



GEF-UNIDO NIGERIA IEE/RECP PROJECT

CAPACITY BUILDING WORKSHOPS ON RECP METHODOLOGY AND ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEM

14th JUNE, 2023

Tahir Guest Palace, Ibrahim Natsugune Road, Kano.

TRAINING REPORT

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Prepared by



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RECP National Expert**

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ACRONYMS

ECREEE	ECOWAS Centre for Renewable Energy and Energy Efficiency
EE	Energy Efficiency
EMS	Environmental Management System
EnMS	Environmental Management System
GEF	Global Environmental Facility
IEE	Industrial Energy Efficiency
ISO	International Standard Organization
MAN	Manufacturers Association of Nigeria
RECP	Resource Efficiency and Cleaner Production
UNIDO	United Nations Industrial Development Organizations

1. BACKGROUND

The training titled “Capacity Building Workshops for Stakeholders on RECP methodology and ISO 14001 Environmental Management System” with the objective of improving Nigeria’s resource efficient cleaner production through programmatic approach and the promotion of innovation in cleaner technology solution is an activity of the GEF-UNIDO IEE & RECP Project. The training was held at Tahir Guest Palace, 4 Ibrahim Natsugune Road, Kano on the 14th of June 2023.

The purpose of the training was to create awareness of various key stakeholders on the concept of *Industrial Energy Efficiency* and *Resource Efficient Cleaner Production* to strengthen the capacity of Nigerian industrial sector and the industrial consulting base regarding the EnMS/ESO and RECP methodologies.

The training included various components for technical stakeholders on Resource Efficient Cleaner Production (RECP).

The methodology adopted for the training was interactive and participatory as facilitators were open to feedbacks, suggestions and questions during presentations. The sessions were executed through power point presentations. Surveys were also deployed at the end of each training session to collect feedbacks from participants.

2. OBJECTIVES OF THE WORKSHOP

The objectives of the workshop¹ were as follows:

- i. To enlighten the stakeholders of the impacts of industrial activities on the environment.
- ii. To create awareness on the need to minimize these impacts on the environment.
- iii. To introduce the concept of RECP and environmental management system to enterprises.
- iv. To sensitize and encourage organizations to adopt and implement ISO 14001 as a tool to effectively manage their environment.
- v. To provide guidance on the route to achieving certification to ISO 14001.

¹ Focusing on the RECP component

3. TRAINING AGENDA AND RESOURCE PERSONS

The agenda for the training day on RECP Methodology and ISO 14001 Environmental Management System is as follows.



Start time	8:30am		
Closing time:	16:00	RECP methodology and ISO 14001 Environmental Management System	

	content	Means of evaluation	Learning activities	Duration (minutes)	Slides
09:00	Introduction of SDG, ESG, RECP (environmental management ISO 14001)	Group discussions	Setting the scene	45 minutes	8-19
09:45	UNIDIO RECP methodology <ul style="list-style-type: none"> • Commitment, Environmental team, policy, objectives • Initial assessment <ul style="list-style-type: none"> ○ Identify non-productive output ○ Walkthrough ○ Emission map, flow chart ○ Action plan • examples 	Class exercise, participant questions	Developing an environmental policy and objectives, Commit and establish an environmental team, plan initial assessment, Understand <ul style="list-style-type: none"> • emission mapping • Process flow chart • Non-productive outputs • Action planning 	45	20-27
10:30	Break			15 min.	28
10:45	UNIDIO RECP methodology - Initial assessment (session 2) <ul style="list-style-type: none"> • Input-/Output Analysis (MFCA) • Innovation and creativity • Monitoring & Controlling • examples 	Class exercise, participant questions	Understand <ul style="list-style-type: none"> • Input Output analysis MFCA • Root-cause analysis • To conduct brainstorming session • Environmental indicator • Monitoring & controlling 	90 min.	29-48
12:15	LUNCH			45 min.	49
13:00	Material management <ul style="list-style-type: none"> • Non productive material output • Material efficiency assessment (waste assessment) • Improvement options • examples 	Class exercise, participant questions Group work	Understand <ul style="list-style-type: none"> • Types of material (raw, auxiliary) • Why and where are materials used • Quantities and costs • Hazardous materials • Types of wastes and quantities 	45 min.	50-56
13:45	Chemical management	Class	Understand	30 min.	57-64

	content	Means of evaluation	Learning activities	Duration (minutes)	Slides
	<ul style="list-style-type: none"> Chemicals assessment Risk assessment Material safety data Improvement options examples 	exercise, participant questions Group work	<ul style="list-style-type: none"> Chemical risks Chemical risk assessment Quantities and costs Hazardous chemicals Replacement and reduction options Required Personal protective equipment 		
14:15	Break			15 min.	65
14:30	Water efficiency <ul style="list-style-type: none"> Water assessment Data collection Basic measurements Improvement options examples 	Class exercise, participant questions Group work	Understand <ul style="list-style-type: none"> Why is water used in the process How much water is used What are the costs for water usage What is the impact of wastewater discharge 	45 min.	66-70
15:15	Feasibility and environmental programme <ul style="list-style-type: none"> Option typology Evaluation process - technical-economic-environmental Feasibility and profitability Action plan Continuous improvement 	Class exercise, participant questions	Understand <ul style="list-style-type: none"> How to calculate and analyse feasibility of options How to establish acting plans Continuous improvement - monitor and control of improvement activities For industries and technical consultants: Homework <ul style="list-style-type: none"> introduction to report template Planning RECP assessments 	45 min.	71-81 82-85
16:00	Closing				

The team which delivered sessions during the training are as underlisted.

S/N	NAME	DESIGNATION
1.	Mr. Oladipo Jacob	Project Coordinator, PMU GEF-UNIDO IEE-RECP Project
2.	Mr. Michael Fegerl	RECP International Consultant
3.	Mr. Alf Hartzenburg	IEE International Consultant
4.	Mr. Chukwudubem Anyadiegwu	RECP National Consultant
5.	Mrs. Clara Nwamaraihe	Program Administrative Assistant, PMU GEF-UNIDO IEE-RECP PROJECT
6.	Mrs. Oluyinka Omojolaibi	Representing Technical Coordinator, PMU GEF-UNIDO IEE-RECP PROJECT

4. PARTICIPANTS' PROFILE

The training participant comprised of stakeholders (8% female and 92% male) from textile, tanning, food processing industry and from academia. List of attendants of the training are captured in Annex 1.

5. WORKSHOP PROCEEDINGS

The day began at 9:03am with opening remarks and welcome address by the Project Coordinator, Mr. Oladipo Jacob. This was then followed by a semi-interactive session introducing the RECP International Consultant, Resource Efficient and Cleaner Production, their standards, case studies and an overview of industrial waste management. This gave the participants the necessary information about the project and the implementing partners with the view to have a clear understanding of the project concept.

SESSION: TRAINING ON RECP METHODOLOGIES/ISO14000 SERIES

The session began with the consultant giving the international project team and his experience of over 30 years in the RECP field. The RECP methodology and ISO 14001 - Environmental Management Systems (EMS) was introduced by the consultant, covering Sustainable Development Goals and emphasized the significance of SDG 9 and SDG 12 in the field of RECP, challenges to RECP and expectations from enhancing RECP and strengthening environmental regulatory frameworks in Nigeria.

The expert also iterated the focus of reporting ESG in 3 key areas (Governance, Environmental and Social) and the type of questions stakeholders typically ask with regards to this. To answer the questions he stated that ISO14001 is used. He also stated the UNIDO-RECP methodologies

and the basics that can be used. These toolkits focus on analysis and assessment of companies to find out most efficient output.

The consultant also spoke on RECP approach towards green industry production and RECP benefits for companies with some UNIDO experience with regards to RECP and input/output analysis on company level. A fishbone diagram was used to identify/show root causes and options.

Also, the facilitator stated that an Environmental Programme can be created to show management of companies and how to follow RECP. And the evaluation process should be followed because it is important got financing and for feasibility of an investment project an action plan is also required with identified improvement options.

Finally, exercises were carried with participants grouped in order to measure their level of understanding as regards to the concept introduced in the sessions. The activity aimed to help the participants to differentiate between aspects (cause) and impacts (effect) of their activities irrespective of the company or industry. Then a questionnaire that will be used to design RECP (self) assessment workplan was explained to the stakeholders and the completed forms were requested to be sent back to the PMU.

At the end of the session, the following questions were asked by participants.

- When we have materials fed into equipment for production, how can we reduce the time the materials spend in the machine/process?

Response: By redesigning processes so the waste is less and time can be more efficiently spent.

- How cost effective is it to recycle waste and what are the advantages and disadvantages?

Response: It is an individual decision of the company to define the conditions when it is more effective to recycle than to discharge. Therefore, the company needs to consider that it is not about costs but the effect of the wastes on the environment and people, because to fix the environmental issues at hand is more of a global question of how we are living today, because we are already seeing the impact today.

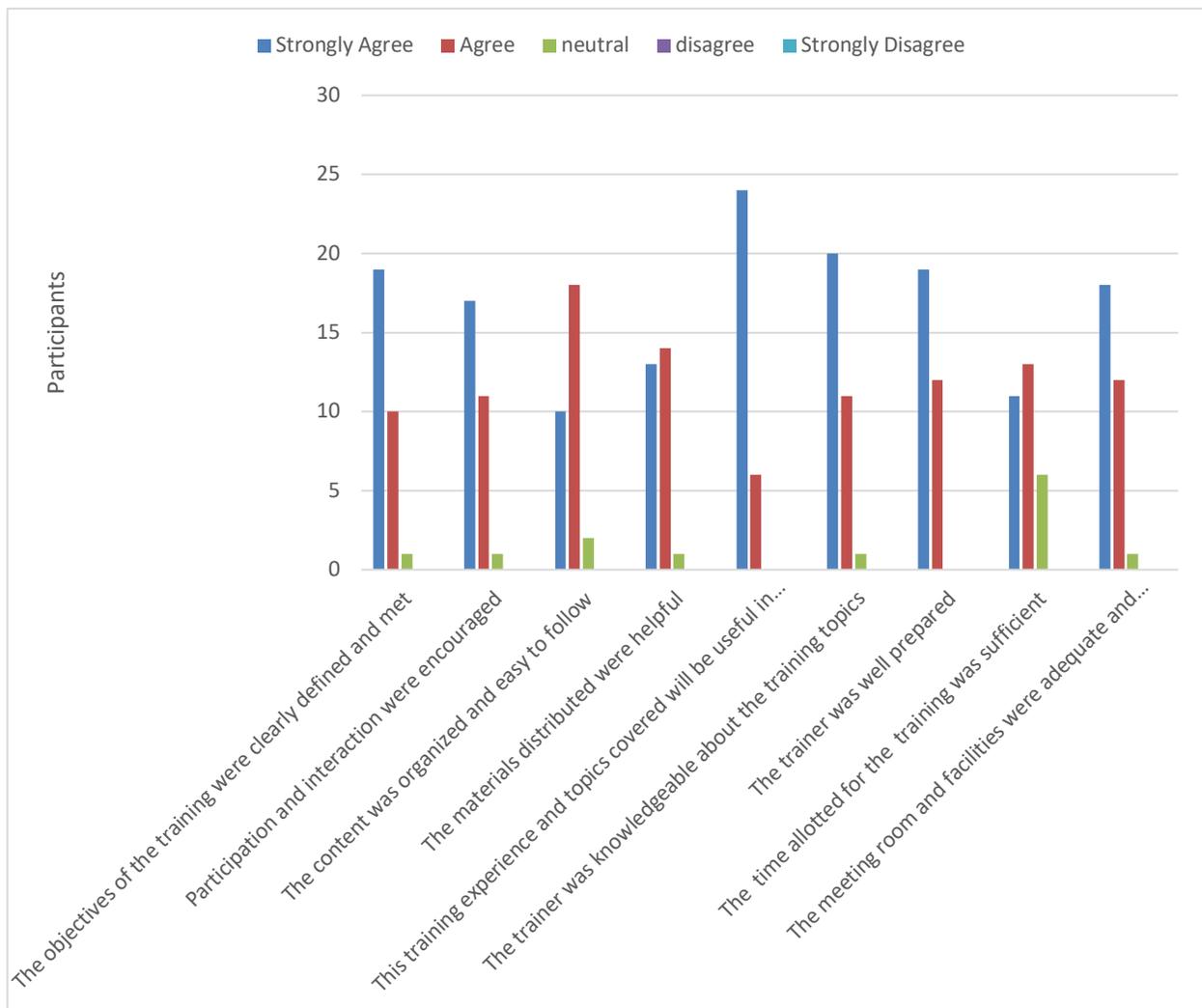
- Does the lecture and information sent via email contain case studies that can be used as an example?

Response: Yes, and the emails have been sent with updated information by PMU secretariat.

Presentation and that future workshops will be more in-depth to cover more information.

6. TRAINING EVALUATION

At the end of each training session, participants were interviewed in order to garner their views, suggestions and feedbacks.



The general feedback of the participants about the training was positive as the majority of the trainees strongly agreed/agreed that the trainers were well prepared, content organized and the objectives of the training were well defined. While sharing their opinion, the participants agreed that participation and interaction were encouraged during the training and the materials distributed were also helpful, coupled with the fact that the facilitators were knowledgeable about the topics. Majority of the participants believed that the training experience and topics covered will be useful in their daily operations.

7. LESSONS LEARNT AND RECOMMENDATIONS

7.1 Lessons learnt and Observations

Participants grasped the concepts and models - RECP, ISO 14001-EMS and IEE-ISO 50001 discussed at the workshop sessions. A key take-away for participants was that the project and consequently integration of RECP methodologies will result in industries optimizing production cost and profit.

Based on feedback from participants and observations made during the sessions, the following are recommended.

- i. There is need for more practical sessions and more case studies from Nigeria. Actual data should be presented, so that stakeholders can witness the RECP techniques companies have adopted, and if the companies have positive results.
- ii. Increased examples of application to real life production processes.
- iii. There is need for training materials to be shared to allow for post training reference.
- iv. The training experience and transfer of knowledge can be enhanced with breakout sessions into groups for exercises and presentations from groups and discussions. This would also make the training more interactive.
- v. The programme should be given more publicity to create awareness for more people to key into the system.
- vi. Presentations and resource materials should be precise and concise and should contain examples relating more to the Nigerian market.

ANNEX 1: ATTENDANCE LIST

S/N	NAME	GENDER	ORGANIZATION	PHONE NUMBER
1.	SALISU ADAMU	M	AFRICAN TEXTILE MEMPH	07038133411
2.	FELIX OHIWEREI	M	AFRICAN TEXTILE MEMPH	08035960500
3.	FATIMA MUHAMMED	F	NES	08034517799
4.	Adebowale Adejobi	M	MAUDA INDUSTRIES	08035128277
5.	Jude Paulraj	M	UNIQUE LEATHER	09027526605
6.	K T TuLASIKUNAZ	M	UNIQUE LEATHER	09096437055
7.	IBRAHIM TIJA A	M	UNIQUE LEATHER	08033580835
8.	R. RAGHAPATH RAO	M	UNIQUE LEATHER	09015976371
9.	DR. ABDULRASHID U. YERIMA	M	NASIME	07034117711
10.	ENGR. BASHIR INUWA	M	NES	08038748246
11.	CHUKWUDUBEM ANYADIEGWU	M	NATIONAL CONSULTANT (RECP)	08058939646
12.	SIMON TEWALE	M	AFRICAN TESTILE MAN	07093202343
13.	AMINU SALEH ADAMU	M	GB TANNERY LTD	08063434744
14.	SENTOSH KUMAR VONMA	M	POPULAR FARMS	
15.	CHANDER SHEZHER	M	POPULAR FARMS AND MILLS LID	08141337711
16.	JOHN ODEH	M	CB tannery	08060364633
17.	OMAR IMRAN	M	Marshel Biscuits	08039685019
18.	MUSTAPHA BELLO	M	TTL	08066016710
19.	ABDUL ABDUL	M	Tofa textile	08066016710
20.	ABDULLAHI INUSA	M	Tofa textile	07065934274
21.	NASIR FAGGR ISA	M	Crest-Buk	08033173741
22.	ADAMU SHUAIBU	M	ATM Textile	07066411580
23.	SHEHU USMAN KABIR	M	REMASAB	08036448072
24.	MANI DANTALA T.	M	POPULAR FARMS & MILLS LTD	07062371571
25.	ABDULWASIU A. ISIAKA	M	POPULAR FARMS & MILLS LTD	07031274318
26.	ENGR. OYEWOLE AMUDA ASHIAT	M	FMENV	07067986555
27.	IGBA ENDURANCE	F	UMZA IN'L FARMS LTD	08104554968
28.	MUHAMMAD ABDULLAHI	M	UMZA IN'L FARMS LTD	08065897864
29.	ABUBAKAR ILIYASU	M	UMZA IN'L FARMS LTD	07031314940
30.	RABIA SALUHU SA'ID	F	CREST-BUK	08033976393

31.	ENGR. REMY AMOO	M	NASREA	07038370365
32.	LAWAL M. LUKMAN	M	NASREA	07066279214
33.	ENGR. NASIRU A. M	M	NASREA	08039551059
34.	SAMBO MOHAMMED ISA	M	NASREA	08036858137
35.	SHUAIBU MUSA	M	ENVIRONMENT	08034422203
36.	IBRAHIM BABA YAKUBU	M	CREST-BUK	08034547223
37.	DR. SABITU SA'AD PAU	M	SCE – BUK	08065436407
38.	MUAZZAM TIJJANI	M	G.BTANNERYIM	07037784292

ANNEX 2: TEMPLATE OF TRAINING EVALUATION FORMS

IMPROVING NIGERIA'S INDUSTRIAL ENERGY PERFORMANCE AND RESOURCE EFFICIENT CLEANER PRODUCTION THROUGH PROGRAMMATIC APPROACHES AND THE PROMOTION OF INNOVATION IN CLEAN TECHNOLOGY SOLUTIONS

KANO, NIGERIA: JUNE 14, 2023

TRAINING EVALUATION FORM – RECP methodologies

DAY X:

TARGET PARTICIPANT:

SUBJECT MATTER:

This training evaluation is to provide us feedback to help us identify if the training achieved the intended outcomes.

Please indicate your level of agreement with the statements listed below in #1-9.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The objectives of the training were clearly defined and met					
2. Participation and interaction were encouraged					
3. The content was organized and easy to follow					
4. The materials distributed were helpful					
5. This training experience and topics covered will be useful in my practice					
6. The trainer was knowledgeable about the training topics					
7. The trainer was well prepared					
8. The time allotted for the training was sufficient					
9. The meeting room and facilities were adequate and comfortable					

10. How do you envisage to apply the lessons from this training in your practice?

11. What did you like most about the training?
12. What aspects of the training could be improved?
13. Please share other comments or expand on previous responses here

Thank you for your feedback!

ANNEX 3: PICTURES



Plate 1: International Consultant on RECP Introducing the session.



Plate 2: RECP International Consultant Representative during his session on RECP methodologies and EnMS..



Plate3: Stakeholders during the session.



Plate4: International Consultants explaining how to fill questionnaire that will be used to collect information from companies present.



Plate 5: Resource Persons for the NGN-IEE &RECP Project (Representatives from PMU, FMEnv and International Consultant)