

Ghana

Integrated Waste Management Fair 2021



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Ghana

Integrated Waste Management Fair 2021



21-23 July 2021

Accra International Conference Centre

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Executive Summary

The United Nations Development Programme (UNDP) in partnership with the Ghana National Plastics Action Partnership (NPAP) and the Ministry of Environment, Science, Technology and Innovation (MESTI) organized and hosted the Integrated Waste Management Fair from 21 to 23 July 2021 at the Accra International Conference Centre.

The fair, also dubbed the “Ghana Waste Fair 2021”, was the first of its kind in Ghana. It brought together, in partnership with the NPAP and the MESTI, innovators, development partners and donors, civil society, the private sector, research and academic institution, and government ministries, departments and agencies (MDAs).

More than 50 fair exhibitors showcased innovative solutions with different materials in transition and along the value chain. The fair programme also included thematic TED-TALK events, with more than 150 participants (virtually and physically) featuring issues from data and use in waste management, innovative solutions and impact of the Waste Recovery Innovation Challenge, green finance, and how financial and technical resources from development partners and donors can be leveraged to upscale integrated solutions for waste management. Business clinics and a school competition were also held, with St. Catherine Senior High School, Obuasi

Senior High Technical School and Methodist Senior High School each awarded cash prizes to implement innovative solutions for waste management in their schools.

Key messages and recommendations from the fair include:

- It is estimated that small- and medium-sized enterprises (SMEs) have an annual financing gap of about US\$ 5.2 trillion and there is need for sustainable strategies to increase their liquidity.
- The need to intensify the application of the sustainable banking principles in the financial sector to drive the demand for green financing.
- The need for actors in the green finance space to address issues such as assets-liabilities mismatch in the banking sector for green projects and to identify workable solutions.
- Need to enhance the capacity of state and non-state actors, enhance the regulatory and institutional arrangement for the advancement of green finance solutions such as green bonds.
- There is need to lessen the cumbersome procedures and high cost for obtaining certification of innovations, and in some instances these fees can be waived by the government



- Policy advocacy and awareness on waste management and recycling technologies for innovators should be intensified, while innovators should be actively involved in policy making.
- There is need for the government to examine and implement innovative tax incentives for companies in the waste management value chain, to reduce the tax burdens and spur growth in the sector and lead to more job creation and wealth.
- There is the need to create waste recycling industrial hubs, while incorporating resource efficiency principles and standards in the operation of such hubs and minimizing their operational costs.
- The key steps to creating impact are to: 1. Identify government and private sector priorities, 2. identify roadblocks to meeting these priorities, and 3. recognizing the unique skills that can be brought to bear to achieve the priorities.
- There is a need to improve partnership and communication among development partners and donors to scale up impact.
- The government needs to patronize and publicize products manufactured or produced by innovators, to boost these.
- By developing and implementing green procurement strategies, the government can use its enormous purchasing power to drive the markets in favour of innovators and the solutions and products to scale up impact.
- It is difficult to market recycled products. There is, therefore, the need for more investment into consumer awareness campaigns designed to drive the demand for recycled products.
- Green procurement should be prioritized by the government to drive the demand for the products from recycled materials.
- There is the need to include issues on waste management in the curriculum of students and pupils, and to provide the incentive structure and process to encourage innovations at schools.
- There is the need to involve and expand the use of mobile applications, through citizen science, for monitoring and reporting on waste management challenges and data.

In conclusion, stakeholders agreed that the Integrated Waste Management Fair has been largely successful and called for stronger collaborations and partnerships to establish it as an annual event – with continuous improvement to ensure that the country significantly advances on its waste management objectives, while enhancing livelihoods and protecting the environment .



DETAILED SESSION REPORTING OF THE INTEGRATED WASTE MANAGEMENT FAIR 2021

Day 1 | 21 July 2021

Opening Remarks

Mrs. Ama Ofori Antwi, Executive Secretary, Environmental Services Providers Association

Mrs. Ofori Antwi commended UNDP and its partners for putting together the maiden edition of the waste fair, linking different players and stakeholders in the waste sector to enable grassroots solutions, resources and partnerships in supporting a green circular economy.

She highlighted some key achievements of the waste platform:

- Sharing of information and facilitation of stronger connection among stakeholders
- Industry coordination and collaboration has been strengthened
- During COVID-19, the platform donated nose masks, hand gloves and shield masks to the Environmental Service Providers Association (ESPA).
- In May 2021, through the Ghana National Plastics Action Partnership (GPAP), ESPA received some financial support to train informal workers. ESPA also received a cash grant for over 100 informal sector workers. Over 500 informal sector workers were registered under the National Health Insurance Scheme (NHIS) and provided with uniforms.

Mrs. Ofori Antwi recommended that beyond information sharing, which the platform has promoted immensely, she expects the platform to explore its full potential and usefulness. The platform can provide training and marketing of segregating recyclables among members.

She also highlighted that COVID-19 has led to a change in customer's pattern towards single plastics use showing a huge untapped market and potential for waste streams.

Mr. Affum Boamah, Coca Cola

Mr. Affum Boamah, who joined virtually, expressed his gratitude to UNDP, GNPAP and the Waste Recovery Platform for their contributions and the excellent partnership they have exhibited. He also thanked the exhibitors, academia, research institutions, development partners, government institutions and private sector for playing their part and continuing to see waste as a resource. He expressed hope that the fair would provide a platform for networking and for learning of innovative solutions in waste management, particularly plastic waste, saying that it would provide business service support to small-and medium-sized businesses across the country. It would also create a platform that is conducive for dialogue among development partners, business leaders and all the partners to design and mobilize financial and technical expertise that will scale up their businesses in Ghana. He

noted that the Coca Cola Foundation is the philanthropic arm of the Coca-Cola Company. Over the years they have awarded over US\$ 1 billion in grants to support sustainable communities. The company believes that there is an interconnected global challenge of climate change and waste and will continue to take the leadership position on this. He remarked that Coca-Cola and its bottling partners are assessing the packaging they use and how this can drive change. They are, therefore, implementing innovative initiatives all over the world with each regional team drawing a plan with executive focus. He expressed his hope that at the end of the fair, its participants will leave strongly united and passionately committed to action.

Cynthia Asare Bediako, Chief Director, MESTI

Mrs. Asare Bediako expressed her excitement about the fair and the shift of the narrative of waste as a menace to that of a resource; an income generating venture and a source of work and raw materials for some people in our society. She highlighted the long-standing and fruitful engagements with UNDP. She acknowledged His Excellency Nana Akuffo Addo, for the launch of GNPAP. She recognized the contribution of Professor Frimpong Boateng and GNPAP, which is championing significant work in this field, she also acknowledged UNDP's establishment of the waste recovery platform. She stated that the fair will provide corporate Ghana the opportunity to see these innovative solutions, so they can tap into the potential it provides and encourage the scaling up of these solutions. She also mentioned that MESTI, in collaboration with Ministry of Sanitation & Water Resources and the Ministry of Local Government, Decentralization and Rural Development will soon launch a pilot project in plastic waste management with some selected District Assemblies.

Dr. Angela Lusigi, Resident Representative, UNDP Ghana

Dr. Angela Lusigi declared the fair ground-breaking for presenting a huge commitment, of various stakeholders in the waste management value chain in Ghana, to harness opportunities in transitioning waste to wealth.

She remarked on how proud UNDP is to have facilitated the establishment of the Waste Recovery Platform in 2018, as it brings together the interventions of many sectors in the waste management value chain in partnership with the government, the private sector and waste entrepreneurs – and has led to many successes.

She noted that through the Waste Recovery Innovative Challenge (WRIC) 14 businesses, civil society organizations (CSOs) and research institutions have been strengthened through the disbursement of grants of up to US\$ 400,000.

She mentioned two such innovators: Nelson Boateng of Nelplast, who now builds houses with plastic waste; and Pyramid Recycling, which is now in the process of expanding a waste recycling factory on ten acres of land.

She stated that the fair is a prime opportunity to connect the dots between different strands of work on waste management. By bringing together a wide range of stakeholders, it will enable cross-fertilization of solutions, partnerships and resources so that businesses, government and citizens can transition to a greener and circular economy. She noted that UNDP's goal is to work with the private and public sector as well as foundations, research institutions, local authorities and the media, among others, to step up its interventions in integrated waste management. She expressed her hope to institutionalize this annual event as an avenue for networking and learning lessons so that UNDP can co-create and design ways to improve and optimize the impact of its interventions. She noted that key recommendations will feed into policies that drive public and private investment in greener and resilient future. She closed by calling all partners to engage effectively through the waste recovery platform, in order to help Ghana achieve its development objectives.

She thanked the Coca-Cola Foundation for promoting plastic recovery projects and also commended GNPAP for helping in organizing the fair along with ESPA.



Session 1

How to Unlock Green Finance for Waste Management in Ghana

Moderator

Mr. Venan Sondo (Chaint Afrique)

Speakers

Mr. Yoofi Grant (GIPC)

Mr. Foster Aboagye Gyamfi (Ministry of Finance)

Objectives

- To discuss and identify the bottlenecks for unlocking green finance for the waste management sector, and possible interventions from financial institutions, government and other policy makers in enabling the environment for better access to green finance.
- Highlight the need for the Financing Roadmap as a step towards enabling the recommendations in the Action Roadmap.
- Highlight key lessons/insights from the Indonesia Financing Roadmap / Sustainable Development Goals (SDGs) Country Financing Roadmap. To provide information about financing services and technical assistance that is available and can be accessed by micro-, small- and medium-sized enterprises (MSMEs), particularly through the Ghana Investment Promotion Centre (GIPC).

Session Summary

The mandate of GIPC is to facilitate and attract foreign investment into the country in partnership with domestic investments. The important thing is to change the mix of our energy by using sustainable renewable energy, green energy such as solar, wind, biomass, hydro, nuclear and wave energy.

In the agriculture space, there are significant opportunities:

- The use of organic fertilizers to produce organic foods for food security and as a base for industrialization.
- The manufacture of solar panels and other implements to be used in the green space.
- Ghana is a significant repository of green finance and UNDP was commended on the investor road map, which is specifically targeted at green finance and SDG finance.

Ghana was the first global country to benchmark the SDGs and its budgetary process to ensure that the country was well aligned in its development objectives; SDG 1 and 17 are key for GIPC and the in-betweens are opportunities for developments.

The launch of a country financing road map is for the achievement of SDGs at the Presidency which lays out a road map to increase stock of green finance into the economy.

Key Messages

- There is a need for the introduction and widespread application of sustainable banking principles to help support climate action.

- The government has begun discussions on the development of an environmental fiscal policy and embedded in the policy is the establishment of a green fund to compliment locally generated funds with foreign direct investment for green interventions. The environmental fiscal policy is highlighting some incentive packages to be given to private sector actors to mobilize additional financing for implementation of actions in the waste management value chain.
- The need for actors in the green finance space to address issues such as assets-liabilities mismatch in the banking sector for green projects.

Some challenges of green finance include:

- Lack of clarity on what green management is at the policy level on waste management.
- Lack of understanding on what green financing entails for formal institutions and what support systems need to be put in place for Ghana to be green finance ready.
- Lack of understanding of the risks in green financing.
- Lack of capacity and data in markets to help enable financiers to do proper credit assessment of what a green finance project is.

Conclusion

Green procurement is being implemented by the government to ensure green is factored in procurement policies. Also, awareness and an enabling environment for financial institutions must be created so they can take advantage of opportunities that exist.

Session 2

Scaling Up Solutions for Waste Management to Achieve Impact of Scale

Moderator

Engr. Solomon Noi-Adzeman (Accra Metropolitan Assembly)

Speakers

Mrs. Matilda Payne Boakye Ansah (MH Couture & Xtreme Upcycling)

Mr. Ibrahim Yougbare (Pyramid Recycling)

Mrs. Florence Larbi (Jospong Group of Companies)

Objectives

- Identify the opportunities and actions within the waste management value chain ripe for upscaling or additional investment for bringing impact at scale.
- Learn lessons from leaders in the field of waste management on how they were able to overcome challenges and grow their businesses.
- Identify and make recommendations on policy and technical level issues that needs to be addressed to provide the conducive environment.



Session Summary

Recycling is being used to manage waste by producing dustbins from recycled plastic waste. The Accra Compost and Recycling Plant (ACARP), the Kumasi Compost and Recycling Plant (KCARP) and the Integrated Recycling and Compost Plant (IRECOP) were established to tackle treatment and material recovery.

- Plastic waste treatment includes recycled plastics being used to produce bins and household equipment. Universal Plastic Products and Recycling Limited (UPPR), was established for plastic palletisation.
- With regards to medical waste, there has been an upgrade of the autoclave to other forms of treatment forms where water is not going to be used.
- Liquid waste solutions sludge is being converted into bio char. A 1,000-litre capacity treatment plant has been commissioned in Kumasi.
- In relation to oil waste treatment, a thermal process is being used to treat drill gutters in oil fields.

Some obstacles faced by waste management include:

- Social attitude
- Poor enforcement of the law
- Inadequate technical capacity
- Limited access to funding

Key Messages

The World Bank Group noted that SMEs had an annual financing gap of US\$ 5.2 trillion and proposed sustainable ways to increase their liquidity.

- Policy advocacy and awareness on waste management and recycling technologies for innovators should be intensified, while innovators should be actively involved in policy making.
- Research and development in waste materials recovery and recycling should be promoted.
- Need to mobilize and increase funding to support waste management interventions.
- MMDAs should enact and enforce the by-laws for waste management especially segregation at source. This has the twin objective of job creation and reduction of cost in waste management and related sanitation challenges.
- Need for more advisory services for MSMEs and innovators in the waste management value chain.
- The government should institute sustainable waste management financing measures to attain full cost recovery, especially at the decentralized level.
- The government should examine and implement innovative tax incentives for companies in the waste management value chain, to reduce the tax burdens and spur growth in the sector to create more jobs and wealth.
- Need to lessen the cumbersome process of obtaining licenses and certification for companies and practitioners in the waste management value chain.
- There is a need to create waste recycling industrial hubs, while incorporating resource efficiency principles and standards in the operation of such hubs. There is also the need to reduce the cost of business operation in these hubs and to lower the cost of inputs especially water and electricity.

Conclusion

There should be encouragement from the government to promote purchasing of products from waste recovery innovators.

Day 2 | 22 July 2021

Session 1

Development Partners / Donors and Partners on Supporting Interventions in the Waste Management Value Chain

Moderator

Ms. Heather Troutman (NPAP)

Speakers

Mr. Michael Funcke-Bartz (GIZ)

Mr. Justice Odoi (World Bank Group)

Mr. Joseph Yeboah (UNIDO)

Mrs. Susana Martins (EU)

Mrs. Janet Dufie Arthur (Netherlands Embassy)

Objective

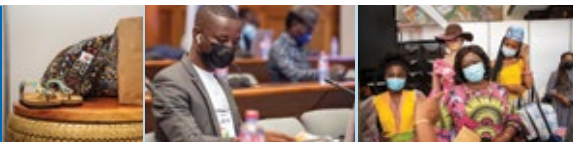
- To explore the opportunities and options for further and strengthened support from development partners, the private sector and other stakeholders to provide financial and/or technical support for scaling up and deepening the interventions and impacts so far achieved.

Session Summary

The World Bank is committed to working as a group with the International Finance Corporation to coordinate and support waste management in Ghana and globally. The World Bank has adopted twin goals; ending extreme poverty and boosting shared prosperity and circular economy is the pathway to achieve these goals.

The World Bank is committed at the highest level to help address the plastic problem and the implementation of the Greater Accra resilience and integrated project which looks at solid and plastic waste components. Also, looking at vulnerable communities with issues of waste management and flooding and ensuring that the Odo River serves its purpose, rather than being a menace to the city. The World Bank provides support to the EPA and MESTI under the environmental health and pollution programme. Currently, there is collaboration through lending programmes and development policy loans. There are also engagements with the government and the private sector to unlock opportunities and create sustainability.

The European Union (EU) used communication budgets to create awareness on circular economy opportunities and has done circular economy studies in Ghana and other African countries. In collaboration with MESTI, two studies are being done on the circular economy action plan and the action value chain. Beach clean-ups and round tables, school activities, among other activities, are also being implemented to help Ghana's successful movement from the brown economy to green economy.



The United Nations Industrial Development Organization (UNIDO) is involved in the Ghana Industrial Energy Efficiency project which seeks to support the implementation of Ghana's industry littered nationally determined contributions (NDCs) and targets through capacity building of local financial institutions in energy efficiency assessments and detailed policy formulation. Also, the promotion of public health and social resilience against COVID 19 by strengthening domestic supply chain of personal protective equipment (PPEs) under the circular economy approach.

There is also the Partnership for Action on Green Economy (PAGE) project, which brings about improvement of industrial resources efficiency in large industrial parts. Green recovery support under PAGE brings the 1 district 1 factory industries to build back.

Key Messages

- The EU support the organization of circular economy innovation challenge competitions, and this will be streamed live on Ghana Television. The objective is to increase the knowledge and awareness of people and businesses to the innovative solutions available in the circular economy in Ghana.
- There is a need to improve the partnership and communication among Development Partners and donors to bring impact at scale.
- The key steps to creating impact is by identifying the government and private sector priorities, identifying the challenges to meet these priorities, and recognizing the unique skills that can be brought to bear to achieve the priorities.
- The EU is exploring opportunities to organize a competition on circular economy in schools in 2022.
- UNIDO has an upcoming project with funding from Global Environmental Facility (GEF) seeking to establish a circular economy framework for the plastic sector in Ghana, and to strengthen the national capacity to transition into this circular economy framework.
- There is a need to ensure that interventions on circular economy are inclusive and sustainable.
- In product modelling, especially businesses, there is a need to adopt the approach where experimentation starts small, then test the solutions before upscaling, through the rapid prototyping to ensure sustainability.
- Project models should be viable beyond official overseas development assistance. In addition, there is the need to employ transparent communication strategies within a multi-stakeholder framework.

Conclusion

There are many resources to support micro-entrepreneurs, but the recommended resources are those focused on building capacity to develop a sustainable business model for a business. Plastic pollution must be addressed, and value chains strengthened, at the national and global level. The use of advisory services and analytical works through research can help in terms of the lifecycle of the value chain and costs benefits of plastics and its alternatives.

Collaboration with partners is crucial because it helps to combine resources, avoid double financing and conflicts of different activities in the same region. Also, sharing information and knowledge prevents the duplication of work and research.

Session 2

Business Clinic I

Speaker

Mr. Daniel Ababio (Ernst & Young)

Objectives

- Provide basic literacy for businesses including start-ups on a wide range of topics including market valuation and analysis, marketing and communication strategies, product design, business proposal development, how to pitch for business funding support.
- Provide opportunity for investor matchmaking and business to business interactions for growth in businesses in the waste management value chain.
- Opportunities to promote synergies and development of new business solutions or strengthening of existing ones identified and pursued.
- Business owners and start-ups have gained knowledge valuable to the growth and sustenance of their businesses in the waste management value chain.

Session Summary

Funding is one of the main factors affecting businesses. The key ingredients of growth for a business include: customers, talent, regulation, capital, ecosystem, technology and competitors.

Growth is critical for the survival of businesses. The seven drivers of growth include:

- People, behaviours and culture
- Digital, technology and analytics
- Operations
- Customer
- Funding and finance
- Transaction and alliances
- Risks

Mr. Ababio gave an in-depth explanatory session giving more details on the seven drivers of growth.

Key Messages

- Key performance indicators (KPIs) are measurable values used to keep track of and determine progress on specific objectives.
- KPIs are beneficial such that they create accountability, establish action plans and measure progress.
- Entrepreneurs must focus on specific KPIs that are aligned to their business strategy.
- Appropriate KPIs must be created to track business performance.



Session 3

Results Sharing (WRIC 1 & 2)

Moderator

Catherine Adodoadji-Dogbe, PhD

Speaker

Nelson Boateng (Nelplast Eco Ghana)

Rose Serwaa Oduro (West African Feeds)

Ibrahim Youg-bare (Pyramid Recycling)

Objectives

- Share key project results
- Encourage innovation amongst businesses
- Increase awareness of the WRIC projects

Session Summary

Mr. Nelson Boateng from Nelplast shared with participants some of the benefits of the grant they received from UNDP. UNDP's grant has aided in the increase of direct workers from 34 to 64 and indirect workers which includes 300 waste collectors (98% are women). There has also been an increase in brick production quantity from 500 to about 800-1,500 per day.

In the future, Nelplast intends to replicate production in all regions of Ghana because transportation of waste from one region to another for processing is costly. All processes of brick making in the factory have been documented and quality checks on products have been done. Samples have been sent to the Ghana Standards Authority. Nelson informed the participant that from August 2021, there will be free training of a cohort of about 30 people who are interested in their work.

He discussed some of the challenges they face as a business. These include:

- Costs attached when mistakes occur in mould production, leading to the work being repeated.
- Policy from government for the recyclers and innovators. Innovators are not involved, and their products are not incorporated into developmental activities or projects.

Ms. Rose Serwaa Oduro of West African Feeds noted that prior to receiving UNDP's grant they had only one product, which was dry larvae. However, through the support they received from UNDP they have procured other equipment to facilitate production activities. Now they have four ranges of products: black soldier fly oil, black soldier fly meal, pup larvae and dry larvae. Also, they used to process about 500kg of solid waste but as a result of the grant they received, they now process about 5.4 tons of solid waste. Out of this, 3.2 tons of compost was generated and donated to the Adentan municipality to support the 1 backyard 1 farm initiative.

She stated that they intend to set up in schools, through clubs to ensure group participation. They want to help in recycling solid waste produced by schools into composts and larvae. Products from this initiative will be bought

back to generate revenue for the school. Also, training of black soldier fly rearing will be initiated, and individuals will be encouraged to start small in their backyards, and the products would be bought from them.

The target market of these products includes those involved in chicken-rearing or those who have pets. West African Feeds envision themselves to be pioneers of insects for food and animal feed industry in the near future. Samples of their products have been sent to the Ghana Standards Authority (GSA) for standards approval. They mentioned the complex process and cost involved in acquiring certification for products as one of their greatest challenges.

Ibrahim Youg-bare of Pyramid Recycling noted that UNDP's grant has aided in the upscale of his company by increasing the tonnage of plastic waste in production from 5.6 tons to 20 tons a week. In the future he intends to be in the innovative circle and develop products that are alternatives to wood. He explained that wood plastic is more efficient and sustainable than wood. He also mentioned that they have been focused on training women to be entrepreneurs. This initiative involves the training of 50 people within the cables and wireless sector who all own their recycling firms. There are also 50 women involved in their waste collection activities.

He discussed some of the challenges they face as a business. These include:

- The issue of double taxation; Ghana Revenue Authority (GRA) taxes the worker and then taxes the company also.
- Exorbitant cost of utilities, especially electricity.
- Limited recycling space, more recycling hubs are needed in the country.
- Difficulty in marketing recycled products.

Key Messages

- There is often a high cost in experimentation, prototyping and tests.
- Policy makers often do not engage and seek the active inputs and participation from innovators in making policies that impact on their work. There is a need to encourage participatory policy making processes involving all stakeholders especially the innovators.
- Government needs to patronize and publicise the products manufactured or produced by the innovators, to serve as boost. By developing and implementing green procurement strategies government can use its enormous purchasing power to drive the markets in favour of innovators and the solutions and products to bring impact at scale.
- There is complex and often difficult process involved in acquiring certification for products. There is therefore the need to simplify the processes involved in acquiring certifications for products and costs involved should be waived for start-up and innovators.
- There is need to examine and possibly lower the tax burden on innovators. The innovator pays tax on machinery and inputs for producing the products and pays corporate income tax as well. This increases the cost of doing business for the innovator and is disincentive for innovation in the waste management value chain.
- Government and other partners should examine and develop alternative and relatively cheaper sources of energy for operations of the vendors as the cost of electricity from the national grid is expensive.
- There is a need to invest in setting up more recycling hubs, buy-back centres across the country.
- There is difficulty in marketing recycled products. There is, therefore, the need to invest in more awareness campaigns targeted at the consuming public to drive the demand for recycled products.
- There is the need to invest more in the awareness campaigns to drive change in behaviour and attitude and behaviour of people especially with disposal of wastes.



- Green procurement should be prioritized by government to drive the demand for the products from recycled materials.
- There is the need to include issues on waste management in the curriculum of students and pupils and provide the incentive structure and process to encourage innovations at schools.

Conclusion

The youth were advised not to give up and be persistent in whatever they do. They were encouraged to seek help around and see the innovative and recycling industry as a learning space and a space for partnership.

They were also encouraged to find business model canvases and put their ideas into it, to see if it is feasible in solving problems and generate revenue. It was iterated that hubs help in training individuals by sharing ideas.

Teaching about technology is key. One should not think or fear that teaching individuals about your work or ideas would make them your competitors. However, think of running ahead, develop the passion and ensure that you lead the market.

Session 4

Showcasing the Winners of the School Competition

Moderator

Catherine Adodoadji-Dogbe, PhD

Objectives

- Promote awareness among the general populace, particularly the youth on the challenges of waste management.
- Encourage hands-on solutions for integrated waste management.
- Identify and strengthen the role that individuals, institutions, especially schools can play in providing solutions for waste management

Session Summary

For the school competition, UNDP received a total of 38 proposals from various senior high schools. The applications went through different stages of selection and five schools were chosen. The selected schools include Obuasi Senior High Technical School, St. Catherine Senior High School, Methodist Girls' High School, Cape Coast Technical Institute and Aburi Girls' Senior High School.

Obuasi Senior High Technical School

The students proposed a project to design and build a working prototype of a solar powered waste segregation bin. Their project seeks to encourage the reuse and recycling of waste collected from the waste bins. The bin will separate waste into categories (paper, wood, plastics) for onward recycling and reusing. The project seeks to address the challenges associated with waste management in the compound of the school, the community and the country as a whole.

St. Catherine Senior High School

The students proposed a project to empower students and teachers to manage domestically generated waste. Sewage from the student bathhouse will be connected to a receptacle, so the school can provide for itself enough water to irrigate the school garden and promote tree-planting projects in the school. Solid waste materials will also be transferred from the school kitchen and compound into a compost pit to serve as manure, this will be used to support the growth of vegetables and trees in the school.

Methodist Girls' High School

The students proposed a project to design and build an Automatic Waste Sorting Bin. The main aim of the sorting bin is to make the separation of waste easy to enable efficient recycling. The invention of this sorting bin takes into consideration the 4Rs of recycling (Reduce, Reuse, Recycle and Refuse). The waste bin will be programmed to recognize plastics, metals and general organic waste materials. The invention will enable the reuse of an estimated 65% of plastic, metallic and organic waste.

Cape Coast Technical Institute

The students proposed a project to use plastic waste to coat and spray metallic objects, surfaces and components to preserve them against rusting and corrosion. This will be particularly useful to communities along the coastal belt. They also propose to use plastics to produce weather durable pavement bricks/blocks as well as to sort out thermoplastics and thermosetting plastics for sale to recycling companies.

Aburi Girls' Senior High School

The students proposed a project to create a sustainable household where sewage produced in the house can be transformed into clean and healthy water for reuse. The project will also produce extra resources like biogas for energy and decomposed material for compost. Recycling household sewage will help reduce the school's water bills.

Conclusion

Out of the five schools, the top three schools were awarded with cash grants. St. Catherine Senior High School took first place and was awarded a cash grant of US\$ 4,000. Obuasi Senior High Technical School took second place and was awarded a cash grant of US\$ 3,000. Methodist Girls' High School took third place and was US\$ 2,000. Aburi Girls' Senior High School and Cape Coast Technical Institute took the fourth and fifth positions respectively.



Day 3 | 23 July 2021

Session 1

Data and Use for Waste Management Solutions

Moderator

Kingsley Bekoe

Speakers

Ben Agyin-Turkson (Asa Nwura)

Omar Seidu (Ghana Statistical Service)

Christopher Gyan Mensah (SESA)

Bernice Appiah (SAP)

Tibor Kuehnhold (SAP)

Objectives

- Discuss what good practice should look like, in terms of integrated data for waste-management.
- Highlight current strengths and weaknesses. Where are the data gaps? Where are the opportunities? Are data sources and flows inclusive?
- Identify practical examples of where new data sources are being created (driven by innovative technology), or existing data is being leveraged to support integrated waste management.
- Create awareness on the SAP pilot project.
- Highlight how data from the SAP pilot project could be leveraged to enhance plastic waste management as well as activities and interactions in the plastic value chain.

Session Summary

The first set of SDG indicators was adopted in March 2016. There was the need for the Ghana Statistical Service to access the capacity of the country in producing the data for monitoring the SDGs. The assessment showed that more than 50% of indicators required data from administrative sources. Most of the data were not in the form required by the indicator.

There are lots of data we do not produce as a country. The Data Road Map forum was held to bring stakeholders together to brainstorm on how to move forward as a country.

Key priority areas to guide all actions towards producing data for monitoring the sustainable development goals include:

- Filling critical data gaps
- Strengthen the use of data
- Strengthen data ecosystem
- Conducting workshops to harmonize data
- Validation by relevant ministry

The mobile application technology used in monitoring and measuring SDG indicator 11 was adaptable, ensuring that individuals in peri-urban or rural areas without smart phones could use USSD codes to enjoy the service nonetheless. This created a cross-governmental platform for local level waste data work. Technology based tools can be appropriate for independent data collection.

There is the plan to embed data in future strategies, including institutionalizing data types into SDG strategies and the Ghana Oceans Plan. EPA is leading a process by which results collected by the Ocean Conservancy could be integrated into the Ghana Oceans Plan currently in development, embedding the data in this national strategy. Data coming from service providers are more accurate than that data coming from citizens.

The SAP plastic waste project aims to prove where plastic comes from, it also aims to improve the economic level of plastic collectors. There should be incentive structures for private businesses so they can come on board such a system of data collection. Through this, there is the aim to share data with partners that will aid in ensuring further planning and ensure traceability and transparency throughout the whole supply chain.

Key Messages

- In reporting on solid waste management in Ghana, there are often inconsistent and incomplete data sets on solid waste at subnational levels.
- The use of mobile phone applications involved citizen monitors in Techiman, Ho and Ga East districts to monitor work issues and measure specific SDG indicators on health and sanitation.
- Some administrative data exist on estimated quantity of waste collected but not on quantity of waste generated, especially at the municipal, metropolitan and district levels.
- There is the need to involve and expand on the use of mobile applications through citizen science for monitoring and reporting on waste management challenges and data.

Conclusion

Individuals who segregate waste can be motivated through reward systems by aggregating the waste to a threshold and redeeming trashes in cash and kind incentives. Also, incentives that help to get data on waste include monetizing the waste by weighing per kg or tonnage of plastics they recover, and paying the equivalence in cash. Some also benefit through renewals of their national health insurance cards. Waste collectors and aggregators should be given the chance to benefit from essential services to encourage them to keep on segregating waste.

Session 2

Business Clinic II

Speaker

Mr. Eugene Eluerkeh, Ashesi (Design Lab, Ashesi University)

Objectives

- Provide basic literacy for businesses, including start-ups, on a wide range of topics including market valuation and analysis, marketing and communication strategies, product design, business proposal development, how to pitch for business funding support



- Provide opportunity for investor matchmaking and business to business interactions for growth in businesses in the waste management value chain
- Opportunities to promote synergies and development of new business solutions or strengthening of existing ones identified and pursued
- Business owners and start-ups have gained knowledge valuable to the growth and sustenance of their businesses in the waste management value chain

Session Summary

There are various types of businesses within the business spectrum. On the extremes are traditionally not-for-profit and traditionally for-profit businesses. Regardless of where a business is in the spectrum, it should have sustainable operations while achieving its sustainability goals. An organization that does not operate sustainably is prone to collapse irrespective of the expertise within it and the fame associated with it. The business model canvas creates value and ensures sustainable impact for businesses by helping to achieve the following:

- Developing an idea into a viable business
- Describing the business
- Appreciating the connections and relationships within and outside the business
- Designing, discussing and communicating one's business to staff, donors, investors, etc.
- Making changes in response to changing demands and communication over time

Key Messages

- Regardless of where a business is on the spectrum, it should have sustainable operations while achieving its sustainability goals.
- If you are purely not for profit, you may or may not have control over your sources of finance, and this needs to be pondered on in terms of operating sustainably.
- There is a need for a business to be locally rooted and connected to operate sustainably.
- Businesses should be structured in a way that if something minor changes, survival is still present.
- Sustainability should be incorporated in business operations.
- An organization that seeks to make an impact will remain relevant and attract quality funding and goodwill.
- Alliances of like-minded organizations will create impact, ensure better sustainability for individual organizations and produce better results in terms of pursuits of SDG goals.

Conclusion

Concerning the sustainability of a business, it is important to understand the interconnections in one's business operations and to know how well the business operations are being run. Also, it is necessary to know how interconnected and resilient the business is and whether or not it is sustainable for long-term survival. Always ensure that sustainability is incorporated in business operations.

Session 3

Launch of Green Recovery Proposal

Speakers

Mr. Kingsley Bekoe (UNDP)

Mr. Abu Saieed (UNIDO)

Mr. Luciana Fontes de Meira (UNEP)

Objectives

- To bring relevant actors and stakeholders together to launch the PAGE initiative.
- To discuss and agree on the modalities for effective implementation of the initiative to achieve the stated and desired impacts.
- To bring awareness and highlight the efforts being made to recover and respond to COVID-19

Summary

The PAGE initiative is aligned with the UN Socioeconomic response and recovery plan to support the Government of Ghana focusing on two thematic areas of digitization and green economy unleashing benefits inherent in digitization for green economic opportunities. It plans to:

- Support integration of green recovery policies in the recovery plan for selected MMDAs.
- Support the ecosystem of green physical spaces, tax and regulatory regime to ensure revenue for development and well-being of people.

The initiative also includes training on resource efficiency and sustainable production principles to ensure targeted capacity building in green and inclusive recovery.

Key Messages

- An assessment on Green Industry and Trade has been done to identify the environmental and industrial conditions of the country.
- A study on the Resource Efficiency Piloting Project has also been done in Ghana's steel and palm oil sectors to identify the practical measures that companies and industries could adopt to improve their status in energy efficiency and water optimization.
- There is a joint exercise by ILO and UNIDO in discussing business opportunities for SMEs in post COVID-19 context and providing technical advice to promote innovation, growth and competitiveness.
- There is ongoing global work on the impact of COVID-19 on green enterprises, and policy guidance towards inclusive, resilience and sustainable recovery.
- UNEP's work in green fiscal policies: Reflecting externalities in prices, aligning government expenditures with environmental goals, raising revenues, creating fiscal space for green investment and broader fiscal form. The time frame of this study is the second quarter 2022 and involves stakeholders such as the Ministry of Finance, Ministry of Environment, local research institutions and local finance institutions.



- The purpose of this study is to:
 1. Assess opportunities to leverage fiscal policy instruments to raise public revenue and make substantial progress on climate change, biodiversity and pollution concerns.
 2. To identify public finance tools and policy lever in enabling and scaling up green finance availability.
- The expected results of this study include:
 1. Improved understanding of the current fiscal situation and potential green fiscal policy opportunities to resource COVID-19 recovery in Ghana.
 2. Increased actionable information for the government on instruments to underpin more robust socio-economic recovery and dis-incentivize unsustainable consumption and production

Session 4

Preview of the Ghana Waste Recovery Website

Speaker

Mr. Samuel Danso (CYST)

Summary

The Ghana Waste Recovery Platform aims to connect all actors in the waste management value chain to promote waste recovery in a larger economic context. Features of the web-based platform include: a news section, waste map, innovation challenge section, resources section and directory. Some components within the platform include the physical convening mechanism, the digital platform, promoter of innovation and communication dimension of the platform. The platform's governance structure includes an advisory board, steering board and management team.

Key Messages

- The waste map section on the map is not fully accessible yet.
- The resource library contains documents on government policies, research publications and ongoing initiative.
- The directory page contains stakeholder contacts, which have been categorized for ease of search.
- The events calendar showcases all upcoming event and has a search tool.
- There should be a way to add other actors who are not already on the platform onto the website on a regular basis

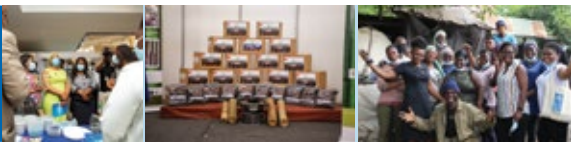
Conclusion

The team is taking into consideration measures by which different waste applications can be linked as features to the waste platform. Also, teaching and sensitization exercises would be done to bring more people on-board to use the platform.

Annex I

List of Exhibitors

No.	Organization/ Business Name	Items displayed
1	Safisana	<ul style="list-style-type: none"> • Premium organic compost called “asase gyefo” Organic compost
2	Aqua Green Initiative	<ul style="list-style-type: none"> • Water dispensers and paper cups for public and private events
3	Nelplast Eco Ghana Ltd	
4	WAF	<ul style="list-style-type: none"> • WAF oil • WAF meal • WAF pop
5	Special Learning Materials	<ul style="list-style-type: none"> • Prototypes of learning materials made from wood waste
6	Pyramid Recycling	<ul style="list-style-type: none"> • Plastic prototypes • Pieces of furniture (table, garden table with benches) • Plastic lumber beams
7	Mckintorch	
8	DAS Biogas	<ul style="list-style-type: none"> • DAS portable biogas plant for managing household garbage • Biogas generator • Biogas rice cooker • Laptop • Biogas balloon • Sample of effluent from treatment system
9	Country Kode Ghana	<ul style="list-style-type: none"> • Garment and accessories in plastic
10	Rock City Farms	<ul style="list-style-type: none"> • Waste plastic granules • Waste plastic briquettes, diesel • Waste plastic tiles
11	Ecomake Innovations	<ul style="list-style-type: none"> • Product samples
12	Fiber Wealth	<ul style="list-style-type: none"> • Cocopeat and cocopeat potting soil • Fibre products such as doormats and brushes
13	Ecoclean Ghana	<ul style="list-style-type: none"> • Bags
14	Neat Ecofeeds	<ul style="list-style-type: none"> • Dried maggot meal • Powdered maggot meal • Black soldier fly eggs • Black soldier fly neonates • Black soldier fly pupae
15	Tidy Up	<ul style="list-style-type: none"> • Picture presentation
16	Borlplast	<ul style="list-style-type: none"> • Bins produced from plastic bottles



No.	Organization/ Business Name	Items displayed
17	Coliba	
18	City waste	
19	Jekora Ventures	<ul style="list-style-type: none"> • Fortifer compost • Fortifer compost • Fortifer compost • Briquette • Colour-coded dust bins
20	Espa	
21	Nasag-Lach	
22	Hamy Comfort	
23	Shinefeel	
24	Korlekor	
25	Koliko Wear	<ul style="list-style-type: none"> • Footwear
26	IRECOP	<ul style="list-style-type: none"> • Mulch • Recyclables that are metal cans and plastic • Plant stand
27	Biosewers limited	
28	Lifestyle creations	
29	MorePlex Company Limited	<ul style="list-style-type: none"> • Organic-based shower gel, liquid soaps and cleaning solutions made from recycled cocoa pod husks
30	Kumasi Compost and Recycling Plant (ACARP)	<ul style="list-style-type: none"> • Compost
31	UPPR	<ul style="list-style-type: none"> • Dust bins • Veronica buckets • Waste bin liners
32	King Health Systems Ltd	
33	Sewerage System Ghana Ltd	<ul style="list-style-type: none"> • Various liquid waste projects • Products such as the Biochar
34	Global Bamboo Products Limited (GBPL)	<ul style="list-style-type: none"> • Briquettes • Packets
35	Econexus Ventures	<ul style="list-style-type: none"> • Clean cooking solution • Ethanol gel fuels • Stoves
36	Zoomlion	<ul style="list-style-type: none"> • Brochures
37	Asa Nwura	<ul style="list-style-type: none"> • Upcycled products made from LDPE Wastewater Sachet

No.	Organization/ Business Name	Items displayed
38	Sesa Recycling	<ul style="list-style-type: none"> • Processed materials (PET crushed, LDPE crushed) and items made of LDPE Wastewater Sachets • Shower caps • Back packs • Sponge bags • Purses • Lunch bags/boxes
39	Symboil Ghana	<ul style="list-style-type: none"> • Coconut husk products: <ul style="list-style-type: none"> o Cocopeat o Fiber o Charcoal and Briquettes o Samples of containers made from coconut and bamboo 'waste' for the company's water-free natural body care brand 'CocoMia'
40	Pure water association	
41	Kumasi Compost and Recycling Plant (KCARP)	<ul style="list-style-type: none"> • Samples of varieties of compost and recycled plastics • Organic compost from Municipal Solid Waste (MSW) and semi-processed inorganic materials including: <ul style="list-style-type: none"> o Pelletized plastics o Shredded plastics o Metals o Papers o Glass
42	Zoil Ghana Limited	<ul style="list-style-type: none"> • Oil and mining waste treatment plant • Tank cleaning services
43	Waste landfills Ghana limited	<ul style="list-style-type: none"> • Showed various landfill technologies and projects
44	ZoomPak Ghana limited	<ul style="list-style-type: none"> • Different medical waste bins
45	Zaacoal	<ul style="list-style-type: none"> • Charcoal
46	UNDP	
47	Desmond's production team	
48	Zoomlion Domestic Services	
49	AROCHA	<ul style="list-style-type: none"> • Wire mesh exhibit • Brochures / Picture posters
50	Twerebo Process Industries ltd	<ul style="list-style-type: none"> • Activated charcoal • Biochar • Potash
51	Playsoccer Ghana	<ul style="list-style-type: none"> • Football nets from recycled plastics
52	ELECTRO- RECYCLING GHANA	<ul style="list-style-type: none"> • Brand-new television made of 60% waste material • Portable powerbanks for homes and small business

Credits

Production: Julie Pudlowski Consulting

Photography: © UN Ghana

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Ghana



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