



Sustainable Manufacturing and  
Environmental Pollution

**Enhancing uptake of resource efficiency & cleaner production in enterprises with piloting membrane technology and financial services for wastewater treatment for the textile, tannery and chemical sub-sectors in the Nairobi Rivers Basin**

*Report of the initial stakeholders' consultative meeting held at Eka Hotel, Nairobi City County*

*22 January 2024*



**DISCLAIMER**

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## **1.0 Introduction**

### **1.1 Background**

This report provides an account of the half-day Consultative Meeting held on 22<sup>nd</sup> January 2024 at Eka Hotel in Nairobi City County. The meeting was organized by the Kenya National Cleaner Production Centre (KNCPC) as the initial forum for dialogue with the target stakeholders for implementation of the project on *Enhancing Uptake of Resource Efficiency & Cleaner Production in Enterprises with Piloting Membrane Technology and Financial Services for Wastewater Treatment for the Textile, Tannery and Chemical Sub-Sectors in the Nairobi Rivers Basin*. The overall objective of this intervention is to contribute to addressing the problem of environmental pollution arising from effluent discharges into the rivers in the Nairobi Rivers Basin by the industries and institutions. This project is part of the larger Sustainable Manufacturing and Environmental Pollution (SMEP) programme and it complements delivery of Industrial Pollution Control activities of the Nairobi Rivers Basin Commission (NRBC) launched by the President in February 2023.

SMEP is an initiative of the Foreign, Commonwealth & Development Office (FCDO) of the government of the United Kingdom (UK-FCDO) in collaboration with the United Nations Conference on Trade and Development (UNCTAD), and is managed by SouthSouthNorth and PEGASYS. Its primary aim is to reduce environmental and social impacts of manufacturing in developing countries through development of technological solutions with potentials to aid in lowering levels of pollution and environmental degradation resulting from manufacturing processes. Within the framework of SMEP, the lead implementing partner for the *Scaling Resource Efficiency & Cleaner Production (RECP) in the Nairobi Rivers Basin* project is KNCPC. In enhancing the RECP capability base of the industries within the NRB, KNCPC is working with Kanku Kenya Limited as the membrane technology for wastewater treatment provider and Fintech Frontiers as the financial service analyst and green investment advisor to participating industries. It is on this premise that this initial consultative meeting with them was held. The meeting brought together the project implementing partners (KNCPC, Kanku Kenya Limited and Fintech Frontiers) and representatives of potential partner public and private sector players within the NRB. The key partners who were invited and attended the meeting included the manufacturers associations (Kenya Association of Manufacturers, KAM and Kenya Private Sector Alliance, KEPSA), environmental regulators (National Environment Management Authority, NEMA), County Governments (Nairobi, Kiambu, Machakos, Kajiado), Water and Sanitation Companies from the four counties, Athi Water Works Development Agency (AWWDA) amongst others

### **1.2 Objectives of the Meeting**

#### **1.2.1 Overall objective**

To introduce the project to potential partner agencies and organisations within the NRB, with a view to enlisting their integration into and unwavering support to its delivery.

#### **1.2.2 Specific objectives**

- a) To increase the understanding of potential partner agencies and organisations about the nature and scope of industry RECP improvement promotion actions to be undertaken in the life of the project.
- b) To grant participants a sense of their roles and responsibilities in mobilizing industries for participation in the project, formulating and/or reviewing implementation strategy and providing requisite technical solutions

- c) To open windows for project effectiveness and sustainability base through nurturing synergies, promoting circularity policies, and review of regulations to support adoption of RECP technologies and practices in the NRB during and after the project period.
- d) To evolve a common roadmap for joint participation of the stakeholders in implementation and management of the project to the rest of its delivery period.

### **1.3 Expected outcomes of the consultative meeting**

- a) Potential partner agencies and organisations briefed on the nature and scope of industry RECP implementation activities to be undertaken during the project in relation to the objectives and mandate of NRC.
- b) KNCPC, Kanku Kenya Limited and Fintech Frontiers get the necessary buy in and support from the potential partners in implementing the project and the activities therein.
- c) Participants appreciate the value- addition inherent in their diverse individual organizational competences and their willingness to pull together in working with multiple industry types to drive transition towards a circular economy through the application of RECP tools, including addressing related policy and legislative trade-offs.
- d) Potential partner institutions and organizations appreciating the gaps being bridged by the project for a value chain, that is, identification of RECP interventions, financial analysis of the interventions for potential financing and technology implementation upon financing to implement the proposed RECP interventions
- e) Developing a framework for joint actions on scaling the uptake of RECP as an environmental compliance tool in industry and institutions; stipulating roles of actors, coordination structure and subsequent action points in working with KNCPC and partners in implementing the project.

### **1.4 Structure of the Report**

The remaining sections of this report proceed as follows. Section 2 is on organization and methods applied. Section 3, presents the deliberations, and is divided into three sub-sections namely opening session, technical discussions session, and the closing session respectively. Finally, section 4 presents the summary of the discussions and the next steps in the project delivery journey.

## 2.0 Organisation and methods

### 2.1 Participants mobilization strategies

The target participants in this stakeholders' consultative meeting were national and county government agencies in the domains of water and environment management as well as lobbying and advocacy consortia of public and privately owned corporate entities. A deliberate effort was made to inculcate strong partnerships for project delivery by reaching out to the top management and executive decision makers of the target partner organisations. Official invitation letters were sent out, accompanied with the *Project Briefing Note*. The Briefing Note was meant to familiarise the participants *priori* with the project, thereby preparing them to effectively participate in the deliberations. The list of stakeholder constituents who participated in the meeting is provided in the table that follows:

#### ***Organisations and agencies represented in the consultative meeting***

1	Nairobi Rivers Basin Commission (NRBC)
2	Fintech Frontiers Limited
3	Kanku Kenya Limited
4	Nairobi City County Government (NCCG)
5	Tactive Consulting Limited
6	MAKAWASCO Limited
7	National Environment Management Authority (NEMA)
8	Kiambu Water and Sewerage Company Limited
9	Gatundu Water and Sewerage Company Limited
10	Kenya Private Sector Alliance (KEPSA)
11	Kenya Association Manufacturers (KAM)
12	Athi River Water Company
13	Athi Water Works Development Agency (AWWDA)
14	Kenya National Cleaner Production Centre (KNPCPC)
15	Two rives water Company

### 2.2 Organization of the deliberations

In order to meet the intended objectives, the deliberations its actual delivery comprised technical and non-technical sessions, accomplished by facilitated audio and audio-visual presentations (consultative workshop Agenda in Annex A). The non-technical attributes comprised opening and closing remarks. Transactions on technical aspects were central in introducing details about the design and implementation approaches for the project. Thus constituted, the session comprised three presentations from KNPCPC, Kanku Kenya Limited and Fintech Frontiers in that order, followed by a plenary discussion.

### **3.0 Deliberations of the meeting**

#### **3.1 Opening session**

##### **3.1.1 Opening remarks**

Dr. Jane Nyakang'o, Director KNPC (Photo 1), began with a welcome note, and opened the floor for rounds of self-introduction by other participants. On the occasion of calling the meeting to order, Dr. Jane highlighted to the participants the objectives and partners involved with delivery of this project. She emphasized on the project components, collaboration partners across scales, the roles of each of the partners and its relevance to NRC's efforts in the rehabilitation of Nairobi Rivers.

In addition, she emphasized the core spirit of the meeting by observing that the diverse organizational affiliations of the participants depicted in the introductions as a firm foundation for strengthening partnerships to facilitate the uptake of RECP measures in the NRB. Dr. Jane ended by underscoring the need for the stakeholders represented in the forum to work together for realization of the project objectives. She continued to set the scene by describing the context of the project, elaborating the organization and sequence of the presentations and deliberations as contained in the Agenda (Appendix A). Finally, she then invited the Key Note speakers, beginning with Dr. Catherine Mbaisi, for the Director General, National Environment Management Authority (NEMA) to deliver her opening remarks, followed by Vice-Chair of the NRBC, Prof. Elijah Biamah, to deliver his opening remarks and declare the meeting officially open.



***Photo 1 Dr. Jane Nyakang'o delivering the opening remarks***

##### **3.1.2 Key Note Addresses**

###### ***Director General, NEMA***

Dr. Mbaisi started by explaining the commitment of NEMA towards the project, owing to NEMA's involvement in the restoration and rehabilitation of the NRB. She further applauded KNPC for her many years of effort towards reducing industrial pollution in the country through application of RECP approaches, notably the recent Compliance Assistance Programme in the NRB, implemented in partnership with NEMA. She emphasized the need for collaboration between industries and institutions towards the rehabilitation and restoration of the NRB, from which examples, she said, can be replicated in other settings.

###### ***Vice Chairperson, Nairobi Rivers Basin Commission***

Prof. Biamah started by giving an overview of Environmental Management and Coordination Act (EMCA) 1999, that resulted in the establishment of NEMA mandated to supervise and coordinate all environmental matters within the country. He continued to note that the NRBC had developed an Action Plan for 4 components and, that this project focuses on the waste to rivers sub-component.

He acknowledged the importance of the industries and institutions collaboration towards environmental sustainability especially on restoration of the NRB, giving an example of the Commission collaboration with Water Resources Authority (WRA). He reiterated the plan of the NRBC to create thematic working groups for scientific research that will include academia and the National Museums of Kenya. He confirmed the Commission's commitment to assist during project implementation.



**Photo 2 Prof. Prof. Biamah, delivering his Key Note Address at the Meeting**

### **3.2 Technical Sessions**

#### **3.2.1 Promoting uptake of RECP options**

This aspect was carried in the presentation by Mr. Steve Nyamori, Deputy Director, KNCPC. Steve provided an overview of the project, stating its objectives, activities and expected deliverables, including the linkage of project with Action Plan of the NRBC. He highlighted previous projects KNCPC has carried out in the NRB in collaboration with NEMA and other regulatory institutions. He explained the roles and responsibilities of the project partners and key stakeholders during project implementation.



*Photo 3 Mr. Steve Nyamori introducing the project to the workshop participants*

### **3.2.2 The component on Membrane Technology for Wastewater Treatment**

The presentation on this component was done by Mr. Suresh Patel, Kanku Kenya Limited. Mr Suresh started by noting the importance of technology in wastewater treatment explaining that the private sector invests a lot in in-house research on the same. He further gave an overview of the membrane technology to be piloted and the advantages of the technology.



*Photo 4 Mr. Suresh Patel taking the participants through membrane technology*

### **3.2.3 Financial modeling for RECP applications**

Mr. Titus Karanja summarized the role of Fintech Frontiers Limited in the project, explaining the need to ensure that the RECP options are bankable. He explained the financial impact measurement model to be developed for use by banks to provide loans to industries that intend to implement RECP technologies. He noted that this action would also require sensitizing financial institutions on RECP for financial institutions (banks).



***Photo 5 Titus Karanja introduces participants to financial modeling aspect of the project***



#### **4.0 Key issues from the stakeholders from the Plenary Session**

The plenary session was an open discussion on how best to implement the project in order for the objectives specified within the project design are met. The stakeholders contributed based on the information provided during presentations and key note addresses.

Some of the key issues pointed out by the stakeholders are:

##### ***a) Need for More stakeholders in the Technical Committee (Academia and Research Institutions)***

NRC proposed that there is need to consider bringing-in the academia (Universities) and research institutions such as Kenya Industrial Research and Development Institute (KIRDI) as part of the stakeholders. They are expected to add value in terms of research and knowledge sharing.

##### ***b) Need for Inclusion of more Technology Service Providers***

- The home-grown membrane technology by Kanku Kenya Limited for wastewater treatment which, would save manufacturers money spent in installing the imported Effluent Treatment Plants (EPTs) was applauded by the stakeholders.
- Participants suggested that the project implementation actions could also include and explore inclusion of latest water quality monitoring technologies.

##### ***c) Financial Modelling and Support from Financing Institutions to Industries and Institutions***

- The financial modeling component was hailed, as a useful strategy employed in the project as it would provide a research-based business case for wooing banks to support environmental compliance germane technologies which has historically been a major challenge for adoption and RECP technologies in Kenya.
- The co-financing aspect should be well brought out to the industries during the introduction of the project for the beneficiaries of the grant by SMEP.
- NEMA explained that technology service providers are not readily available and the industries are struggling to get effective wastewater treatment plants mainly due to financial challenges. To ensure the sustainability of the project and further cooperation with other financial institutions, the need for effective implementation of the proposed model in this pilot project by the partners is critical.

##### ***d) Need for the formation of a Technical Committee for the Project***

- KNCPC and partners should consider forming a Stakeholders Steering Committee to meet regularly and steer the multi-agency actions on promoting and scaling RECP activities in the NRB. This structure should act as the channel for regular networking and communications on opportunities and challenges on implementation of RECP options. A proposal to use but expand the technical committee that is currently in place for the sub component on industrial and institutional pollution control chaired by NEMA was accepted by the stakeholders.
- A proposal to have the technical committee to meet monthly for this quarter was given. This meeting frequency shall be reviewed as the project progresses. The monthly meeting shall ensure that any challenges facing the project implementation shall be resolved at the earliest opportune time

#### ***e) Need for Policy and Regulations Review***

- The development of EMCA (1999) clause 57 on fiscal incentive to assist industries that have invested in wastewater technologies which does not have an operation regulation was sited. NEMA explained that it was in the process of reviewing EMCA and that it would be important to work on Clause 57 and also emphasize on the importance of giving value to waste water.
- KAM highlighted that through the Kenya Water Sector Trust Fund a committee on water and Sanitation has been established and that it would be important for stakeholders in the meeting to be mainstreamed in the committee to mainstream the project on a national stage.

#### ***f) Knowledge Management***

- Kenya Association of Manufacturers raised issues on data and information sharing challenges with the industries.
- The Regulatory Agencies like NEMA have some data on effluent quality from some of the industries and institutions which they agreed to share with KNCP
- Success stories to be documented by KNCP from the pilots and shared to financing institutions

### **5.0 Way Forward and Closure**

- Industry mobilization: Involvement of Kenya Association of Manufacturers, National Environment Management Authority, Kenya Private Sector Alliance, County Governments Environment (Nairobi, Kiambu, Kajiado, Makueni, Machakos) and County Directors (Nairobi, Kiambu, Kajiado, Makueni, Machakos) and Waster Service Providers (WSPs) in determining the industries to be involved
- The institutions agreed to provide list of industries that are high polluters
- The participants agreed on monthly meetings for the first quarter of project implementation
- Inclusion of the stakeholders in the technical working committee

## Appendix A: Meeting Programme



### KENYA NATIONAL CLEANER PRODUCTION CENTRE

#### Workshop Program

**ENHANCING UPTAKE OF RESOURCE EFFICIENCY & CLEANER PRODUCTION IN ENTERPRISES WITH PILOTING MEMBRANE TECHNOLOGY AND FINANCIAL SERVICES FOR WASTEWATER TREATMENT FOR THE TEXTILE, TANNERY AND CHEMICAL SUB-SECTORS IN THE NAIROBI RIVERS BASIN, UNDER THE SMEP PROGRAMME**

Day 1	Topic	Facilitator
8.00am – 9.00am	Registration of Participants	KNCPC
9.00am – 9.30am	Introduction and Welcome Remarks	Dr. Jane Nyakang'o
	Opening Remarks	Director General, NEMA
	Official Opening	Chairman, NRC
	Photo Taking	
<b>9.30 am– 10.00am</b>	<b>Coffee/Tea Break</b>	
10:00am- 10:30am	<b>Project Background</b>	Mr. Steve Nyamori, Deputy Director, KNCPC
10.30am– 11.00am	<b>Partnership:</b> <i>Sector-based Demonstration on Wastewater treatment using hybrid pre &amp; post treatment with complementary membrane technology for improved wastewater treatment processes</i>	Mr. Suresh Patel, CEO, Kanku Co. Ltd
11.00am - 11.30am	<b>Partnership:</b> <i>Financial Advisory &amp; Capacity Building of Financial Institutions in RECP Financing</i>	Mr. Titus Karanja, CEO Fintech Frontiers
11.30 am– 12.30pm	<i>Plenary Discussion on Industry Participation and Project Roadmap</i>	Dr. Catherine Mbaisi, Deputy Director, NEMA

12.30pm – 1.00pm	Next Steps	Mr. Steve, Nyamori, Deputy Director, KNCP
1.00 pm– 2.00pm	Lunch	

### Appendix B: List of Participants

NO	NAME	CONTACT	EMAIL	ORGANIZATION
1	Prof. Elijah K. Biamah	0734 673940	elijahkngetich@gmail.com	Nairobi River Commission
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