments had to play in mitigating the effects of climate change (as 80% of energy consumption and CO_2 emissions is associated with urban activity). Within two years of its launch the Covenant had attracted more than 1,500 signatory cities and towns and communes across Europe and beyond. The Covenant is interesting at a number of levels, including its voluntary character, political leadership (it is the Mayor and municipal authority that decides whether to sign up), and the fact that signing up requires the municipality to develop a full Sustainable Energy Action Plan (SEAP), including calculating its C02 emissions baseline. Importantly, the EC and the European Investment Bank (EIB) then developed dedicated financing programmes to support the Covenant, providing hundreds of millions of Euros in technical assistance grant and lending to support municipalities in implementing their SEAPs. The Covenant is interesting in many respects, including as an example of how bottom-up schemes, with inceptives such as political recognition and support financing packages, can delivery huge impacts in making low-carbon economies a reality, as well as an example of where significant capacity development support (e.g. on how to develop SEAPs) was delivered to municipalities in a wider context of actions and commitments where a clear political and policy commitment had already been set. Today, seven years after its creation, the Covenant of Mayors has 6,500 members, not just in Europe but including signatories in North Africa, Central Asia and one in Latin America[14].

With regard to building awareness among government actors, as well as developing capacity and carrying out targeted advocacy, it may be interesting to note examples of initiatives in this area, not least the **Parliamentary Action for Renewable Action** (PARE) project. Financed by the EC and implemented by UNDP and a UK-headquartered organisation called Climate Parliament, the project targeted capacity building in renewable energy for Parliamentarians in eleven countries across Africa, the Middle East and Asia. Some of the results were impressive, such as Tunisia's Parliament passing a constitutional commitment to environmental conservation and in doing so becoming the first country in the world outside of Latin America to make a constitutional commitment to combatting climate change. A second significant achievement of the cross-party group in Tunisia has been securing the adoption in Parliament of a Renewable Energy bill despite significant opposition mobilised by the national electricity utility[15]. In countries such as India and Bangladesh, the work of the PARE project cross-party group's advocacy and lobbying work has played a significant role in **significantly increasing the funding available for sustainable energy**, bringing in more than USD 750 million in additional funding.

The above example is mentioned to show that sometimes awareness-building efforts or dialogue efforts with national government counterparts to solicit increased national government action can often be rendered more effective when there are prospects to access new funding. A second reason for giving this example to for the project stakeholders to consider whether parliamentarians might also be a relevant target group as part of a refined approach to national government awareness-raising, campaigning and advocacy. While it is important to acknowledge the very different contexts of these initiatives (e.g. focussed

[13] The EU climate and energy package is a set of binding legislation which aims to ensure the European Union meets its ambitious climate and energy targets for 2020. These targets, known as the "20-20-20" targets, set three key objectives for 2020 – i) a 20% reduction in EU greenhouse gas emissions from 1990 levels; ii) raising the share of EU energy consumption produced from renewable resources to 20%; and iii) a 20% improvement in the EU's energy efficiency.

[14] Temuco in Chile became a Covenant Signatory in 2014.

[15] Société tunisienne d'électricité et du gaz (STEG).

on sustainable energy) they are just examples that might provide useful points of reflection when considering how to improve this project's ability to foster national-level and regional-level policy and programme responses – in particular with a structured involvement of GAHP. The PARE Project, for example, could help provide in some countries additional entry points to active parliamentarians with a view to establishing if they would be open to taking on a toxic pollution agenda.

7.2 Proposed Follow-Up Project – Selected Summary Comments

While an assessment of the follow-on project *Mitigating Toxic Health Exposures in Low- and Middle-Income Countries: Global Alliance on Health and Pollution (GAHP)"* is not within the remit of this evaluation, the EC and UNIDO have requested whether a summary assessment of the current project concept could and proposal could be carried out.

It is important to point out the assessment of the project proposal for the coming phase is thus summary in nature and does not purport to be exhaustive. Moreover, it is not a full-scale assessment of the project concept per se, rather an assessment of this project proposal against the findings and learning from the 2013-2015 project that is the subject of this evaluation.

Following this desk review, the following comments are made:

a. The intention to expand structured measuring of results under the GAHP (page 5) is welcome. However, it seems to be implied that this will be primarily focussed on health-related impacts, which are of course extremely important. However, what are the plans with regard to wider socio-economic development criteria?

b. The lessons learned from the recently completed 2011-2014 project broadly match key developments reported in the project report of the 2011-2014 project. However, based upon the field visit programme, this evaluation would question whether all of the GAHP pilot projects have been 'very effective at building support and capacity at the local level and in particular in drawing attention to from higher levels of government' (page 6).

c. Some of the key tenets of the project philosophy of engagement, such as 'learning by doing' and 'stakeholder engagement methodology' have been at the heart of many of the good results produced by the Blacksmith Institute during the 2011-2014 project, and should remain as part of the approach. However, with regard to future pilot projects, this evaluation's findings would seem to suggest that the focus should include an important shift to 'learning from what has been done', and in particular an exhaustive inventorying of lessons learned, successes and failures, success-enhancing factors etc., and to provide these in operational tools that can drive the creation of larger and more successful projects going forward

d. This evaluation would question somewhat some of what seems to be the proposed approach, which seems somewhat 'business as usual'. With regard to pilot projects, it would seem value to develop a categorisation of different types of pilot projects and under what circumstances these projects would be launched.
    a. E.g. A pilot project targeted at building national government interest

b. A pilot project targeted at showing that toxic pollution clean-up and health improvement can be delivered with prospects for X% of being financially sustainable over the medium-term

e. Related to the above point, what would appear to be more important/strategic is to focus more on developing large scale projects (sub-national, national, regional) that can build upon existing TSIP knowledge and pilot projects carried out in the target country or elsewhere, that are designed upon rigorous needs assessment and with a holistic view on national government engagement. Such projects could then be reviewed by GAHP members and other relevant national, regional and international donors and actors with a view to providing funding support. This could potentially bring far more funding into the area – a core goal of GAHP – and possibly (if not probably) accelerate the development of the TSIP database. In other words, this evaluation would question if the project approach (and related design) of the foreseen follow-up project needs to be focussed more around being a catalyst and enabler of bigger responses? Regarding the GAHP itself, the significant funding allocation earmarked for the GAHP makes it all the more important that GAHP development and institutionalisation proceeds on the basis of a clear plan, milestones and timing, such that the Alliance is institutionalised and follows international standards with regard to good governance. While Objective 3 of the project concept is focussed on the establishment of an independent and effective GAHP, a more detailed strategy and development plan (including options analysis as appropriate) needs to be developed rapidly and in a consultative manner with GAHP members. Ideally, this timeline for full GAHP institutionalisation should be set out in the project concept, or form at least one of the early deliverables from the project.

f. Regarding the Project Objectives and Target Outcomes, quantification of targets tends to be strongest around site assessment targets and the project would be strengthened if more quantification could be introduced across all outcomes.

g. Related to the points above, it is not clear to this evaluation if expansion to new countries and identifying and assessing new sites should be such a high priority. If the goal is to progress the toxic-pollution health agenda, would it not be equally valuable to consolidate and accelerate work in countries where Blacksmith has made more progress, with a view to developing scaled-up examples of national success that can be replicated in other countries and regions?

h. It is recommended that a <u>specific project component focusses on developing pilot-projects that show examples of toxic pollution remediation and health benefits that</u>:
   i. Are driven to an important extent by business-led and market-led solutions (examples from current sites could be Morelos and Agbogbloshie).
   j. Show strong prospects for complete or partial financial sustainability
   k. Are <u>designed and managed a view to being scaled and/or replicated</u> (across the country or region, or globally in similar sites) and thus are managed with a strong business rigour and with a sense of urgency.

l. The proposed role of UNIDO, beyond a continuation of contract management and administration, does not seem that convincing, as it is not explained what is the real added value of UNIDO implementing site assessment and remediation work in one country (although there could certainly be a valuable learning process in that). It would seem much more useful that UNIDO takes on a project mandate related to identifying, supporting and scaling pilot project solutions either implemented to-date (of

selected future ones) with a view to providing pilot project models and success stories that are scalable or replicable (i.e. point 'h' immediately above).

Recommendations are provided in Chapter 8.2 that develop further some of the above learning and reflection points and some of the comments above regarding the proposed follow-up project. Again, it should be emphasised that the above are based upon a summary desk review of the draft project Action Fiche, and are intended as comments and reflection points and not as an assessment of the draft project Action Fiche.

8. EVALUATION CONCLUSIONS & RECOMMENDATIONS

Section Guide

This section sets out the evaluation conclusions and recommendations:

- *Section 8.1 sets out the Evaluation Conclusions*
- *Section 8.1 sets out the Evaluation Recommendations*

This section sets out the preliminary evaluation conclusions and recommendations.

8.1 Evaluation Conclusions

Regarding the conclusions and recommendations elaborated below, an important observation to bear in mind is that the evaluation findings and conclusions have been drawn against the perspective of the project objectives and the development cooperation rationale underlying EC funding. Thus, in some cases, where weaknesses or shortcomings or areas for improvement are identified, these may relate to the goal of engaging in toxic pollution remediation in order to improve lives in developing countries. Thus, were this a purely environmental programme, some of the evaluation conclusions and recommendations might be different.

Regarding project relevance, the *Reduction of Toxic Pollution* project is highly relevant on a number of levels. Firstly, within the broader sustainable development context, the project addresses a gap where insufficient attention has been paid to the health costs of pollution in developing countries, in particular on the poorer and more vulnerable population segments. In this regard, the project is highly relevant to the Millennium Development Goals (MDGs), and are also highly relevant to the Sustainable Development Goals (SDGs).

The project is relevant to the *EC's Global Public Goods and Challenges operational programme* and its strategies, as well as being relevant to UNIDO's mandate and thematic priorities, in particular UNIDO's mandate to eradicate poverty through inclusive and sustainable industrial development, given that pollution weighs mostly on poor communities and contributes to hindering their development. There is also potential for UNIDO to increase the relevance to its work, as there is scope to contribute UNIDO experience in areas such as e-waste, business linkages and developing business networks or value chain improvement. The project's site identification and remediation work also makes it relevant to citizens and local communities affected by pollution and its attendant health risks. Relevance to national policy is at least in theory ensured via the project's process of development National Toxic Action Plans (NTAP), even this has proved more challenging than initially foreseen.

As seen in the evaluation findings and conclusions, some part of the project have performed very strongly, including site identification, pollution clean-up, as well as increasing international awareness and building an increased international response, and Blacksmith deserves praise for the vigour in which it has gone, in tandem with other stakeholders both global and local, and produced those results. However, there are some aspects of the project which have been less successful or where the design assumptions or thinking behind same may need to be reviewed. Thus, regarding the **quality of the project design**, the design can be considered to have numerous strengths, not least leveraging technology and building out a global online data platform in the form of the TSIP Database, the ISS approach, as well as the strong focus on local capacity development and a relatively cost-effective manner of training local stakeholders in the rapid site assessment approach.

However, with the benefit of hindsight, a weakness has been to some extent the NTAP approach, with the expectation that NTAPs could be developed by and with national governments probably showing an overly project- centred thinking as well as being somewhat over-ambitious and optimistic. In this regard, it is worth taking some time to reflect on this component of the project and how it could be adapted and improved. Weaknesses appear to be the strength of connection between initial site remediation work and a national-level policy, the involvement and real commitment of national governments is not always clear, and the measures and resources in place (legislation, financing, political will) to see such NTAPs implemented. Possible pathways along which solutions might be found included i) greater initial effort to build awareness and ownership nationally, ii) increased involvement of GAHP; iii) increased efforts to build plans for scaling site and clean-up work within a clear strategy; and iv) increased efforts to involve of local organisations and partnerships, both as co-financiers or in kind contributors.

Other areas where the evaluation findings point to a need to reflect and review the project design and implementation approach are considering: i) a more strategic approach and a more strategic involvement of GAHP/GAHP members, for example in providing clear input as to their policy, issue and funding interests as part of the project's planning, ii) developing a more strategic approach to engagement in countries and regions; and iii) a much more explicit focus on other aspects of sustainability in pilot projects and site work beyond pollution, environmental and health dimensions, in particular a greater focus on economic, financial and business aspects.

Regarding overall **project efficiency**, the preliminary finding show mixed performance with regard to efficiency. Strong elements have been the rather global and strategic approach to toxic pollution, and in particular developing approaches and tools that show good cost-effectiveness – the development of the TSIP database as a global platform (and the development and scalability potential that this offers) is one key factor that deserves mention, as is the Blacksmith rapid screening approach and its significantly reduced costs per site assessment compared to conventional site assessment approaches. Another efficiency positive here is the use of local country stakeholders in site assessment work, following local training workshops.

Regarding project management, preliminary findings suggest that the project has been efficient with regard to the number of sites assessed and uploaded on the TSIP database and in terms of number of participants trained at in-country training workshops, even if the picture regarding the sustained impact of the latter (rapid assessment protocol training) is less clear. It would also be worth considering if training and post-training support could be made more efficient again with a greater focus on online support. Regarding **efficiency of project inputs and costs**, it is difficult to say if the project has been efficient with regard to

personnel-related costs, as the project reporting provides almost no justification of personnel and human resource costs against specific work inputs and outputs and achievements.

Regarding **project effectiveness and the extent to which the project achieved its aims**, the project has recorded partial, and sometimes significant, achievement of its target outputs and results. Some of the core results obtained by the project have significantly exceeded targets – the number of sites assessed has been 772, in contrast to the project target of 450. In terms of in-country training workshops the results are significant, with capacity building of 345 persons having been delivered, of which 194 have been researchers/investigators and 151 have been government staff members. Country-level reports of TSIP data have been presented to governments in 12 or 13 countries, across the Caucuses (2), Latin America (4), Africa (3) and Asia (3), while 11 of the project countries were completing or had completed a National Toxic Action Plan (NTAP) at the end of the project period, although it is not clear what this will mean in the short term or what will be the impact in the medium-to-long term. It should be kept in mind that core project team resource effort on NTAP-related work is less than 1/20th of the time effort spent on TSIP-related work, which might be indicative of a wider issue that too much work effort is going into site identification without an adequate strategic rationale underlying this.

Considerable work and outputs have been generated with regard to raising awareness on the negative impact (and development cost) of toxic pollution, with a significant awareness-raising and communications effort have been mounted. Regarding generating an international response, an important strategic result has been the creation of the Global Alliance on Health and Pollution (GAHP), in particular with regard to its future potential. A notable achievement has been securing its mention in the Sustainable Development Goals commitments, specifically by adding soil and water (in addition to the existing mention of air-borne pollution) in order to make for a comprehensive coverage of pollution pathways. This is a highly significant achievement, in what it could mean for the future, and shows the strength of the campaigning, advocacy, lobbying work carried out by Blacksmith and the GAHP.

Regarding the project's **impact**, it is more difficult to provide any overall conclusive manner at this stage, and this is being analysed as part of the analysis synthesis and reporting work for the development of the draft evaluation report. The leveraging of ICT in the development of the global TSIP database has a strong impact potential although it is not clear that the database is currently sufficiently oriented to provide a 'development' impact beyond the narrower environmental impact that has been the focus of Blacksmith's work. Regarding **impact**, an increasing international response can also be evidenced in Blacksmith's successfully obtaining four grants related to GAHP projects:

As mentioned earlier, preliminary findings suggest that strong points with regard to sustainability are the leveraging of ICT in the development of the global TSIP database, and the leveraging of local stakeholders in the training workshops and the lower-cost approach of the rapid site assessment approach. However, some of the field visit work suggest that optimal sustainability will require significant work in all three sites, and while this seems to be understood in the case of Morelos, it is less clear that clear analysis and planning has been done in the Accra Agbogbloshie of Azerbaijan Sumgayit site.

Related to leveraging impact and sustainability prospects, the current functioning of the project, in particular in terms of detail of reporting and in level of focus on socio-economic, governmental and business dimensions of sustainability, does not seem optimal with a view to leveraging the potential of

GAHP nor the potential to bring increased funding into this area. As mentioned in Section 6, if the potential of the GAHP is to be maximised, the Alliance's own sustainability will need to be secured through a clear strategy, development plan and full institutionalisation as an independent and credible voice in this area, including a sustainable funding model and the requisite moral and financial commitment from its key stakeholders and member ship base. While this is the focus of Objective 3 of the follow-up project concept (see Section 7.2 below), a fully-fledged strategy and development plan do not yet appear to be exist, and the significant funding allocation earmarked for the GAHP makes it all the more important that under Objective 3 of the follow-up project concept that GAHP development and institutionalisation proceeds on the basis of a clear plan, which could be either set out in the project concept or form at least one of the early deliverables from the project.

Regarding **project visibility**, the site visits generally suggest that Blacksmith needs to do more in promoting the visibility of the EC as the project funder and of UNIDO, with site placards in Accra and Sumgayit for example containing no mention of the role or either the EC or UNIDO.

Learning

With regard to learning and development of the project approach to developing national government take-up and support for addressing toxic pollution, it may be worth considering in part the approach and experience of the EC-funded and UNDP-implemented *Parliamentary Action for Renewable Action (PARE)* project. Financed by the EC and implemented by UNDP and a UK-headquartered organisation called Climate Parliament, the project targeted capacity building in renewable energy for Parliamentarians in eleven countries across Africa, the Middle East and Asia. Some of the results were impressive, such as Tunisia's Parliament passing a constitutional commitment to environmental conservation and a landmark Renewable Energy bill while in countries in India and Bangladesh the work of the PARE project cross-party group's advocacy and lobbying work has played a significant role in **significantly increasing the funding available for sustainable energy**, **with more than USD 1,600 million in additional funding for renewable energy being created**.

The above PARE project achievements have involved awareness-raising and capacity building among parliamentarians in these countries, and like the Covenant of Mayors example mentioned above provide examples of how capacity building can be particularly effective when linked to specific policy objectives, political commitments of financing goals. For this reason they may relevant to internal stakeholder reflection exercise on what can be learned from this project's show what can be achieved when awareness raising, campaigning, capacity-development and advocacy are anchored in a wider action-based framework, in particular given the questions raised by the implementation experience of the NTAPs to-date.

8.2 Evaluation Recommendations

This section sets out the evaluation recommendations, building on the evaluation findings and conclusions in the previous report sections. Each of the above Recommendations (R1-R5) are set out in the pages that follow, with each Recommendation containing **five types of information**:

1. Recommendation No (Rec X)
2. Recommendation Summary: The core recommendation
3. Detailed Recommendation: A more detailed elaboration of the recommendation, sometimes including a repeat of the rationale, and sometimes setting out example activities or next steps
4. Recommendation Addressed to: Which stakeholders the recommendation is addressed to
5. Timeframe: Recommended/suggested timeframe for implementing the recommendation

The recommendations in many respects are set out as points for reflection and consideration, as the issues are complex. Their core purpose is to build on some of the strengths and good results of the project under evaluation, and to provide suggestions as to how some design weaknesses and implementation weaknesses can be addressed. Twelve recommendations are provided and these 12 recommendations can be grouped in 4 Categories:

1. **Recommendations R1 and R2:** Recommendations that are **strategic** in nature and relating to the project concept, relating to what should be the objectives of the next phase and how can the project be set up to deliver the biggest impact for all stakeholders.

2. **Recommendations R3, R4, R5, R6, R7:** Recommendations that are **more operational, but relate to key work processes or intervention approaches, and seek to translate the strategic recommendations into operational processes** to deliver the suggest part shift in focus

3. **Recommendations R8, R9:** Recommendations targeted to **developing specific frameworks, strategies and tools to improve sustainability design and performance** in pilot projects and other pollution remediation projects more generally.

4. **Recommendations R10, R11, R12:** Recommendations targeted to leveraging potential or strong points of the **pilot projects** visited during the evaluation field visit programme, or addressing weaknesses of these projects

Category 1	**Strategic Recommendations relating to core project concept and objectives**	**R1, R2**
Category 2	**Operational Recommendations that seek to translate the strategic recommendations into operational processes**	**R3, R4, R5, R6, R7**
Category 3	Recommendations targeted to **developing specific frameworks, strategies and tools to improve sustainability design and performance**	**R8, R9**
Category 4	Recommendations targeted to Pilot Projects in Morelos, Accra and Sumgayit	**R10, R11, R12**

No.	Recommendation Summary	Recommendation Type / Rationale
R1	Review the Project Approach Going forward to Reflect Lessons Learned, Address Weaknesses, Reflect Stakeholder and Donor Interests, and Increase Projects Capacity to Raise Global Interest and Increased Funding Support	Strategic / Project Orientation/ Concept
R2	Create a Needs Review and Project Formulation Process between the next Project Phase and GAHP, to allow the project to act as a formulation vehicle for new national and regional programmes that can attract funding support from GAHP members	Strategic / Project Orientation/ Concept
R3	Adapt the Project Approach to Fostering National Government Commitment and Action through NTAPs/MoUs	Operational Recommendations targeted at • Developing Processes to Support Strategic Shift, and • Increasing the formal involvement and 'institutionalisation' of GAHP in project implementation
R4	Develop a multi-stakeholder governance advisory and oversight mechanism for the core rapid screening approach	
R5	TSIP Development - Review TSIP Site Classification with a view to increasing 'development return' of TSIP	
R6	Consider developing a formal project pollution and health reporting programme to GAHP members at defined regular intervals to support GAHP formulation and take-up of new country, regional and/or thematic projects.	
R7	Increased Involvement of UNIDO in Supporting Development and Delivery of Market-Led Solutions and Improved Financial Sustainability of Pollution Remediation Projects	
R8	Develop a Robust Pilot Project Proposal and Work Plan Template for all future pilot projects	Recommendations targeted at Creating Operational Frameworks and Tools to ensure • Wider development dimensions are more full taken into account in projects, • Greater focus on sustainability (NB financial sustainability)
R9	Develop a detailed site sustainability framework, templates and strategy to ensure that the wider sustainability and related development potential and benefits are maximised	

No.	Recommendation Summary	Recommendation Type / Rationale
R10	Accelerate Work in the Morelos Pilot in order to Leverage its Potential of Act as a Demonstration of Market-driven Solution to Toxic Pollution	Recommendations Aimed at Leveraging Potential or Improving Weak Points of Pilot Projects visited during the evaluation field programme
R11	Develop a More Rigorous Project and Business Plan for the Ghana Agbogbloshie eWaste pilot project	
R12	Explore how the Sumgayit Pilot's public demonstration value can be increased, as well as increasing involvement from the local municipality	

R1	
Recommendation Summary: Review the Project Approach Going forward to Reflect Lessons Learned, Address Weaknesses, Reflect Stakeholder and Donor Interests, and Increase Projects Capacity to Raise Global Interest and Increased Funding Support	
Detailed Recommendation: Notwithstanding some of the strong results of the project, the evaluation findings suggest that some of the strategic orientation of the project needs to shift somewhat if it is to maximise its contribution to advancing the toxic pollution-health agenda and increase global support and funding for this agenda. The strategic shift recommended for consideration is: • **Strategic Shift – Increasing the Project Focus as a Lever to Formulate Increased Donor Support and (Co-)Formulation and funding of interventions to address toxic pollution**: Increased focus on making available data and intelligence on toxic pollution and related health consequences, to allow various development stakeholders (in particular the GAHP) to formulate and finance project-based and programme-based solutions. This will help bring increased support and funding to support addressing toxic pollution, and will help increase the 'development cooperation return' of the investment made to-date to support the TSIP's development • **Increased focus on wider development context of toxic pollution**: Continue encompassing the pollution/environment and health objectives and dimensions that Blacksmith has pursued well, but have a much more explicit economic, business, market and wider societal dimensions. In particular, an increased focus on leverage economic, market, industry and private sector factors where there are opportunities to develop market-led, industry-led, or society-led solutions to pollution that are sustainable and can increase the match with, and value for, donor organisations goals and funding support. The shift recommended above, it should be emphasised, does not meant necessarily that much of the site assessment work, capacity building etc. that has been done should be stopped, rather that it should take place in a more strategic and selective context.	
Recommendation Addressed to:	UNIDO / Blacksmith Institute / GAHP / EC
Implementation Timeframe:	September 2015 – November 2015

R2	
Recommendation Summary: Create a Needs Review and Project Formulation Process between the next Project Phase and GAHP, to allow the project to act as a formulation vehicle for new national and regional programmes that can attract funding support from GAHP members	
Detailed Recommendation: This recommendation is focussed on operationalising the strategic shift recommended under R1 above. If the next phase of the project has an important focus on making available existing knowledge to the international community. This could be done at different levels – national, regional and thematic for example. • Allow GAHP donors to consider their own policy, programme and funding priorities • Seek to leverage past work carried out by the project, and more generally by Blacksmith, to explore scaled-up national or regional responses. This would also support the development of more strategic and long-term interventions at national and regional level, and possibly help create an intervention approach that could help address some of the challenges experienced by the NTAP work and lead to a more effective approach for engaging with national governments and building national government commitment and further strengthening local engagement, support and ownership. • A structured review and dialogue along this line would also help identify the needs for strategic new pilot projects and programmes, in particular if supported by a more formalised communication and reporting to GAHP (See Recommendation 6) Notwithstanding some of the strong results of the project, the evaluation findings suggest that parts of the project design and approach could usefully be reviewed, including the initial objectives regarding NTAP. While this approach has been adapted, (and it is too early to say how effective the NTAP and MoUs approach will be) it is not clear that this approach will maximise effectiveness. It is recommended that this the approach to national (and possibly) regional take-up and scaling of effort to tackle pollutions issues consider including the following: • A greater sense of strategic assessment of pollution issues and their costs (covering all dimensions, not just environment and health dimensions) • Clear extraction of any relevant learning from pilot projects conducted within the country (or from other relevant experience elsewhere) • A rigorous analysis of country-level obstacles and constraints (e.g. government commitment, capacity deficits, funding resources or deficits, legal framework, enforcement capacity) and how to address these obstacles • Assessment of national-scale pollution remediate programmes (even if a first phase is more modest), and a likely cost estimate of the budget required • Clear incorporate of sustainability, including how sites could be maintained afterwards, local ownership ensured, and prospects for securing local and external co-financing (both financial and in-kind) • Incorporation of GAHP members interest in financially supporting implementation of such a plan (which could in turn be used as a possible incentive in discussions with national government and national stakeholders) to secure local support and financial or in-kind co-financing	
Recommendation Addressed to:	Blacksmith Institute / UNIDO / GAHP
Implementation Timeframe:	September 2015 – March 2016

R3	
Recommendation Summary: Adapt the Project Approach to Fostering National Government Commitment and Action through NTAPs/MoUs	
Detailed Recommendation: Notwithstanding some of the strong results of the project, the evaluation findings suggest that parts of the project design and approach could usefully be reviewed, including the initial objectives regarding NTAP. While this approach has been adapted, (and it is too early to say how effective the NTAP and MoUs approach will be) it is not clear that this approach will maximise effectiveness. It is recommended that this the approach to national (and possibly) regional take-up and scaling of effort to tackle pollutions issues consider including the following: • A greater sense of strategic assessment of pollution issues and their costs (covering all dimensions, not just environment and health dimensions) • Clear extraction of any relevant learning from pilot projects conducted within the country (or from other relevant experience elsewhere) • A rigorous analysis of country-level obstacles and constraints (e.g. government commitment, capacity deficits, funding resources or deficits, legal framework, enforcement capacity) and how to address these • Assessment of national-scale pollution remediate programmes (even if a first phase is more modest), and a likely cost estimate of the budget required • Clear incorporate of sustainability, including how sites could be maintained afterwards, local ownership ensured, and prospects for securing local and external co-financing (both financial and in-kind) • Incorporation of GAHP members interest in financially supporting implementation of such a plan (which could in turn be used as a possible incentive in discussions with national government and national stakeholders) to secure local support and financial or in-kind co-financing	
Recommendation Addressed to:	Blacksmith Institute / UNIDO / GAHP
Implementation Timeframe:	September 2015 – March 2016

R4	
Recommendation Summary: Develop a multi-stakeholder governance advisory and oversight mechanism for the core rapid screening approach	
Detailed Recommendation: As the TSIP and the rapid screening methodological approach supporting it develops in scale and importance will be important that a full-fledged oversight and advisory mechanism to certify the approach is put in place. This will provide further assurance to current and future donor organisations and will ensure an appropriate level of transparency. This 'mechanism' does not need to be 'have' rather comprise a number of appropriately qualified environmental and pollution experts that can confirm the methodological validity of the approach	

R4	
used, as well as possibly carrying out regular independent testing and verification of site work sampling and assessment already carried out. Blacksmith's Technical Advisory Board (TAB) is already doing this on a pro-bono basis, but it would be good to formalise this structure, with one option being that the Global Alliance for Health and Pollution (GAHP) is entrusted with managing this function.	
Recommendation Addressed to:	BSI / GAHP
Implementation Timeframe:	September 2015 – March 2016

R5	TSIP Site Classification
Recommendation Summary: TSIP Development - Review TSIP Site Classification with a view to increasing 'development return' of TSIP	
Detailed Recommendation: The TSIP database is an important global asset, that has been developed by the Blacksmith Institute during this project and previous projects, with significant donor support. However, going forward, it is recommended that the project stakeholders consider carrying out a review of TSIP with a view to ensuring that the development return is maximised for all project stakeholders, in particular GAHP members. This could include: • Ensuring that the database has a good reporting format that allows users to access use TSIP search reports in a user-friendly manner • Ensuring that the TSIP Site classification provides adequate coverage of the non-environmental aspects of sites – for example beyond whether the site is a 'live' pollution and health risk classifying sites with regards to sustainability planning • Whether the non-environmental aspects of site sustainability have been assessed • Whether there is potential for a local part or total financing solution linked to local micro-business activity/business activity/market potential • Whether a stakeholder assessment (whether regard has been carried out • Whether other financing options exist with regard to financial sustainability (e.g. local potential sponsors/donation-givers or in-kind contributions) • Whether the sustainability solution offers good practice or not? • Potential relevance or replicability of sustainability solution for other sites • Other?	
Recommendation Addressed to:	UNIDO / Blacksmith Institute / EC / Blacksmith Country partner(s) / Other
Implementation Timeframe:	September 2015 - November 2015

R6	
Recommendation Summary: Consider developing a formal project pollution and health reporting programme to GAHP members at defined regular intervals to support GAHP formulation and take-up of new country, regional and/or thematic projects.	
Detailed Recommendation: In order to start developing a process of maximising the development return of the past projects and future foreseen project's work on polluted environmental sites, it is recommended that the project stakeholders developing a formal programme of pollution and health communication and reporting programme to GAHP members at defined regular interval. This could for example be a series of reports based upon TSIP site data and wider analysis, with numerous presentation options: • Country or regional reports (e.g. West Africa) • Issue-based reports (e.g. mercury-based pollution/poisoning, e-waste) Such a communication and reporting programme could have a specific focus on providing to GAHP members available data and analysis (and estimates and projects where data was missing) to allow GAHP Members **see where a national or regional programme of action could be considered for formulation and eventual funding support**, based up on the scale and type of need presented by Blacksmith	
Recommendation Addressed to:	UNIDO / Blacksmith Institute / EC / Blacksmith Country partner(s) / Other
Implementation Timeframe:	September 2015 – June 2016

R7	
Recommendation Summary: Increased Involvement of UNIDO in Supporting Development and Delivery of Market-Led Solutions and Improved Financial Sustainability of Pollution Remediation Projects	
Detailed Recommendation: UNIDO's role has rather surprisingly been limited to a rather passive contract management one, and in this role it has not exercised sufficient strategic oversight of the project. Beyond this role, it should consider looking at how it can bring its core experience in areas such as fostering industrial development, developing business linages and relevant experience in craft industries and e-waste to take a much more proactive role in supporting for example the formulation and implementation of market-led/industry-led solutions that have strong financial viability potential.	
Recommendation Addressed to:	UNIDO
Implementation Timeframe:	September 2015 – December 2015

R8	
Recommendation Summary: Develop a Robust Pilot Project Proposal and Work Plan Template for all future pilot projects, in order to ensure that maximum value is extracted from pilot projects.	
Detailed Recommendation: The field visit programme suggested that at least some pilot projects are not being sufficiently clearly defined, in particular in terms of addressing the non-pollution aspects and wider financial and institutional sustainability. Having a standard pilot project template would help ensure sufficient rigour in defining the pilot project, and in particular how impact and sustainability can be optimised. Such a template, which would include existing information compiled by Blacksmith, could include: a. Site description and context b. Pollution issues c. Impacts and Costs (e.g. Health, Environment costs etc.) d. Stakeholder Analysis e. Site Remediation Work Programme f. Specific Objectives and Target Results g. Target Impact h. Indicators and Monitoring i. Detailed Sustainability Plan (including local ownership/institutional sustainability, financial sustainability, j. Detailed Work Plan and implanting actors and respective roles and tasks k. Financial Plan / Budget and Cost Benefit Statement	
Recommendation Addressed to:	UNIDO
Implementation Timeframe:	September 2015 - November 2015

R9	Site Sustainability Framework
Recommendation Summary: Develop a detailed site sustainability framework, templates and strategy to ensure that the wider sustainability and related development potential and benefits are maximised.	
Detailed Recommendation: the evaluation has shown that while some good work has been done on pilot sites, not enough attention is being paid to the non-environmental aspects of site sustainability planning and implementation. The project partners need to develop a **detailed sustainability framework and templates to ensure that going forward that the wider sustainability and related development potential and benefits are maximised:** a. Regarding the wider sustainability framework recommended, this could include considering for example the following **sustainability assessment criteria** for the TSIP database, this could for example include considering the following: • Whether the non-environmental aspects of site sustainability have been assessed • Whether there is potential for a local part or total financing solution linked to local micro-	

R9	Site Sustainability Framework
business activity/business activity/market potential • Whether a stakeholder assessment (whether regard has been carried out • Whether other financing options exist with regard to financial sustainability (e.g. local potential sponsors/donation-givers or in-kind contributions) • Whether the sustainability solution offers good practice or not? • Potential relevance or replicability of sustainability solution for other sites • Other? Regarding specific **sustainability templates and tools** within the wider sustainability framework, this could include development of: • A site sustainability assessment template • A site sustainability assessment report template • A site sustainability plan (with M&E indicators) • A site sustainability costing and financing template • A site sustainability ranking and scoring categorisation	
Recommendation Addressed to:	UNIDO
Implementation Timeframe:	September 2015 - December 2015

R10	Morelos Pilot Project
Recommendation Summary: Accelerate Work in the Morelos Pilot in order to Leverage its Potential of Act as a Demonstration of Market-driven Solution to Toxic Pollution	
Detailed Recommendation: The project has done some good work in the development of the pilot project in Morelos, in understanding that a sustainable solution lies with working with pottery crafts persons to convent to lead-free pottery production and to work with hotels and restaurants to purchase and use only lead-free pottery. Actions for consideration include: • Considering whether more can be done by a greater sense of urgency, in particular with respect to increased effort and resources to work with hotels and restaurants in obtaining their commitment to work with lead free pottery? • Exploring possible ways to increase the value, for example in terms of connecting pottery families stories to tourist visitors and increase promotion and branding of a lead-free pottery brand • Develop a clear plan for scaling to other areas of South East Mexico	
Recommendation Addressed to:	UNIDO / Blacksmith Institute / Local Partners
Implementation Timeframe:	September 2015 – March 2016

R11	Accra Agbogbloshie Pilot Project
Recommendation Summary: Develop a More Rigorous Project and Business Plan for the Ghana Agbogbloshie eWaste pilot project	

Detailed Recommendation: The field visit programme has suggested much that needs to be done to ensure that the Ghana Agbogbloshie Waste Site pilot project can be called a success. A rigorous management and business operational framework is not in place, and there is no testing of a cost or income model that could lead to a viable e-waste business activity over time. Notwithstanding this, the first part of a solution has been but in place (wire strippers) but the potential of the activity is not being exploited, in particular in terms of developing a market that can bring above-normal income for waste collectors that work on the site. The local project partner is motivated to find a long-term solution, but needs guidance and technical assistance and support.
Recommended actions include:
• Working with the local partners to develop a business strategy, and business and financing plan, which would include:
  ○ Securing higher revenue returns by cutting out local intermediaries
  ○ Exploring existing and new market opportunities (such as past contact with a Nordic) corporation) to develop high(er)-value export sales
  ○ Working out a phased introduction of waste collector payment according as they receive increased revenue, such that the operation can become sustainable
• Dialoguing with the National Youth Authority to ensure that there is no
• Looking at the wider environmental pollution of the site (pollution assessment) and discuss with the city and assess if local will exists to improve the site (or if in the wider development context this constitutes a major problem).
• Working on a plan to scale to other areas and sites in Ghana (NB Tamale), and possible develop a regional programme (if and once a viable business model has been identified).
The above should also take account of experience and good practice around the world, which UNIDO amongst other can contribute from its own e-Waste interventions and wider business linkages experience.
For the wider waste site, a review should be taken of other models and experience from around the world in improvement of waste sites, including wider recycling including working with informal waste collectors. Many such programmes exist, for example one of the EU Development Cooperation Programmes in South Africa (Sustainable Environment and Natural Resource Management) has been providing financing support to a green economy project working with informal waste collectors.	

Recommendation Addressed to:	UNIDO / Blacksmith Institute / Green Advocacy Ghana
Implementation Timeframe:	September 2015 – March 2016

R12	Sumgayit Pilot Project
Recommendation Summary: Explore how the Sumgayit Pilot's public demonstration value can be increased, as well as increasing involvement from the local municipality	
Detailed Recommendation: The pilot project has done a valuable clean up a heavily polluted site. However, its wider value is somewhat questionable, given its relatively small size and the fact that it has been implemented as a rather isolated development. Actions for consideration include: • Exploring whether municipal-owned non-polluted land on both sides of the Sumgayit site can be landscaped to increase the size of the site available for the general public, and increase its value as a demonstration site • Explore how a more strategic approach to site remediation could take place, including in particular how local ownership and local involvement can be optimised, in particular building up the support role of Azerkimya to create a strong local co-financing (both financing and in-kind support)	
Recommendation Addressed to:	UNIDO / Blacksmith Institute / Local Partners
Implementation Timeframe:	September 2015 – March 2016

9. ANNEXES

9.1 Annex 1: List of Interviewees

No.	Name	Organisation
1	Guillermo Castella-Lorenzo	UNIDO
2	Ludovic Bernaudat	UNIDO
3	Stephan Sicars	UNIDO
4	Javier Guarnizo	UNIDO
5	Grace Halla	UNIDO
6	Sorin Niculae	UNIDO
7	Pablo Leunda-Martiarena	European Commission
8	Maria Pachta	European Commission
9	Bella Nestorova	European Commission
10	Laura Giappichelli	European Commission
11	Rich Fuller	Blacksmith Institute (Pure Earth)
12	Brett Ericson	Blacksmith Institute (Pure Earth)
13	Dr Jack Caravanos	Blacksmith Institute (Pure Earth)
14	Sandra Gualtero	Blacksmith Institute (Pure Earth)
15	Lara Crampe	Blacksmith Institute (Pure Earth)
16	Drew McCartor	Blacksmith Institute (Pure Earth)
17	Russell Dowling	Blacksmith Institute (Pure Earth)
18	Eric Fecci	Blacksmith Institute (Pure Earth)
19	Corinne Ahearn	Blacksmith Institute (Pure Earth)
20	Rachel Vinyard	Blacksmith Institute (Pure Earth)

No.	Name	Organisation
21	Jacob Dorne	UNEP
22	Jostein Nygard	World Bank
23	Ibrahima Sow	Global Environment Facility
24	Daniel Estrada	Blacksmith Institute (Pure Earth) – Mexico
25	Netzy Peralta Delgado	Pure Earth's contact with artisans
26	Paulino Amaro	Mayor of Tlayacapan
27	Salomón Navarrete	Director of Artisans
28	Margarito Dorantes	Pottery craft maker – Morelos, Mexico
29	Rosario Dorantes	Pottery craft maker – Morelos, Mexico
30	Cirilo Santamaría	Pottery craft maker – Morelos, Mexico
31	Francisco Toscano	Pottery craft maker – Morelos, Mexico
32	Leticia Martínez	Directress, Zicaro Foundation
33	Elizabeth Rodríguez	Morelos Regional Health Agency for Protection Against Sanitary Risks
34	Sergio Octavio García Álvarez	Morelos Regional Health Agency for Protection Against Sanitary Risks
35	Dra. Laura Ávila	IMSS - Instituto Mexicana del Seguro Social
36	Dr. Ever Bahena	IMSS - Instituto Mexicana del Seguro Social
37	Dr. Marco Antonio	IMSS - Instituto Mexicana del Seguro Social
38	Lourdes Román Cortez	Parent of Child – Alonso
39	Dr. Pavel Piña	Doctor, Hospital Morelos
40	Tannya Rodríguez	Casa Hidalgo
41	Jaun Pons	ProCentro Cuernavaca

No.	Name	Organisation
42	Connie Gómez	Tesoros de México
43	Adriana Lugo	Tourism Ministry Morelos
44	Delia Pimentel	INSP
45	Dra Mara Téllez-Rojo	INSP
46	Yesenia Franco-Barrera	INSP
47	Luis Bautista	Nurse
48	Professor Dr. Luis Camilo Ríos	Instituto Nacional de Neurología y Neurocirugía (INNN) Laboratory
49	Betty Aridjis	Grupo de los Cien
50	Homero Aridjis	Grupo de los Cien
51	Dr Rovshan Abbasov	Khazar University, Blacksmith Institute Azerbaijan
51	Yugar Karimov	Deputy Executive Director of Azerkimya on Work Safety and Environmental Protection, SOCAR Production Union
52	Ulviya Abdullayeva	EU Delegation to Azerbaijan
53	Oktay Tagaizade	Head of the Department on Work Safety and Environmental Protection, Azerkimya Production Union of SOCAR
54	Chingiz Mehdiyex	Director of the Toxic Waste Polygon (MENR), Ministry of Ecology & Natural Resources
55	Bennett Nana Akuffo	Green Advocacy Ghana
56	Emilia Osei-Asante	Green Advocacy Ghana
57	Yaw Amoyaw-Osei	Green Advocacy Ghana
58	Karim Abdul	Manager, Agbogbloshie Waste Site, Ghana
60	Mr Theophilus Anaman	National Youth Authority (NYA)
61	John A. Pwamang	Environmental Protection Agency (EPA), Ghana

9.2 Annex 2: Evaluation Bibliography

1. Project document/ Contract with the European Commission
2. Blacksmith annual project progress report 2012 (and annexes)
3. Blacksmith annual project progress report 2013 (and annexes)
4. Blacksmith annual project progress report 2014 (and annexes)
5. Contract No. 16002517, signed between UNIDO and Blacksmith Institute on 28.02.2012"
6. Terms of reference (TOR) to contract No. 16002517, signed between UNIDO and Blacksmith Institute on 28.02.2012"
7. Blacksmith UNIDO "Reduction of toxic pollution threatening the environment and health of vulnerable communities in Africa, selected countries of Eastern Europe, Latin America and the Caribbean" November 2011
8. UNIDO annual report "Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities" December 2012
9. UNIDO annual report "Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities" January 2014
10. Armenia NTAP Report "National Strategy on Reducing the Impact of Hazardous Chemical Substances Resulting from Metal Mineral Extraction and Ore Processing on Human Health and Environment for the Republic of Armenia" December 2014
11. Barro Aprobado PowerPoint "Reducing Community Health Exposures to Lead from Artisanal Ceramics in the State of Morelos Mexico" June 2015
12. Blacksmith Institute Proposal "Making Electronic Waste Recycling in Ghana Safer Through Alternative Technology" 27.08.2014
13. Blacksmith Institute Report "Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities" 01.01.2015 – 22.04.2015
14. Blacksmith-UNIDO Annual Financial Report 2014
15. Blacksmith-UNIDO Annual Narrative Report "Global Alliance For Health And Pollution (GAHP) Mid-Term Evaluation (2011-2014)"
16. Blacksmith Institute Annual Report "Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities" 01.01.2014 – 31.12.2014

17. Blacksmith UNIDO "Reduction of toxic pollution threatening the environment and health of vulnerable communities in Africa, selected countries of Eastern Europe, Latin America and the Caribbean"

18. Blacksmith Institute (Pure Earth) “Evaluation of the project Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities”

19. Blacksmith Institute Contract Variation Request 31.07.2015

20. “Proposed Agbogbloshie e-Scrap Industrial Enclave (National e-Waste Information & Technology Transfer Centre)” July 2013

21. Commission of the European Communities “Reduction of toxic pollution threatening the environment and health of vulnerable communities” 2011

22. Financial Report 2012.

23. Summary note of the “EU FLEGT Industry Information Meeting”, Brussels, 14/09/2007

24. Blacksmith Institute “Global Alliance For Health And Pollution (GAHP) Final Evaluation” July 2011-April 2015

25. GAHP Executive Committee Meeting Minutes 25.06.2015

26. Pure Earth, Blacksmith Institute “Reducing Mercury Use in Gold Mining” Kalimantan Indonesia

27. Blacksmith Institute “Global Alliance For Health And Pollution (GAHP) Mid-Term Evaluation (2011-2014)” 10.02.2015

28. Pure Earth, Blacksmith Institute “Barro Aprobado – Morelos, Mexico” Completion Report, April 2014 - April 2015

29. Blacksmith Institute Project Completion Report “Sumgayit Industrial Center, Azerbaijan” May 2014 – February 2015

30. Blacksmith Institute “Sumgait Remediation Report” 2015

31. Pure Earth, Blacksmith Institute PowerPoint “Pilot Remediation of Publicly Accessible Areas Contaminated by PCBs Near the Organic Synthesis Plant Sumgayit, Azerbaijan” 2015

32. Blacksmith Institute “GAHP Pilot Project Proposal Sumgayit Organic Synthesis Plant, Azerbaijan” 2014

33. “UNIDO-EC Amendment Request” 31.07.2013

34. “UNIDO-EC Financial Report 2013” 01.01.2013 -15.12.2013

https://www.dropbox.com/s/68vupcjdl65gedl/UNIDO%20Evaluation%20Prep%20Docs?dl=0

9.3 Annex 3: Evaluation Terms of Reference

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE

Independent Terminal Evaluation

Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities

SAP ID: 100340

June 2015

Introduction and project background

Project factsheet

Table 1. Project factsheet

Project Title	Reduction of Toxic Pollution Threatening the Environment and Health of Vulnerable Communities
EC ID Number	Europe Aid/DCI-ENV/2011/261448/TPS
UNIDO ID (SAP Number)	100340
Country(ies)	Global
Implementing Agency	UNIDO
Project Executing Partner	Blacksmith Institute
Project Implementation Start Date	February 2012
Project Duration (Months)	40
EC Grant (EUR)	5,000,000
UNIDO's Fee (EUR)	350,000
Counterpart Inputs - Co-financing (EUR)	1,232,196

(Source: Project document)

Project summary

The overall objective of this project is to help governments and communities heavily impacted by legacy toxic pollution in Africa and select countries of Eastern Europe (former Soviet Union), Latin America and the Caribbean to take locally-led action to improve the health of those communities by breaking pollution exposure pathways and preventing future toxic emissions. The specific objectives of this project are to:

1. Expand and reinforce the current review of toxic pollution in countries in Africa, Eastern Europe, Latin America and the Caribbean, and create an inventory of pollution hotspots in those regions;
2. Build national and local capacity in Africa, and select countries in Eastern Europe, Latin America and the Caribbean to develop national toxics action plans and implement remediation/cleanup interventions to improve the health of those populations directly affected by legacy or active pollution; and
3. Promote awareness regarding the scope of toxic pollution and the need to address the issue globally and assist in the development of an international response.

The project will achieve its overall goal by providing technical expertise and support for expanding the inventory of toxic hotspots and building local and national capacity to design, implement and replicate remediation interventions. In addition, the project will collaborate with the UN system and existing initiatives to raise awareness nationally and internationally about the global scope of pollution, and generate support for an international response.

National capacity to address toxic pollution will be strengthened via the following expected results:

1. Rapid risk assessments are conducted throughout Africa, Eastern Europe, Latin America and the Caribbean and integrated into the existing Global Inventory.

2. Comprehensive country data on polluted sites are shared with relevant national government agencies (i.e. Ministries of Health, Environment, Mining, and Industry) in all countries participating in the Global Inventory.
3. In three countries, national strategic management plans for toxic hotspots (or National Toxics Action Plans –NTAPs) are developed, priority sites for intervention are identified, and one intervention project is implemented in each country.
4. International awareness of the scope of toxic pollution is promoted within bilateral and multilateral agencies and the UN system.
5. Tangible progress is made toward establishing an international response to toxic pollution, especially to address legacy, artisanal and emergency-situation pollution. For example, interest in further presentations and data, incorporation of toxic pollution into international donors development agendas, or other initiatives to increase funding for chemicals and waste.
6. Private corporations and industry groups engaged in international efforts to deal with chemicals and wastes.

The project implementation was planned to last 40 months starting in February 2012 and to end in May 2015. All project activities have been completed by the end of April 2015. The project is funded through a European Commission grant, amounting to EUR 5,000,000, including UNIDO's fee of EUR 350,000 (7%); and Blacksmith Institute's co-financing of EUR 1,232,196. Details on the budget will be presented in Section 5.

An independent terminal evaluation for this project was foreseen in the project document as part of the Budgeted Monitoring and Evaluation Plan, with the purpose of conducting a systematic and impartial assessment of the project in line with UNIDO and EC Evaluation policies. The terminal evaluation is planned to take place from July to September 2015.

Background information

Toxins in the environment affect millions of people in low and middle-income countries. Without clean-up, they pose real long-term environmental and health problems, and can significantly impede economic and social development, as well as achievement of the Millennium Development Goals (MDGs), particularly those related to poverty, environmental sustainability and maternal health.

Unhealthy physical environments, especially polluted areas, are often characterised by impoverishment and economic exploitation. As a result, pollution overwhelmingly affects poor and marginalised populations living in high densities near or in industrial areas, abandoned factories, waste dumps and urban slums, which commonly have unsanitary living conditions and little or no access to clean water. People affected by pollution are much more likely to get sick from other diseases, be chronically ill, have reduced neurological development, physical and mental disabilities and a shortened lifespan. Environmental degradation, including that caused by toxic pollution, aggravates poverty and makes growth unsustainable. Emerging evidence indicates that economic deprivation increases the magnitude of pollution-related morbidity and mortality. Environmental damage reduces quality of life and has significant costs for public health.

Toxic pollution causes immense harm to humans, especially children, whose smaller bodies are more vulnerable and absorb and store toxic chemicals at higher rates than adults. Women and children, especially unborn foetuses, and under-fives, are particularly at risk and most vulnerable to the effects

of toxins. Health impacts include physical and mental disabilities, organ dysfunction, neurological disorders, cancers and death. These pollutants exacerbate other health concerns by weakening the body's immune system, rendering it more susceptible to disease. An initial exposure to toxic pollution can be the undocumented cause of later illnesses, such as respiratory infections, tuberculosis, gastrointestinal disorders, and maternal health problems. In addition, toxins can negatively impact biodiversity, contaminate groundwater, and poison or kill local wildlife, fish and food crops. This can in turn exacerbate food and water shortages, and result in the build-up of critical levels of toxins in the local food chain, as well as have negative implications for poverty and economic growth. Also, although most toxic pollution is localised, some pollutants, such as mercury, are transboundary and end up in food chains in oceans and distant countries.

The international community in general has poor understanding of the area of toxic pollution in low- and middle-income countries. Few national governments comprehend the full scope of pollution in their countries. Existing mechanisms and treaties regulating chemicals and toxins, such as the Basel, Stockholm and POPs Conventions, the Montreal Protocol and the Strategic Approach to International Chemicals Management (SAICM) are excellent initiatives but have some constraints such as sign-up being voluntary and insufficient funding for implementation. Furthermore, low- and middle-income countries often do not have the regulatory frameworks to adequately monitor toxic pollution, nor sufficient resources or technical capacity necessary to clean up polluted sites or implement guidelines for sound chemicals management. However, despite varying levels of knowledge and national capacity within developing country governments, there is significant political will to address the problems of toxic pollution. The international community can contribute to local and national efforts to clean up polluted sites. However, such contributions are limited by a lack of understanding of the scope of the problem and an uncertainty about how to identify and prioritise clean-up projects. Blacksmith Institute's efforts to identify and assess polluted sites can facilitate collaborative international efforts to identify and clean up these sites and reduce the risks they pose.

The Global Inventory of toxic hotspots, conducted by Blacksmith Institute in collaboration with the United Nations Industrial Development Organisation (UNIDO), and co-funded by the European Commission, has been extremely successful in conducting inventory work in the Asia Pacific region in countries such as India, Philippines and Indonesia. This is mainly because funding from the Asian Development Bank (ADB) focused inventory activities in that region. Comprehensive inventory work in other regions has been slower to develop primarily due to lack of funding and lack of information. Funds are needed to expand efforts to identify toxic hotspots in Africa, Latin America and the Caribbean, the Middle East, Central Asia, and Eastern Europe.[16]

Additional funds will enable the project to conduct thorough national reviews and build capacity to address the issue of toxic pollution at the country level. This is necessary to contribute to a more accurate picture of the global scope of toxic pollution and its health effects, as well as to identify priority sites for remediation. In addition, this work will promote awareness in the international community of toxic issues globally.

[16] Countries excluded from the Inventory include those with ongoing conflict (i.e. DRC, Iraq, Sudan, and Afghanistan), or other government (i.e. North Korea, Myanmar, and Somalia), small industrial base or population (e.g. Micronesia and Nauru), or existing pollution remediation is well established and in place (e.g. Turkey, Western Europe, USA, Australia and Canada).

Project implementation arrangements

UNIDO has acted as the implementing agency for this project, and the Blacksmith Institute was the main executing partner agency. UNIDO played a coordinating, monitoring and reporting role to the EC, the donor. Blacksmith Institute was responsible for project coordination of stakeholders and management of pilot projects, and they also coordinated the provision of technical expertise. Blacksmith Institute was responsible for day-to-day activities in the project. Blacksmith signed a contract No. 16002517 on 28 February 2012 with UNIDO for complete execution of the project, according to which UNIDO pays the Contractor EUR 4,565,752 for the full and proper performance of his obligations under the contract. This sum covers all the expenses of the Contractor including, but not limited to providing equipment, services and personnel costs.

Budget Information

The total budget of the project (including support costs) is EUR **6,232,196** with co-funding from the Blacksmith Institute. The total budget provided by the EC to UNIDO to implement the project was EUR 5,000,000, including agency support cost of EUR 350,000. So far, 100 percent of the EC-funded budget has been committed and/or spent.

Scope and purpose of the evaluation

The terminal evaluation will cover the whole duration of the project from its starting date in February 2012 to the estimated completion date at the end of May 2015. It will assess project performance against the evaluation criteria: relevance, effectiveness, efficiency, sustainability and impact. The terminal evaluation has an additional purpose:

- Draw lessons and develop recommendations for UNIDO and the EC that may help for improving the selection, enhancing the design and implementation of similar future projects.

The evaluator should provide an analysis of the attainment of the main objective and specific objectives under the three core project components. The assessment includes a re-examination of the relevance of the objectives and other elements of project design according to the project evaluation parameters defined in chapter VI.

The key question of the terminal evaluation is whether the project has achieved or is likely to achieve the project objective, i.e. if the project has reduced or is likely to reduce the impacts of toxic pollution to vulnerable communities.

Evaluation approach and methodology

The terminal evaluation will be conducted in accordance with the UNIDO and EC Evaluation Policy, the UNIDO Guidelines for the Technical Cooperation Programmes and Projects. It will be carried out as an independent in-depth evaluation using a participatory approach whereby all key parties associated with the project are kept informed and regularly consulted throughout the evaluation. The evaluator will liaise with the UNIDO Office for Independent Evaluation (EVA) on the conduct of the evaluation and methodological issues. The evaluator will be required to use different methods to ensure that data gathering and analysis deliver evidence-based qualitative and quantitative information, based on diverse sources: desk studies and literature review, statistical analysis, individual interviews, focus group meetings, surveys and direct observation. This approach will not

only enable the evaluation to assess causality through quantitative means but also to provide reasons for why certain results were achieved or not and to triangulate information for higher reliability of findings. The concrete mixed methodological approach will be described in the inception report. The evaluator will develop interview guidelines. Field interviews can take place either in the form of focus-group discussions or one-to-one consultations.

The methodology will be based on the following:

1. A desk review of project related documents including, but not limited to:
   (b) The original project document, monitoring reports (such as progress and financial reports to UNIDO), output reports (case studies, action plans, sub-regional strategies, etc.), mission reports, action plans and relevant correspondence.
   (c) Financial data generated for the projects and available from UNIDO's internal management systems, as well as Blacksmith Institute's financial reports will be reviewed.
   (d) Other project-related material produced by the project.
2. Since the project document contains a project results framework (included in Annex 7 of the ToR), the evaluator will assess performance against this framework. The validity of the theory of change will be re-examined through specific questions in the interviews and, possibly, through a survey of relevant parties involved in the project.
3. Counter-factual information: Baselines and background information for the benchmarks exist to some extent for this project.
4. Interviews at UNIDO headquarters.
5. A field mission to at least 3-4 project sites which will include interviews of local governments and beneficiaries.
6. The inception report will provide details on the methodology used by the evaluator and include an evaluation matrix.

Evaluator

The evaluator will be one international consultant. The evaluator should be able to provide information relevant for follow-up studies, including evaluation verification on request to the EC up to two years after completion of the evaluation. The consultant will be contracted by UNIDO. The tasks of the consultant specified in the job descriptions attached to these terms of reference. The international evaluation consultant must not have been directly involved in the design and/or implementation of the programme/project.

The Project Manager at UNIDO and the Blacksmith Institute will support the evaluator.

Time schedule and deliverables

The evaluation is scheduled to take place in the period July to September 2015 (tentatively). The field mission is planned for end of July 2015 (tentatively). At the end of the field mission, there will be a presentation of the preliminary findings for UNIDO and other parties involved in the project as deemed appropriate.

After the field mission, the evaluator will come to UNIDO HQ (Vienna) for debriefing and presentation of the preliminary findings of the terminal evaluation. The draft terminal evaluation report will be submitted four to six weeks after the end of the mission.

Project evaluation parameters

The evaluator will rate the project. The **ratings for the parameters described in the following sub-chapters A to K will be presented in the form of a table** with each of the categories rated separately and with **brief justifications for the rating** based on the findings of the main analysis. An overall rating for the project should also be given. The rating system to be applied is specified in Annexes 1 and 2.

Project design

The evaluation will examine the extent to which:

- the project's design is adequate to address the problems at hand;
- a participatory project identification process was instrumental in selecting problem areas and national counterparts;
- the project has a clear thematically focused development objective, the attainment of which can be determined by a set of verifiable indicators;
- the project was formulated based on the logical framework (project results framework) approach;
- the project was formulated with the participation of national counterpart and/or target beneficiaries; and
- relevant country representatives (from government, industries and civil society) have been appropriately involved and were participating in the identification of critical problem areas and the development of technical cooperation strategies.

Project relevance

The evaluation will examine the extent to which the project is relevant to the:

- National development and environmental priorities and strategies of the Government and population of targeted countries, and regional and international agreements. See possible evaluation questions under "Country ownership/driveness" below.
- Target groups: relevance of the project's objectives, outcomes and outputs to the different target groups of the interventions (e.g. companies, civil society, beneficiaries of capacity building and training, etc.).
- EC's operational programme strategies: In retrospect, were the project's outcomes consistent with the operational program strategies of EC? To what extent did the project contribute to EC's objective in pollution reduction and capacity development?
- UNIDO's thematic priorities: Were they in line with UNIDO's mandate, objectives and outcomes defined in the Programme & Budget and core competencies?

- Does the project remain relevant taking into account the changing environment? Is there a need to reformulate the project design and the project results framework given changes in the country and operational context?

Effectiveness: objectives and planned final results at the end of the project

- The evaluation will assess to what extent results at various levels, including outcomes, have been achieved. In detail, the following issues will be assessed: To what extent have the expected outputs, outcomes and long-term objectives been achieved or are likely to be achieved? Has the project generated any results that could lead to changes of the assisted institutions? Have there been any unplanned effects?
- Are the project outcomes commensurate with the original or modified project objectives? If the original or modified expected results are merely outputs/inputs, the evaluators should assess if there were any real outcomes of the project and, if there were, determine whether these are commensurate with realistic expectations from the project.
- How do the stakeholders perceive the quality of outputs? Were the targeted beneficiary groups actually reached?
- What outputs and outcomes has the project achieved so far (both qualitative and quantitative results)? Has the project generated any results that could lead to changes of the assisted institutions? Have there been any unplanned effects?
- Identify actual and/or potential longer-term impacts or at least indicate the steps taken to assess these (see also below "monitoring of long term changes"). Wherever possible, evaluators should indicate how findings on impacts will be reported in future.
- Describe any catalytic or replication effects: the evaluation will describe any catalytic or replication effect both within and outside the project. If no effects are identified, the evaluation will describe the catalytic or replication actions that the project carried out. No ratings are requested for the project's catalytic role.

Efficiency

The extent to which:

- The project cost was effective? Was the project using the least cost options?
- Has the project produced results (outputs and outcomes) within the expected time frame? Was project implementation delayed, and, if it was, did that affect cost effectiveness or results? Wherever possible, the evaluator should also compare the costs incurred and the time taken to achieve outcomes with that for similar projects. Are the project's activities in line with the schedule of activities as defined by the project team and annual work plans? Are the disbursements and project expenditures in line with budgets?
- Have the inputs from the donor, UNIDO and Government/counterpart been provided as planned, and were they adequate to meet requirements? Was the quality of UNIDO inputs and services as planned and timely?
- Was there coordination with other UNIDO and other donors' projects, and did possible synergy effects happen?

Assessment of sustainability of project outcomes

Sustainability is understood as the likelihood of continued benefits after the EC project ends. Assessment of sustainability of outcomes will be given special attention but also technical, financial and organization sustainability will be reviewed. This assessment should explain how the risks to project outcomes will affect continuation of benefits after the EC project ends. It will include both exogenous and endogenous risks. The following four dimensions or aspects of risks to sustainability will be addressed:

- **Financial risks.** Are there any financial risks that may jeopardize sustainability of project outcomes? What is the likelihood of financial and economic resources not being available once EC assistance ends? (Such resources can be from multiple sources, such as the public and private sectors or income-generating activities; these can also include trends that indicate the likelihood that, in future, there will be adequate financial resources for sustaining project outcomes.) Was the project successful in identifying and leveraging co-financing?
- **Sociopolitical risks.** Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that project benefits continue to flow? Is there sufficient public/stakeholder awareness in support of the project's long-term objectives?
- **Institutional framework and governance risks.** Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits? Are requisite systems for accountability and transparency, and required technical know-how, in place?
- **Environmental risks.** Are there any environmental risks that may jeopardize sustainability of project outcomes? Are there any environmental factors, positive or negative, that can influence the future flow of project benefits? Are there any project outputs or higher level results that are likely to affect the environment, which, in turn, might affect sustainability of project benefits? The evaluation should assess whether certain activities will pose a threat to the sustainability of the project outcomes.

Assessment of monitoring and evaluation systems

- **M&E design.** Did the project have an M&E plan to monitor results and track progress towards achieving project objectives? The Evaluation will assess whether the project met the minimum requirements for the application of the Project M&E plan.
- **M&E plan implementation.** The evaluation should verify that an M&E system was in place and facilitated timely tracking of progress toward project objectives by collecting information on chosen indicators continually throughout the project implementation period; annual project reports were complete and accurate, with well-justified ratings; the information provided by the M&E system was used during the project to improve performance and to adapt to changing needs; and the project had an M&E system in place with proper training for parties responsible for M&E activities to ensure that data will continue to be collected and used after project closure. Were monitoring and self-evaluation carried out effectively, based on indicators for outputs, outcomes and impacts? Are there any annual work plans?

Was any steering or advisory mechanism put in place? Did reporting and performance reviews take place regularly?

- **Budgeting and Funding for M&E activities.** In addition to incorporating information on funding for M&E while assessing M&E design, the evaluators will determine whether M&E was sufficiently budgeted for at the project planning stage and whether M&E was adequately funded and in a timely manner during implementation.

Monitoring of long-term changes

The monitoring and evaluation of long-term changes is often incorporated in EC-supported projects as a separate component and may include determination of environmental baselines; specification of indicators; and provisioning of equipment and capacity building for data gathering, analysis, and use. This section of the evaluation report will describe project actions and accomplishments toward establishing a long-term monitoring system. The review will address the following questions:

a. Did this project contribute to the establishment of a long-term monitoring system? If it did not, should the project have included such a component?
b. What were the accomplishments and shortcomings in establishment of this system?
c. Is the system sustainable—that is, is it embedded in a proper institutional structure and does it have financing? How likely is it that this system continues operating upon project completion?
d. Is the information generated by this system being used as originally intended?

Assessment of processes affecting achievement of project results

Among other factors, when relevant, the evaluation will consider a number of issues affecting project implementation and attainment of project results. The assessment of these issues can be integrated into the analyses of project design, relevance, effectiveness, efficiency, sustainability and management as the evaluators find them fit (it is not necessary, however it is possible to have a separate chapter on these aspects in the evaluation report). The evaluation will consider, but need not be limited to, the following issues that may have affected project implementation and achievement of project results:

a. **Preparation and readiness / Quality at entry.** Were the project's objectives and components clear, practicable, and feasible within its time frame? Were counterpart resources (funding, staff, and facilities), and adequate project management arrangements in place at project entry? Were the capacities of executing institution and counterparts properly considered when the project was designed? Were lessons from other relevant projects properly incorporated in the project design? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project approval?
b. **Country ownership/drivenness.** Was the project concept in line with the sectoral and development priorities and plans of the country—or of participating countries, in the case of multi-country projects? Are project outcomes contributing to national development priorities and plans? Were the relevant country representatives from government and civil society involved in the project? Did the recipient government maintain its financial commitment to

the project? Have governments approved policies or regulatory frameworks in line with the project's objectives?

c. **Stakeholder involvement.** Did the project involve the relevant stakeholders through information sharing and consultation? Did the project implement appropriate outreach and public awareness campaigns? Were the relevant vulnerable groups and powerful supporters and opponents of the processes properly involved? Which stakeholders were involved in the project (i.e. NGOs, private sector, other UN Agencies etc.) and what were their immediate tasks? Did the project consult with and make use of the skills, experience, and knowledge of the appropriate government entities, nongovernmental organizations, community groups, private sector entities, local governments, and academic institutions in the design, implementation, and evaluation of project activities? Were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process taken into account while taking decisions? Were the relevant vulnerable groups and the powerful, the supporters and the opponents, of the processes properly involved?

d. **Financial planning.** Did the project have appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds? Was there due diligence in the management of funds and financial audits? Did promised co-financing materialize? Specifically, the evaluation should also include a breakdown of final actual project costs by activities compared to budget (variances), financial management (including disbursement issues), and co- financing.

e. **UNIDO's supervision and backstopping.** Did UNIDO staff identify problems in a timely fashion and accurately estimate their seriousness? Did UNIDO staff provide quality support and advice to the project, approve modifications in time, and restructure the project when needed? Did UNIDO provide the right staffing levels, continuity, skill mix, and frequency of field visits for the project?

f. **Co-financing and project outcomes and sustainability.** If there was a difference in the level of expected co-financing and the co-financing actually realized, what were the reasons for the variance? Did the extent of materialization of co-financing affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?

g. **Delays and project outcomes and sustainability.** If there were delays in project implementation and completion, what were the reasons? Did the delays affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?

h. **Implementation approach[17].** Is the implementation approach chosen different from other implementation approaches applied by UNIDO and other agencies? Does the approach comply with the principles of the Paris Declaration? Does the approach promote local ownership and capacity building? Does the approach involve significant risks?

The evaluator will rate project performance. The ratings will be given to four criteria: Project Results, Sustainability, Monitoring and Evaluation, and UNIDO related issues as specified in Annex 2. The ratings will be presented in a table with each of the categories rated separately and with brief

[17] Implementation approach refers to the concrete manifestation of cooperation between UNIDO, Government counterparts and local implementing partners. Usually POPs projects apply a combination of agency execution (direct provision of services by UNIDO) with elements of national execution through sub-contracts.

justifications for the rating based on the findings of the main analysis. An overall rating for the project should also be given. The rating system to be applied is specified in the same annex.

Project coordination and management

The extent to which:

- The national management and overall coordination mechanisms have been efficient and effective? Did each partner have assigned roles and responsibilities from the beginning? Did each partner fulfil its role and responsibilities (e.g., providing strategic support, monitoring and reviewing performance, allocating funds, providing technical support, following up agreed/corrective actions)?
- The UNIDO HQ and Filed Office based management, coordination, monitoring, quality control and technical inputs have been efficient, timely and effective (e.g., problems identified timely and accurately; quality support provided timely and effectively; right staffing levels, continuity, skill mix and frequency of field visits)?
- The national management and overall coordination mechanisms were efficient and effective? Did each partner have specific roles and responsibilities from the beginning till the end? Did each partner fulfill its role and responsibilities (e.g. providing strategic support, monitoring and reviewing performance, allocating funds, providing technical support, following up agreed/corrective actions…)? Were the UNIDO HQ based management, coordination, quality control and technical inputs efficient, timely and effective (e.g., problems identified timely and accurately; quality support provided timely and effectively; right staffing levels, continuity, skill mix and frequency of field visits)?

Assessment of gender mainstreaming

The evaluation will consider, but need not be limited to, the following issues that may have affected gender mainstreaming in the project:

- To which extent were socioeconomic benefits delivered by the project at the national and local levels, including consideration of gender dimensions?

Procurement issues

The following evaluation questions that will feed in the Thematic Evaluation on Procurement have been developed and would be included as applicable in all projects (for reference, please see Annex 8 of the ToR: UNIDO Procurement process):

- To what extent does the process provide adequate treatment to different types of procurement (e.g. by value, by category, by exception)?
- Was the procurement timely? How long does the procurement process take (e.g. by value, by category, by exception)?
- Did the good/item(s) arrive as planned or scheduled? If no, how long were the times gained or delays. If delay, what was the reason(s)?
- Were the procured good(s) acquired at a reasonable price?
- To what extent were the procured goods of the expected/needed quality and quantity?
- Were the transportation costs reasonable and within budget. If no, pleased elaborate?

- Was the freight forwarding timely and within budget? If no, pleased elaborate.
- Who was responsible for the customs clearance? UNIDO FAO? UNDP? Government? Other?
- Was the customs clearance handled professionally and in a timely manner? How many days did it take?
- How long time did it take to get approval from the government on import duty exemption?
- Which were the main bottlenecks / issues in the procurement process?
- Which good practices have been identified?
- To what extent roles and responsibilities of the different stakeholders in the different procurement stages are established, adequate and clear?
- To what extent there is an adequate segregation of duties across the procurement process and between the different roles and stakeholders?

Reporting

Inception report

This terms of reference provides some information on the evaluation methodology but this should not be regarded as exhaustive. After reviewing the project documentation and initial interviews with the project manager the International Evaluation Consultant will prepare a short inception report that will operationalize the ToR relating to the evaluation questions and provide information on what type of and how the evidence will be collected (methodology). It will be discussed with and approved by the responsible UNIDO Evaluation Officer. The Inception Report will focus on the following elements: preliminary project theory model(s); elaboration of evaluation methodology including quantitative and qualitative approaches through an evaluation framework ("evaluation matrix"); mission plan, including places to be visited, people to be interviewed and possible surveys to be conducted and a debriefing and reporting timetable[18].

Evaluation report format and review procedures

The draft report will be delivered to UNIDO EVA (the suggested report outline is in annex 1) and circulated to UNIDO staff and national stakeholders associated with the project for factual validation and comments. Any comments or responses, or feedback on any errors of fact to the draft report provided by the stakeholders will be sent to UNIDO EVA for collation and onward transmission to the project evaluator who will be advised of any necessary revisions. On the basis of this feedback, and taking into consideration the comments received, the evaluator will prepare the final version of the terminal evaluation report.

The evaluator will present its preliminary findings at UNIDO HQ at the end of the field visit and take into account their feed-back in preparing the evaluation report.

The terminal evaluation report should be brief, to the point and easy to understand. It must explain the purpose of the evaluation, exactly what was evaluated, and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings,

[18] The evaluator will be provided with a Guide on how to prepare an evaluation inception report prepared by the UNIDO Evaluation Group.

consequent conclusions, recommendations and lessons. The report should provide information on when the evaluation took place, the places visited, who was involved and be presented in a way that makes the information accessible and comprehensible. The report should include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons. Findings, conclusions and recommendations should be presented in a complete, logical and balanced manner. The evaluation report shall be written in English and follow the outline given in Annex 1.

Evaluation Work Plan

The "Evaluation Work Plan" includes the following main products:

1. Desk review, briefing by project manager and development of methodology: Following the receipt of all relevant documents, and consultation with the Project Manager about the documentation, including reaching an agreement on the Methodology, the desk review could be completed.
2. Inception report: At the time for departure to the field mission, the complete gamete of received materials have been reviewed and consolidated into the Inception report.
3. Field mission: The principal responsibility for managing this evaluation lies with UNIDO. It will be responsible for liaising with the project team to set up the stakeholder interviews, arrange the field missions, coordinate with the Government.
4. Preliminary findings from the field mission: Following the field mission, the main findings, conclusions and recommendations would be prepared and presented at UNIDO Headquarters.
5. A draft terminal evaluation report will be forwarded electronically to the Office for Independent Evaluation and circulated to main stakeholders.
6. Final terminal evaluation report will incorporate comments received.

Evaluation phases	Deliverables
Desk review	Development of methodology approach and evaluation tools
Briefing with UNIDO Office for Independent Evaluation, Project Managers and other key stakeholder at HQ	Interview notes, detailed evaluation schedule and list of stakeholders to interview during field mission
Data analysis	Inception Evaluation Report
Field mission Prepare preliminary findings and recommendations	Prepare main findings and recommendations based on the field mission
Present preliminary findings and recommendations to the stakeholders at UNIDO HQ	Presentation slides
Analysis of the data collected	Draft terminal evaluation report
Circulation of the draft report to UNIDO/relevant stakeholders and revision	Final terminal evaluation report

Quality assurance

All UNIDO evaluations are subject to quality assessments by the UNIDO Office for Independent Evaluation. Quality assurance and control is exercised in different ways throughout the evaluation process (briefing of consultants on methodology and process of UNIDO's Office for Independent Evaluation, providing inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, review of inception report and evaluation report by the Office for Independent Evaluation). The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality, attached as Annex 3. The applied evaluation quality assessment criteria are used as a tool to provide structured feedback. UNIDO's Office for Independent Evaluation should ensure that the evaluation report is useful for UNIDO in terms of organizational learning (recommendations and lessons learned) and is compliant with UNIDO's evaluation policy and these terms of reference. The draft and final evaluation report are reviewed by UNIDO Office for Independent Evaluation, which will submit the final report to the EC Evaluation Office and circulate it within UNIDO together with a management response sheet.

Annex 1 - Outline of an in-depth project evaluation report

Executive summary

- Must provide a synopsis of the storyline which includes the main evaluation findings and recommendations
- Must present strengths and weaknesses of the project
- Must be self-explanatory and should be 3-4 pages in length

I. Evaluation objectives, methodology and process

- Information on the evaluation: why, when, by whom, etc.
- Scope and objectives of the evaluation, main questions to be addressed
- Information sources and availability of information
- Methodological remarks, limitations encountered and validity of the findings

II. Countries and project background

- Brief countries context: an overview of the economy, the environment, institutional development, demographic and other data of relevance to the project
- Sector-specific issues of concern to the project[19] and important developments during the project implementation period
- Project summary:
  - Fact sheet of the project: including project objectives and structure, donors and counterparts, project timing and duration, project costs and co-financing
  - Brief description including history and previous cooperation
  - Project implementation arrangements and implementation modalities, institutions involved, major changes to project implementation
  - Positioning of the UNIDO project (other initiatives of government, other donors, private sector, etc.)
  - Counterpart organization(s)

III. Project assessment

This is the key chapter of the report and should address all evaluation criteria and questions outlined in the TOR (see Section VI Project Evaluation Parameters). Assessment must be based on factual evidence collected and analyzed from different sources. The evaluators' assessment can be broken into the following sections:

A. Design
B. Relevance (Report on the relevance of project towards countries and beneficiaries)
C. Effectiveness (The extent to which the development intervention's objectives and deliverables were achieved, or are expected to be achieved, taking into account their relative importance)
D. Efficiency (Report on the overall cost-benefit of the project and partner Countries contribution to the achievement of project objectives)

[19] Explicit and implicit assumptions in the logical framework of the project can provide insights into key-issues of concern (e.g. relevant legislation, enforcement capacities, government initiatives, etc.)

E. Sustainability of Project Outcomes (Report on the risks and vulnerability of the project, considering the likely effects of sociopolitical and institutional changes in partner countries, and its impact on continuation of benefits after the project ends, specifically the financial, sociopolitical, institutional framework and governance, and environmental risks)
F. Assessment of monitoring and evaluation systems (Report on M&E design, M&E plan implementation, and Budgeting and funding for M&E activities)
G. Monitoring of long-term changes
H. Assessment of processes affecting achievement of project results (Report on preparation and readiness / quality at entry, country ownership, stakeholder involvement, financial planning, UNIDO support, co-financing and project outcomes and sustainability, delays of project outcomes and sustainability, and implementation approach)
I. Project coordination and management (Report project management conditions and achievements, and partner countries commitment)
J. Gender mainstreaming
K. Procurement Issues

At the end of this chapter, an overall project achievement rating should be developed as required in Annex 2.

IV. Conclusions, recommendations and lessons learned

This chapter can be divided into three sections:

A. Conclusions

This section should include a storyline of the main evaluation conclusions related to the project's achievements and shortfalls. It is important to avoid providing a summary based on each and every evaluation criterion. The main conclusions should be cross-referenced to relevant sections of the evaluation report.

B. Recommendations

This section should be succinct and contain few key recommendations. They should:

- be based on evaluation findings
- realistic and feasible within a project context
- indicate institution(s) responsible for implementation (addressed to a specific officer, group or entity who can act on it) and have a proposed timeline for implementation if possible
- be commensurate with the available capacities of project team and partners
- take resource requirements into account.

Recommendations should be structured by addressees:

- UNIDO
- Executing Agency – Blacksmith Institute
- Government and/or counterpart organizations
- Donor - EC

C. Lessons learned

- Lessons learned must be of wider applicability beyond the evaluated project but must be based on findings and conclusions of the evaluation
- For each lesson the context from which they are derived should be briefly stated

Annexes should include the evaluation TOR, list of interviewees, documents reviewed, a summary of project identification and financial data, and other detailed quantitative information. Dissident views or management responses to the evaluation findings may later be appended in an annex.

Annex 2 - Overall ratings table

Criterion	Evaluator's summary comments	Evaluator's rating
Attainment of project objectives and results (overall rating) **Sub-criteria (below)**		
Design		
Effectiveness		
Relevance		
Efficiency		
Sustainability of project outcomes (overall rating) **Sub criteria (below)**		
Financial risks		
Sociopolitical risks		
Institutional framework and governance risks		
Environmental risks		
Monitoring and evaluation (overall rating) **Sub criteria (below)**		
M&E Design		
M&E Plan Implementation (use for adaptive management)		
Budgeting and Funding for M&E activities		
Project Management		
UNIDO specific ratings		
Quality at entry / preparation and readiness		
Implementation approach		
UNIDO supervision and backstopping		
Overall Rating		

RATING OF PROJECT OBJECTIVES AND RESULTS

- Highly Satisfactory (HS): The project had no shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Satisfactory (S): The project had minor shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

- Moderately Satisfactory (MS): The project had moderate shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately Unsatisfactory (MU): The project had significant shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Unsatisfactory (U) The project had major shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Highly Unsatisfactory (HU): The project had severe shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Please note: Relevance and effectiveness will be considered as critical criteria. The overall rating of the project for achievement of objectives and results **may not be higher** than the lowest rating on either of these two criteria. Thus, to have an overall satisfactory rating for outcomes a project must have at least satisfactory ratings on both relevance and effectiveness.

RATINGS ON SUSTAINABILITY

Sustainability will be understood as the probability of continued long-term outcomes and impacts after the project funding ends. The evaluation will identify and assess the key conditions or factors that are likely to contribute or undermine the persistence of benefits beyond project completion. Some of these factors might be outcomes of the project, i.e. stronger institutional capacities, legal frameworks, socio-economic incentives /or public awareness. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes.

Rating system for sustainability sub-criteria

On each of the dimensions of sustainability of the project outcomes will be rated as follows:

- Likely (L): There are no risks affecting this dimension of sustainability.
- Moderately Likely (ML). There are moderate risks that affect this dimension of sustainability.
- Moderately Unlikely (MU): There are significant risks that affect this dimension of sustainability.
- Unlikely (U): There are severe risks that affect this dimension of sustainability.

All the risk dimensions of sustainability are critical. Therefore, overall rating for sustainability will not be higher than the rating of the dimension with lowest ratings. For example, if a project has an Unlikely rating in either of the dimensions then its overall rating cannot be higher than Unlikely, regardless of whether higher ratings in other dimensions of sustainability produce a higher average.

RATINGS OF PROJECT M&E

Monitoring is a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing project with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds. Evaluation is the systematic and objective assessment of an on-going or completed project, its design, implementation and results. Project evaluation may involve the definition of appropriate standards, the examination of performance against those standards, and an assessment of actual and expected results.

The Project monitoring and evaluation system will be rated on 'M&E design', 'M&E plan implementation' and 'Budgeting and funding for M&E activities' as follows:

- Highly satisfactory (HS): There were no shortcomings in the project M&E system.
- Satisfactory(S): There were minor shortcomings in the project M&E system.
- Moderately satisfactory (MS): There were moderate shortcomings in the project M&E system.
- Moderately unsatisfactory (MU): There were significant shortcomings in the project M&E system.
- Unsatisfactory (U): There were major shortcomings in the project M&E system.
- Highly unsatisfactory (HU): The Project had no M&E system.

"M&E plan implementation" will be considered a critical parameter for the overall assessment of the M&E system. The overall rating for the M&E systems will not be higher than the rating on "M&E plan implementation."

All other ratings will be on the six point scale:

HS	= Highly satisfactory	Excellent
S	= Satisfactory	Well above average
MS	= Moderately satisfactory	Average
MU	= Moderately unsatisfactory	Below average
U	= Unsatisfactory	Poor
HU	= Highly unsatisfactory	Very poor (appalling)

Annex 3 - Checklist on evaluation report quality

Independent terminal evaluation of the UNIDO-EC project:

Project Title:
Project Number:
Checklist on evaluation report quality

Report quality criteria	UNIDO Office for Independent Evaluation: Assessment notes	Rating
A. The terminal evaluation report presented an assessment of all relevant outcomes and achievement of project objectives in the context of the indicators if applicable.		
B. The terminal evaluation report was consistent, the evidence presented was complete and convincing, and the ratings were well substantiated.		
C. The terminal evaluation report presented a sound assessment of sustainability of outcomes.		
D. The lessons and recommendations listed in the terminal evaluation report are supported by the evidence presented and are relevant to the EC and future projects.		
E. The terminal evaluation report included the actual project costs (totals, per activity, and per source) and actual co-financing used.		
F. The terminal evaluation report included an assessment of the quality of the M&E plan at entry, the operation of the M&E system used during implementation, and the extent M&E was sufficiently budgeted for during preparation and properly funded during implementation.		

Rating system for quality of evaluation reports
A number rating 1-6 is used for each criterion: Highly satisfactory = 6, Satisfactory = 5, Moderately satisfactory = 4, Moderately unsatisfactory = 3, Unsatisfactory = 2, Highly unsatisfactory = 1, and unable to assess = 0.

Annex 4 - Job descriptions

Job description

Post title International evaluation consultant
Duration 45 days over a period of 3 months
Started date 1 July 2015
Duty station Home-based and travel to Vienna, New York, Brussels and other cities (to be determined)

Duties

The consultant will evaluate the projects according to the terms of reference. S/he will be responsible for preparing the draft and final evaluation report, according to the standards of the UNIDO Office for Independent Evaluation. S/he will perform the following tasks:

Main duties	Duration/ location	Deliverables
Review project documentation and relevant country background information (national policies and strategies, UN strategies and general economic data…); determine key data to collect in the field and prepare key instruments (questionnaires, logic models…) to collect these data through interviews and/or surveys during and prior to the field missions	7 days Home based	Draft inception report, including list of detailed evaluation questions; questionnaires/ interview guidelines; logic models; list of key data to collect, draft list of stakeholders to interview during the field missions
Discuss inception report with UNIDO EVA	1 days	Inception report reviewed
Conduct field mission to various countries starting at the not later that end of July 2015	19 days (including travel days)	Prepare evaluation's initial findings, draft conclusions and recommendations based on the field mission
Present preliminary findings and recommendations to the stakeholders at UNIDO HQ and EC HQ (incl. travel)	3 days Vienna and 2 days Brussels	Present slides with preliminary findings and recommendations
Prepare the evaluation report according to TOR and template provided by UNIDO EVA into the final draft evaluation report	12 days Home based	Draft evaluation report
Revise the draft project evaluation reports based on comments from UNIDO and EC project officers and edit the language and form the final version according to UNIDO and EC standards	3 days Home based	Final evaluation report
TOTAL	**45 days**	

Qualifications and skills:

- ✓ Knowledge about multilateral technical cooperation and the UN, international development priorities and frameworks.
- ✓ Advanced degree in environmental science, chemistry, development studies or related areas
- ✓ *Knowledge of and experience in environmental projects management and/or evaluation (of development projects)*
- ✓ Working experience in developing countries
- ✓ Experience in evaluation of EC projects and knowledge of UNIDO activities an asset
- ✓ *Knowledge of and experience in pollution and chemicals management, chemicals risk management, remediation of contaminated sites and environmental projects is an asset*

Language: English

Absence of conflict of interest:

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the Office for Independent Evaluation.

9.4 Annex 4: Meetings to promote Awareness on the Scope of the Project

n.	Bilateral Agencies	Country	Country Government Agencies	Country	Internat'l Organisations	Country	Multilateral Agencies	Other	Country
1	Australian Aid	Philippines	Secretary of Environment and the Environment Agency of the city of Buenos Aires, Municipalities of Salta, Mar del Plata and Pilar	Argentina	UNDP	USA	World Bank (Dept. of Environment, Finance, Economics and Urban Development, Regional Departments; Ghana office)	Former president of Mexico, Carlos Salinas	Mexico
2	Canadian International Development Agency	Indonesia	Ministries of Nature Protection, Emergency Situations, Agriculture, Health	Armenia	UNDP	Georgia	Asian Development Bank (Manila HQ, Indonesia country office)	Carlos Slim Foundation	
3	Department for International Development (DFID, Research dept.)	UK	Ministries of Ecology and Natural Resources, Agriculture	Azerbaijan	UNDP	Ghana	Caribbean Development Bank	Clean Air Asia	Philippines
4	Danish Ministry of Foreign Affairs (DANIDA)	Denmark	Ministry of Environment and Water	Bolivia	UNDP	Indonesia	Global Environment Facility (GEF)	Clean Air Asia	India
5	French Development Agency (AFD Health dept.) and Office of the President of France	France	Ministry of Environment	Brazil	UNDP	Philippines	Inter-American Development Bank (BID) (Dept.'s of the Sustainable Cities Initiative, country offices in Argentina, Peru and Uruguay)	Council of Energy, Environment and Water	India
6	German Ministry of Environment and Buildings (MBUB)	Germany	Ministry of Health and Secretary of Environment	Chile	UNIDO	Belgium	Delegation of the European Union to China	Exide India, Public Health Foundation of India, Indian Lead Zinc Association	India
7	GIZ (office Ghana/Peru)	Germany	Policy Research Center for	China	WHO	Germany	Delegation of the	Global Alliance	

n.	Bilateral Agencies	Country	Country Government Agencies	Country	Internat'l Organisations	Country	Multilateral Agencies	Other	Country
			Environment and Economy – PRCEE				European Union to Republic of Georgia	for Clean Cookstoves	
8	Japanese International Aid Agency (JICA, MoF and MoFA)	Japan	Environmental Dept,Geology&Mines Commission, Pesticides&Toxic Chemicals Control Board	Guyana	WHO	Switzerland	Delegation of the European Union to Republic of Georgia	Imperial College	
9	Norwegian Ministry of Foreign Affairs	Norway	Ministries of Health, Environment (MoE), Pollution Control Boards of Rajasthan and Tamil Nadu	India	WHO	Germany		Global Alliance for Clean Cookstoves	
10	OPEC Aid Agency (OFID)		Ministries of Environment Protection, Agriculture, Center for Disease Control and Public Health	Georgia	WHO	Switzerland		Imperial College	
11	US Agency for International Development (health and environment depts.)	USA	EPA, Ministry of Health (MoH)/Ghana Health Service, Ministry of Environment	Ghana	UNEP Chemicals	Switzerland			
12	US Department of State (Oceans Environment and Science, Health; Peru depts.)	USA	MoE – National Environment Management Agency	Kenya	FAO	Italy			
13	US Environment Protection Agency (Depts. Global Affairs, Policy, International and Tribal Affairs, Regional and Bilateral Affairs)	USA	MoE, MoH, BPPT, Ministries of Energy, Mineral Resources, Environment, Health, Cooperative and SMEs Banyumas Regency	Indonesia					
14	EC (DG DEVCO, DG Environment DGs,	Belgium	MoE	Madagascar					

n.	Bilateral Agencies	Country	Country Government Agencies	Country	Internat'l Organisations	Country	Multilateral Agencies	Other	Country
	Environment Commissioner Janez Potocnik; EU Delegations Argentina, Chile, China/Mongolia, Georgia, Peru, the Philippines, Tanzania, Uruguay)								
15			MoH, MoE - SEMARNAT, Social Security agency - SEDESOL	Mexico					
16			Mineral Resource Authority of Mongolia	Mongolia					
17			MoE –MINAM	Peru					
18			DENR, President Office, former mayor of Puerto Princesa, Governor of Palawan, Laguna Lake Authority, Senator Pia Cayetano, Health Secretary Una, Environment Secretary Paje, Secretary of Transportation	Philippines					
19			MoE –DEEC	Senegal					
20			Ministry of Agriculture	Somaliland					
21			MoE – National Environment Management Agency, Vice President's office Environmental Division	Tanzania					
22			MoE – MONRE, Vietnamese Environment Agency	Vietnam					
23			MoE – DINAMA; City of Montevideo	Uruguay					

9.5 Annex 5: Conference presentations to promote Awareness on the Scope of the Project

n.	Event	Location	Date
1	Side Event at the 7th session of the Open Working Group of the Sustainable Development Goals (SDGs)	NY, USA	January 2014
2	Presentation in plenary to delegates of the 7th session of the Open Working Group of the SDGs	NY, USA	January 2014
3	Long-term chemicals and wastes country consultative process	Long Island, NY, USA	January 2014
4	Presentation to the Permanent Missions of the UN hosted by UNEP	NY, USA	February 2014
5	Presentation to the Aspen Institute of India	India	February 2014
6	Presentation on toxic pollution in Africa at the WB-hosted Africa Regional meeting	Ghana	March 2014
7	Presentation to the chemicals forum side event at the GEF Replenishment Council meeting	Mexico	May 2014
8	Presentation at the 12th session of the Open Working Group of the SDGs of GAHP position on inclusion of all types of pollution in the SDGs (this was recorded on UN TV)	NY, USA	June 2014
9	Presentation to WB-hosted Pollution Management and Environmental Health (PMEH) trust fund meeting	Bonn, Germany	July 2014
10	Presentation at Bengal Club to 120 people for GAHP with former Minister of Environment of India, Jairam Ramesh	India	July 2014
11	MoE Madagascar presented on behalf of GAHP/Blacksmith at the Francophone regional meeting for the Minamata Convention	Senegal	July 2014
12	Presentation to Conference of Environmental Journalists	New Orleans, USA	September 2014
13	Active participation as a technical advisor to WHO at the European meeting: “Sustainable Development Goals and the European Environment and Health Process: Aligning Agenda”	Bonn, Germany	September 2014
14	Presentation to South American Regional workshop on Minamata Convention	Brasilia, Brazil	September 2014
15	Side Event at the Minamata Convention at the INC6 Meeting on “GAHP as Tool for the Implementation of Minamata”	Bangkok, Thailand	November 2014
16	Presentations at the Joint Task Team on Health and Environment in Africa and the First Country Consultation on the implementation of the integrated health and environment Observatory to predict, prevent and reduce Chemicals Risks in African countries	Geneva, Switzerland	December 2014

9.6 Annex 6: Scientific Articles Published to Promote Awareness on Pollution-Health Issues

n.	Author(s)	Title	Journal	Date
1	Laborde, Amalia, et al.	"Children's Health in Latin America: The Influence of Environmental Exposures."	Environmental health perspectives	2015
2	Landrigan, Philip J., and Richard Fuller.	"Environmental Pollution: An Enormous and Invisible Burden on Health Systems in Low- and Middle-income Countries."	World Hospitals and Health Services 50.4, pp. 35-40.	2014
3	Caravanos, Jack, Sandra Gualtero, Russell Dowling, Bret Ericson, John Keith, David Hanrahan, & Richard Fuller.	"A Simplified Risk-Ranking System for Prioritizing Toxic Pollution Sites in Low- and Middle-Income Countries."	Annals of Global Health 80.4	2014
4	Caravanos, Jack, Russell Dowling, Martha María Téllez-Rojo, Alejandra Cantoral, Roni Kobrosly, Daniel Estrada, Manuela Orjuela, Sandra Gualtero, Bret Ericson, Anthony Rivera, and Richard Fuller.	"Blood Lead Levels in Mexico and Pediatric Burden of Disease Implications."	Annals of Global Health 80.4	2014
5	Caravanos, Jack, Richard Fuller, and Stephan Robinson.	"Notes from the Field: Severe Environmental Contamination and Elevated Blood Lead Levels Among Children—Zambia, 2014."	MMWR. Morbidity and mortality weekly report 63.44, pp. 1013-1013.	2014
6	Chatham-Stephens, K., Caravanos, J., Ericson, B., Landrigan, P., & Fuller, R.	"The Pediatric Burden of Disease from Lead Exposure at Toxic Waste Sites in Low and Middle Income Countries."	Environmental Research	July 2014
7	Caravanos, Jack, et al.	"A Comparison of Burden of Disease from Toxic Waste Sites with other Recognized Public Health Threats in India, Indonesia and the Philippines."	Journal of Health Pollution 4.7, pp. 2-13.	2014
8	Philip J. Landrigan, Richard Fuller.	"Environmental Pollution and Occupational Health in a Changing World."	Annals of Global Health, Vol. 80, Issue 4, p245–246.	2014
9	Ericson, B., Caravanos, J., Chatham-Stephens, K., Landrigan, P., & Fuller, R.	"Approaches to systematic assessment of environmental exposures posed at hazardous waste sites in the developing world: the Toxic Sites Identification Program."	Environmental monitoring and assessment, 185(2), pp. 1755-1766.	2013
10	Chatham-Stephens, K., Caravanos, J., Ericson, B., Sunga-Amparo J, Susilorini B, Sharma P, Landrigan, P.,	"Burden of Disease from Toxic Waste Sites in India, Indonesia, and the Philippines in 2010."	Environmental Health Perspectives.	2013

n.	Author(s)	Title	Journal	Date
	& Fuller, R.			
11	Caravanos, J., Chatham-Stephens, K., Ericson, B., Landrigan, P. J., & Fuller, R.	"The burden of disease from pediatric lead exposure at hazardous waste sites in 7 Asian countries."	Environmental Research	2012

9.7 Annex 7: Media Coverage on Awareness Campaign

n.	Subject	Media
1	Field notes from Blacksmith Institute's trip to Kabwe, Zambia, where devastating levels of lead poisoning in children were found. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6344a7.htm?s_cid=mm6344a7_w	US CDC
2	Pollution in the developing world as one of the Top 10 trends and key challenges facing the world in its. http://www.weforum.org/reports/outlook-global-agenda-2015	World Economic Forum Global Agenda 2015
3	The Chemical Weapons Ukraine Separatists Didn't Get. http://www.businessweek.com/articles/2014-09-15/the-chemical-weapons-ukrainian-separatists-didnt-get	Businesweek. Sept 15, 2014
4	Lead-Free pottery Campaign in Morelos, Mexico	7 articles on the program and lead in pottery in June 2014
5	Pollution kills 8.4m and needs more UN focus GAHP says widen aims as eyes fix on air pollution	TCE Today Jun 16th, 2014
6	Poisoned Poor Killed in Millions by Pollution	Scientific American Jun 15th, 2014
7	New analysis focuses on pollution as global killer	PBS NewsHour Jun 15th, 2014
8	In Developing World, Pollution Kills More Than Disease	IPS Jun 13th, 2014
9	Clean up of Horlivka Chemicals Plant: A deadly secret: Dealing with the spectre of Soviet arms production	TCE magazine May 1st, 2014
10	The Story of Seynabou Mbengue and the Five Children She Lost… Because of Her Job	Medium.com Apr 20th, 2014
11	Ananta Aspen Centre and WWF India holds public session on Toxic pollution	ANI News Feb 19th, 2014
12	Small-Scale Gold Mining Pollutes Indonesian Lands	New York Times Jan 2nd, 2014

9.8 Annex 8: List of GAHP Members

Official Member	Members Invited	Official Observers	Informal Observers
Ministries of Environment of Cameroon, Ghana, Indonesia, Madagascar, Mali, Mexico, Nigeria, Peru, the Philippines, Senegal, Togo, Uruguay	Ministries of Environment of Burkina Faso, Bolivia, Brazil, Cote d'Ivoire, Ethiopia, Germany, Guyana, India, Kenya, Mali, Nigeria, Tanzania, Togo, Vietnam, Uganda, Zambia	GEF	US Dept. of State
Ministry of Health of Tajikistan	Ministry of Health of Senegal and India	US EPA	JICA
European Commission (EC), GIZ	Ministry of Foreign Affairs of Norway	SAICM USAID	International Council of Chemicals Association (ICCA)
Suez Canal University	Suez Canal University		Norad
Earth Institute	Earth Institute		AFD
Children's Environmental Health Center, School of Medicine at Mount Sinai	Children's Environmental Health Center, School of Medicine at Mt. Sinai		WHO
Harvard School of Public Health	Harvard School of Public Health		
City of Montevideo and City of Buenos Aires	Global Alliance for Clean Cookstoves		
Asian Development Bank (ADB), Inter-American Development Bank (IDB), World Bank (WB)	Caribbean Development Bank		
UN Environment Program (UNEP); UNIDO; UNDP,	US Department of State		
Basel Convention Regional Centre for the South American Region	Basel Convention Regional Centers of South America and Latin America		
	IIT Delhi		
	Khazar University		
	University of Washington		