

REPORT OF THE INCEPTION WORKSHOP FOR PHASE II OF THE EAST AFRICA DENTAL AMALGAM PHASE-DOWN PROJECT

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Summary

At the invitation of the UNEP Chemicals Branch of the Division Technology, Industry and Economics (DTIE), the Inception Workshop on the Phase II of the East Africa Dental Amalgam Phasedown Project was held on 23rd March 2015 at United Nations Office in Gigiri Nairobi.

It was organized jointly by the Ministries of Environment Water and Natural Resources of Kenya and Health of Kenya, UNEP Regional Office for Africa and the UNEP Chemicals Branch Geneva. Phase II continues the efforts of the East Africa Dental Amalgam Phase down Project funded by the Norway Official Development Assistance (ODA) funding in the period December 2012- Dec 2013. It will build on lessons learnt, expand demonstration activities to additional dental clinics and examine approaches to ensure the sustainability of dental amalgam phase down addressing specific needs for mercury waste management.

The 2012 project created a consortium, under the UNEP Global Mercury Partnership, to investigate the challenges faced by developing countries in implementing the 'phase-down' approach to dental amalgam set out in Article 4 and Annex a Part II of the Minamata Convention on Mercury. Project partners included the governments of Kenya, Uganda and Tanzania and their national dental associations; the World Dental Federation (FDI); the International Association of Dental Manufacturers (IDM) and iLima, a non-governmental organization based in Kenya, Nairobi . It was managed by UNEP Chemicals Branch and WHO Oral Health Programme.

On the outputs in Phase I, a total of 196 dental personnel benefitted from capacity building and training activities in the three countries. Training topics included hazards of mercury; oral health promotion and clinical preventive dentistry, promotion of alternatives, and environmentally sound management (ESM) of waste. Awareness raising materials were developed by WHO and UNEP.

Three dental amalgam separators were installed in three dental care facilities (one government, one private, and one academic institution) in each country. In total 9 dental separators were provided by the International Dental Manufacturers and the Dental Recycling North America

The Inception workshop for Phase II featured presentations on the project implementation. Elaboration on how Phase II of the project will expand and build upon the Phase I were given by experts from UNEP Chemicals Branch, WHO, and FDI. Activities to include: continuing to gather information on the current supply and trade of dental amalgam and alternative materials and making recommendations for future information systems, as well as continuing capacity building and training on oral health promotion. Emphasis will be placed on waste management and other provisions set out in Annex A part II of the Minamata Convention: awareness raising for preventive dental care; encouraging a switch to appropriate alternatives when clinically indicated among dentists and patients and demonstrating the implementation and operation of an environmentally sound management of the wastes.

Each country developed an action plan which will form the basis of Phase II.

It was recommended that coordinators from each country will revise their work plans and submit by the first week of April.

ACRONYMS

BMP	Best Management Practice
DA	Dental Amalgam
DRNA	Dental Recycling North America
EADP	East Africa Dental Project
ESM	Environmentally Sound Management
FDI	Federation of Dental Institutions
GMP	Global Mercury Partnership
MUHAS	Muhubiri University of Health and Science
IADR	International Association of Dental Research
IDM	International Dental Manufacturers
INC5	5 th Session of the Intergovernmental Negotiating Committee
ITC	Information Technology
KDA	Kenya Dental Association
MEMR.	Ministry of Environment and Mineral Resources
NEMA	National Environment Management Authority
NDA	National Dental Associations
SAICM	Strategic Approach to International Chemicals Management
SSFA	Small Scale Funding Agreement
TOT	Trainer of Trainers
TDA	Tanzania Dental Association
UDA	Uganda Dental Association
UNEP	United Nations Environment Programme
WFPHA	World Federation for Public Health Associations
WHO	World Health Organization

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I. Welcome and Opening

1. At the invitation of the UNEP Chemicals Branch of the Division Technology, Industry and Economics (DTIE), the Inception Workshop on the Phase II of the East Africa Dental Amalgam Phasedown Project was held on 23rd March 2015 at United Nations Office in Gigiri Nairobi.
2. The inception Workshop is for Phase II of the East African Dental Amalgam Phase down Project which continues the initiatives of its first phase. Implemented in 2012-2013 Phase II continues to be funded by the Norway Official Development Assistance It will build on lessons of Phase I, expand demonstration activities to additional dental clinics and examine approaches to ensure the sustainability of dental amalgam phase down specifically the needs for a mercury waste management from dental amalgam activities.
3. It was organized jointly by the Ministries of Environment Water and Natural Resources of Kenya and Health of Kenya, UNEP Regional Office for Africa and the UNEP Chemicals Branch, Geneva.
4. The workshop was attended by 32 participants from Kenya, Tanzania, Uganda, UNEP chemicals, UNEP Regional Office of Africa, World Health Organization and the Federation of Dental International. The list of participants is Annex 1.

Opening Ceremony

5. Opening and welcoming remarks were made by Prof. Abdurahman Bary on behalf of the Director UNEP Regional Office for Africa based in Nairobi, Kenya. He observed that the project was a good start for the implementation of the Minamata Convention on Mercury and for Africa a good demonstration of addressing the objectives of the Libreville Declaration on linkages between health and environment in Africa.
6. Dr. Desiree Narvaez Programme officer UNEP Chemicals on behalf of the UNEP Chemicals in her welcoming remarks said that the phase I of the project and the inception workshop was due to the generous donation from the government of Norway. Norway will also fund Phase II. The amalgam separators used in the project were provided by the International Dental Manufacturers (IDM) and Dental Recycling North America (DRNA). They were installed at three sites each in Kenya, Uganda and Tanzania, a total of nine (9) separators.
7. Talking about the project in the context of the Global Mercury Partnership Dr. Narvaez added that the project aims to facilitate ratification and early implementation of the Minamata Convention on Mercury. In this regard UNEP Global Mercury Partnership developed guidance materials; information gathering exchange, advocacy, awareness raising, national and regional planning and promoting amalgam phase-down. The focus on dental amalgam is because a significant amount of mercury is released from the use of dental amalgam as a direct result of unsound waste management practices. The (EADAP) is piloted in Kenya, Tanzania and Uganda.

The three countries were up to speed despite country level administrative challenges. Project activities were implemented and results delivered which form the basis of Phase II.

8. Overall she said the key elements of the project include demonstration of best dental waste management practices for dental restorative materials with focus on engagement of local waste companies. The project includes a business plan to increase the local market for alternative dental materials incorporating ISO 9000 standards.
9. The expected output of the project is that a report of lessons learned would be made providing recommendations for promoting the 'phase down' approach in developing countries. It will include process analysis and public awareness on dental amalgam phase down by the general public and policy makers including insurance providers.
10. In his opening remarks Dr. Hiroshi Ogawa a dental officer in the World Health Organization on its behalf thanked UNEP for the cooperation of UNEP and WHO in the areas promoting oral health. Since 2009, WHO collaboration with UNEP has highlighted the future use of materials for dental restoration. Strengthening of disease prevention and health promotion was identified as the most relevant and effective approach to reduce the need for restorative care. It was found that it is prudent to consider "phasing down" instead of "phasing out" dental amalgam at this early stage of addressing risks posed by mercury to human health and the environment.
11. The phasedown approach promotes Best Management Practice (BMP) incorporating preventive care along with the research and development of quality alternative materials for dental restoration. WHO promotes best practices on oral health as the ultimate non chemical alternative to Dental Amalgam (DA). He reiterated WHO's support for the phase down approach.
12. Dr. Richard Lesiyampe, Principal Secretary of the Ministry of Environment, Water and Natural Resources, in a statement delivered by Francis Mr. Kihumba, Coordinator SAICM at the Ministry noted that the Phase 1 project was important in that it initiated the phase down approach in East African region. Because of the project, the East African region now has an idea of the amount of waste that dentists and hospital giving dental services generate and a clear assessment of the methods used in disposal of this hazardous waste. It is important to note that currently the awareness for this waste is not yet good enough and the disposal methods are not environmentally sound or satisfactory at all. Therefore all communities need to do something about it. Fortunately due to the awareness created by projects such as this one, the manner in which health care waste is being addressed is changing and specifically for the mercury in dental amalgam.
13. He thanked the Government of Norway, UNEP Chemicals, WHO, IDM, iLima and FDI for extending assistance through this project and recognized the many other stakeholders who

made the first phase a resounding success. Special thanks go to Mathare hospital, private practitioners, waste collectors, regulatory agencies and many staff involved in phase I.

14. He added that Phase I showed that oral health strategies and the Minamata Convention on Mercury can very well complement one another. The Kenyan strategic plan on health care wastes proposed to have many related activities. They include train the trainer programmes on waste, on the job training for waste handlers who will be trained and retained at the institutions that train them. Environmentally sound disposal methods need to be addressed both for the infectious materials and chemicals like mercury too. In this context Kenya welcomes the second phase II to build on the lessons of the first, open new areas and increase the number of experts that appreciate the risks of mercury in dental amalgam (DA).

II. Minamata Convention and Updates of Global Mercury Partnership

15. Dr. Desiree Narvaez in her introductory remarks on this subject gave a background of the Minamata Convention on Mercury stating that currently it has 120 signatories and 10 parties. All the three project participating countries are signatories and they need to ratify the convention. With the current high number of countries ratifying, the convention could enter into force in 2018 which is important as far as this project is concerned. In fact, according to latest global inventories (2013) DA wastes are the highest sources of mercury to municipal solid wastes and wastewater. It can only be eliminated by reducing its use through introduction of alternatives to dental amalgam. She referred participants to the brochure that was made specifically for phase down of mercury. It contains specific and detailed information on the mandate and objective of UNEP to address the needs of the phasedown.
16. On the Global Mercury Partnership (GMP), she said that at the 22nd Session of the UNEP Governing Council, the GMP was identified to be a vehicle for immediate actions to reduce mercury pollution. Dental amalgam is one category of mercury-added products that is being addressed by the GMP and the restorative materials that contains mercury has been widely used for some 150 years. This use represents more than one-fourth of total global mercury consumption in products or approximately 8% of global mercury consumption.
17. In 2007, an estimated 250-350 metric tons of mercury were used globally in this sector, ultimately entering the environment through the media of air, solid and liquid wastes. More recently, the awareness and recognition of the negative health and environmental implications of mercury have increased resulting in the need for development and use of alternative materials making dental restoration increasingly important.

III. Overall Project Objectives

18. On the review of Phase I, Dr. Narvaez led the workshop on reviewing the objectives of the phase I of the project. She said that the overall objective of the EADAP project is to explore essential conditions for a phase down in the use of dental amalgam. Its sub objectives are:
 - Investigate the current supply and trade of dental amalgam and alternative materials to amalgam
 - Make recommendations for future information systems.
 - Create awareness of preventive dental care,
 - Encourage a switch to appropriate alternatives to dental amalgam, when clinically indicated, among dentists and patients,
 - Assess the current waste management practices in the three East African countries.
 - Demonstrate environmentally sound management of dental restoration materials waste in selected dental facilities in the three countries.

19. Through these objectives, Phase I addressed those stages of the life-cycle of dental amalgam pertinent to UNEP's mandate in particular its potential for environmental release during trade and supply; its environmental release from dental clinics, and its environmentally sound management as waste which continue to be important.

20. The Project created a consortium, under the UNEP Global Mercury Partnership, to investigate the challenges faced by developing countries in implementing the 'phase-down' approach to dental amalgam getting collaboration between the health and environment sectors. As an alternate partner, WHO addresses strengthening oral health promotion and disease prevention through awareness raising in clinical dental care; introducing available alternatives for dental restoration.

IV. Results

21. Summarizing the Phase I of the project, the following results were revealed:
 - National trade and waste surveys that showed that most of dental restoration materials are imported but exact importation data is not available.
 - Alternatives to dental amalgam are available but some dentists still demand dental amalgam.
 - Suppliers to East African region are from China, US, Australia, Turkey, Iran, Germany and India.
 - Dental amalgam is readily available in encapsulated form and most dentists use this form.

- National hazardous wastes legislations are in place but enforcement is lacking.
 - Kenya and Uganda have hazardous wastes treatment facilities that could serve as temporary storage for dental amalgam and other mercury waste. Tanzania does not. It is currently mixing its hazardous wastes with general wastes.
 - Trade study of dental amalgam and its alternatives as well as survey of dental amalgam waste management practices.
22. The successes and gains of Phase I resulted in positive consideration by the donor for extension to a second phase. It will be implemented again through partnership of UNEP Chemicals and WHO Oral Health Programme and the institutions and governments of the three states.

V. Objectives of Phase II and Inception Workshop

23. Introducing elements of the second phase of the project, Dr. Narvaez summarized the objectives of the phase II as primarily to expand and continue the initiatives of phase I, building on the successes and lessons learned. It will expand demonstration activities through additional dental clinics, examining approaches to ensure the sustainability of dental amalgam phase down. The key activity will be addressing specific needs for mercury waste management.
24. On the future of the extension she indicated that the present inception workshop will inform participants about the results of EADAP phase I, reflect on lessons learned and good practices for replicability, challenges and opportunities, and how risks were managed in the project.

WHO Programme on Oral Health Promotion and Dental Restoration

25. Dr. Hiroshi Ogawa presented the WHO's approach of promoting the phase down of dental amalgam. The presentation covered aspects of oral health promotion, dental caries prevention and dental restoration. He recommended the utilization of the results of phase I and reiterated the lessons learnt which led to the need for further related activities including training and education of dental practitioners and related professionals and promotion of information system.

26. Within WHO, oral programmes are being tailored to be in tandem with the Minamata Convention on mercury. They include educational programmes including undergraduate training which gives theoretical and clinical education; postgraduate/university teacher training that emphasizes training principles and planning of dental student programmes. It also includes organization of patient-based dental care and provision of evidence based information. It includes access to scientific systems and material through internet and continuing education programmes. The structure of training programmes, patient-based dental care, use of dental restorative materials, patient and third-party payment and availability of didactic material is helping to tackle the barriers towards optimal dental care.

Health Insurance Programme

27. Dr. Ogawa spoke at length on the insurance programme covering the third-party payment systems. In this system majority of countries having third-party payment systems dental schemes do not yet recognize the use of alternative materials. Use of these materials for restoration of tooth structure is more expensive to consumers than dental amalgam. In the vast majority of low- and middle-income countries, the use of dental amalgam remains the preferred material for dental fillings or build-up material as alternative materials are currently far too expensive for people and society. Dental restoration is expensive and often leads to tooth extraction in the case of dental pain or discomfort.
28. In the ensuing discussion, it was generally agreed that in order to effectively switch from use of dental amalgam to non-amalgam materials, health insurance companies/parties will need to be involved in the process. This will entail having reimbursement mechanisms giving higher economic support to patient applying for the use of non-amalgam material.

Health and Environmental Information Systems

29. This topic covered approaches to getting information on supply and trade, procurement chain, use of dental restoration materials and waste management.

The workshop discussed the various sources of information from health and oral health players. In conclusion it was agreed that:

- Global model for information systems should be developed for all countries to adopt;
- Global information systems and the initial data collection will be essential for measuring and documentation of accomplishment of global reduction in mercury from dental care;
- A multi-pronged approach with short-, medium- and long-term strategies should also be considered.

VI. Milestones and Outputs

30. Country experts from Kenya, Tanzania and Uganda involved in the implementation of the EADP phase I project outputs shared their experiences on supply and trade of dental amalgam and materials alternative to amalgam and recommendations for future information systems, awareness raising activities and capacity building/ training activities, and environmentally sound waste management.
31. Each presenter highlighted that their country participated at the Project Inception workshop conducted in Nairobi Kenya, Dec 2012; project coordinators participated in training of trainers workshops conducted in March 2013 in Kampala, Uganda; the results workshop held in Dares Salaam and the stakeholder workshop held in each country's capital. Each presentation covered background, institutional arrangements, interagency stakeholder meetings of pilot clinics, survey of trade flows and waste management practices, training of dental personnel on oral health promotion and preventive dentistry, BMP, environmentally sound management of dental and amalgam waste and awareness raising activities.

Uganda

32. Mr. Alex Mwinyi of National Environmental Management Authority NEMA presented the implementation in Uganda. NEMA which is a semi-autonomous organization under the Ministry of Water and Environment led in the implementation. It is charged with coordination, supervision, monitoring, and enforcement of all activities related to environment in Uganda. Chemicals management (including mercury) is its mandate. It collaborated with Uganda Dental Association (UDA) from which NEMA selected two project coordinators: one from NEMA and the other from UDA. Aside from presenting the background in paragraph 31 he said that the key activities were:
 - Collection and validation of trade data on dental amalgam trade data and wastes management practices.
 - Stakeholder meetings/workshops which were used to sensitize and inform stakeholders about the project. They included the training of trainers to impart skills to selected practitioners and technicians and to provide training to stakeholders.
 - Selection of three demonstration sites namely at the University/teaching hospital (Mulago Dentistry Training School), private clinic (M/s Jubilee Dental Clinic) and Private hospital-not for profit hospital (Mengo Church of Uganda-founded) and
 - Installation of dental amalgam waste separators at selected demonstration sites.

33. The outcomes of Uganda's implementation phase were shared with stakeholders at the results workshop in Dar es Salaam, Tanzania where findings, challenges and project implementation experiences were presented. He also presented the challenges which included:
- Late start to implementation
 - Limited funds as there were no matching funds from the institutions.
 - Concern on Phase-down of dental amalgam
 - The use of the more expensive alternative dental materials.
 - Cost of the alternative dental materials which may discourage the poor citizens from seeking dental treatment.
 - The lack of a national recycling facility for dental amalgam waste, emphasize by NEMA which – doubts on feasibility of recycling plant due to few dental clinics and low volume of DA wastes.
 - How to change dental practitioner's behavior to follow BMP.
 - The workshop made observations and conclusions which are valid for all the countries

Tanzania

34. The presentation for Tanzania was made by Prof. Febrona Kahabuka from the Muhimbili University of Health and Allied Sciences (MUHAS), School of Dentistry in collaboration with Vice President's Office Division of Environment; Ministry of Health and Social Welfare; Government Chemist and Laboratory Agency (GCLA) and the Tanzania Dental Association. The project followed the initial activities highlighted in paragraph 31. The key activities were
- i. Training of trainers-three trainers (two dental surgeons and one technician).
 - ii. Validated results of country dental amalgam trade data and waste management practices.
 - iii. Three (3) amalgam separators were installed at the three demonstrations sites.
 - iv. Trained dental health staff at the three demonstration sites. These include dental surgeons, dental officers, administrative staff, and chair side assistants.
 - v. Created awareness among stakeholders (communities, dentists, technicians, trainers and policy makers. One workshop was held.
 - vi. Printed and distributed dental awareness materials developed by WHO, FDI and IDM to dentists, dental aides and clinics - total of 9034 flyers and 6300 posters/article in Uganda Dental Journal.
 - vii. Demonstration of best practices in the environmentally sound management of dental amalgam waste was made which included source reduction and use of dental amalgam separators.

- viii. Collection of wastes; take back of contaminated capsules by manufacturers/recyclers and on-site storage.

As there were no treatment facilities and therefore treatment of contaminated sludge was not done.

Key results of the project were presented at Tanzania Dental Association (TDA) Conference and Regular symposium. There were regular supervisory visits to all the three cities and a summary of the project was published in the World Federation for Public Health Associations (WFPHA) newsletter.

35. In the ensuing discussion challenges highlighted included
- i. The fact that project was of short duration,
 - ii. It had minimal coverage (DSM only)
 - iii. Lack of lack of chlorine free antiseptic to flush the dental units.
 - iv. It was difficult to organize training workshops on working days.
 - v. In order to ensure that all staffs and students were trained at MUHAS, additional training workshops were organized and conducted during public holidays but also during the regular symposium timetable.
36. For Tanzania the lessons learnt included the following:
- Coordination and collaboration of different stakeholders facilitated the project implementation
 - It is possible to practice best management of amalgam waste in the country to reduce environmental pollution with mercury through training of dental practitioners.
 - Due to the high cost of separators, a sustainable usage of amalgam separators in the selected clinics and other clinics is questionable
 - Untimely release of funds caused a lot of hurdle and also delays in accomplishing the planned objectives.
 - She concluded that in broad terms, the Tanzania's part of project was successful.

Kenya

37. The Kenya project was presented by Dr. Kisumbi of the University of Nairobi. She also included the background information as in paragraph 31 for Kenya. In broad terms the activities in Kenya included the following:
- Descriptive cross-sectional survey monkey
 - On-line questionnaires response rate was low 6.5%. This gave a response rate of Kenya 8.5% as compared to Uganda's 1.7% and Tanzania's 7.9%.
 - The baseline study findings showed extraction as the most common with 59.9%.
 - Majority dentists used capsulated amalgam (23,92%) in Kenya, and use was reported as common in Uganda.

- One in ten dentists in Kenya, a sizeable number in Uganda used elemental mercury and alloy powder.
38. From the project implementation dental amalgam handling key observations included the following:
- the use of capsulated amalgam concern about 88% of dentists
 - Mercury liquid and alloy mixing devices are still used (4,12%).
 - Less than half (11, 44%) had containers designated for waste dental amalgam.
 - A stakeholder’s workshop was held on 29th October 2013 at Kenya Institute of Education in which 56 participants attended.
 - Training entailed education on the Minamata, training of trainers, group discussion

Outputs

39. Project facilitated countries’ (especially the dentists’) understanding of mercury-added products as stipulated in the Minamata Convention:
40. Dentists are grateful for the training on the elements of “dental amalgam phase-down” and suggest to expand training to benefit other dentists.

VII. Health and Environmental Information Systems

41. Fadil Elamin, Member of the Public Health Committee and Dental Materials Task Team presented on behalf of FDI, World Dental Federation. Stressing its role in Phase I which included primarily advocacy for an amalgam phase-down. This global advocacy is encouraging adequate waste management system; support to National Dental Associations (NDA); support NDA in understanding the Minamata Convention and support dentists to shift to alternative materials.
42. Experience in several countries indicated that dental amalgam is still widely used. The choice of materials for dental caries management in these countries depends on a number of factors such as: the tooth, site and size of the caries lesion, as well as healthcare provision and financing, patient preference, health care provider preference, technology, cost and environmental factors. Following a review of existing evidence and much deliberation, the meeting recognized the huge challenges faced in dental restoration, disease prevention and oral health promotion globally. She said that all currently existing methods and materials to manage dental caries would need to remain available to the dental profession in the short- and medium-terms.
43. FDI had resource materials that provide FDI members, NDA, with the necessary knowledge concerning the Minamata Convention on Mercury for their meetings with

politicians, government officials, the media and other stakeholders. They also raise awareness of dentists towards their responsibility in ensuring that health and environment are protected through safe handling practices and advise NDA about the obligations and opportunities for the dental sector derived from the commitments and provisions of the Minamata Convention on Mercury.

44. He anticipated that FDI could assist in Phase II. He highlight the Oral Health Observatory Objectives which include using tablets and an android-based application to perform surveys and collect data on dentists practices; oral health status; oral health and quality of life and amalgam/composites uses. FDI is ready to advocate for oral health and to support oral health decisions makers. Already FDI has 3 pilots' projects in Netherlands, Germany, and Mexico

Developing a Business Plan

Pam Clark from dental manufacturers association presented on this topic.

42. She opened her remarks by noting that the challenge in the phase II of the project will be to have a continuity of building on achievements of phase I. According to manufacturers the global dental assessment is that the phase down of dental amalgam needs to be approached with a business plan as most manufacturers will supply responding to consumer demand. Currently the demand on DA is higher but introduction of alternatives is progressing with manufacturers trying to get the most universally acceptable alternatives.
42. On the ensuing discussion she suggested that in the phasedown approach stakeholders should use quality management systems of the systems that best works for the facilities. She suggested that amalgam assessment activities should also include where they are coming from. That way it is easy to decide on what to do with wastes. It is necessary therefore to ensure that the collection, treatment and disposal follows local regulations and are fully recorded at every stage of the life cycle management of this waste. It should be treated nearest to the points of generation or sent to a country with waste management capabilities and with best waste management practices.
43. Restorative materials are desirable from an environmental health perspective; a progressive move away from dental amalgam would be dependent on adequate quality of these materials. In her opinion the quality of such materials need to be further improved for use in public health care. For this reason WHO and UNEP are initiating demonstration projects to phase down dental amalgam to strengthen oral health promotion and disease prevention which includes "Phase down" instead of "Phasing out" as proposed by Prof. Poul Erik Petersen, WHO Oral Health Consultant and WHOCC University:
 - Research and development of quality alternative materials
 - Environmentally sound management of waste in dental clinics

- Promotion of measures to reduce releases during trade and supply as well as from dental clinics
 - Traders stock and sell mostly capsulated but some still provide liquid mercury and alloy powder. The need and demand for DA still exists in different regions of the world. The priorities include: an analysis and development of university training programmes on restorative and preventive dentistry within dental schools in Kenya, Tanzania and Uganda.
42. For DA she stated that most companies that are recycling DA are also having interim facilities for the storage of waste and are also recycling the renewable such as metals and paper separators come in different sophistications and complexities. There are also fully automated electronic ones. These can be too sophisticated for some markets. She spoke about shipping the containers with waste. There are procedures, containers need to be locked and sealed.

Result Oriented Business Plan

43. Pam Clark discussed at length the logistics of procurement, use and disposal of dental amalgam. The time scale is of critical importance, how long it takes to fill up the containers, how long the users will wait for its removal will also influence time and budget. It is therefore critical to keep records to show planned targets, how the stakeholders were engaged to ensure that the business plan suits individual country's situations.
44. The business plan should also show the benefits of alternatives emphasizing the balance between addressing the convention, health and environmental concerns. Some participants suggested that the phasedown should be approached right at the source. Some enquired whether the manufactures could stop the manufacture of mercury products. It was concluded that it was more on the demand side and there is currently more demand for dental amalgam.
45. In the following discussion, it was noted that clinics are improving the standards of mercury amalgam management. Such as in the areas where capsules are stored after use. In many cases dentists have voluntarily reduced use of Mercury.

VIII. General Discussion of Phase I

46. Participants also shared experiences. In West Africa some doctors have their own separators. For example, in Burkina Faso they are building a special facility for dumping the waste while many other countries have interim facilities. Some of the countries participating in phase I noted that there is high resistance to the phase out. Stakeholders in these countries need to be included to appreciate and embrace the phasedown.

Cost of Alternatives versus Dental Amalgam

47. The critical question participants wanted answers to was, who bears the cost of the phasedown, as in their perception and experience the cost of alternatives is too high. Dentistry is expensive business for most stakeholders and any incentives are welcome in order to meet the objectives of the Minamata convention on mercury.
48. There was extensive and intense discussion on the cost of DA versus the alternatives. Some people felt that the difference in cost was not too high. For example it is US\$2 in public facility but when you go to private the difference could be up to US\$7. Because of this difference some doctors are now explaining to patients the risk and benefits of each product. However, the important thing to note is that even those dentists and their patients are not trained to use alternatives in order to have a fair judgment. Some experts felt that the two issues of amalgam and alternatives are being misunderstood. Currently, there is no appreciable impact on the dentist and the patients should not be scared unduly. That is why the dissemination of right information is necessary. The following points summarized the discussion:
- separators are not sustainable
 - demand for DA is still high
 - components are not good enough
 - the phase down project need to be strengthened
 - Training and education of dental professionals

Summary of wishes for Phase II

42. The overall discussion can be summarized in the following points. States should engage the importers/suppliers of alternatives with a view to getting latest information
1. Strengthen local access to the supply chain
 2. The need to expand the education program for the dental sector to address DA
 3. Promote the involvement of policy makers
 4. There is a need to convince dentists or provide incentives to embrace oral health, phasedown and alternatives
 5. Each country should create a mechanism to receive support from phasedown approach partners

6. It is important that all mercury sorted should be quantified
7. All project beneficiaries should endeavor to develop awareness materials
8. Promote the use of the insurance scheme to play a bigger role in the phase down.

IX. EADAP II Project Objectives

56. Introducing the phase of the project, Dr. Desiree Narvaez presented the proposed objectives; activities and methodology/design of EADAP phase II drawing input from the participants on how to efficiently meet the objectives. In addition, national project coordinators identified from Phase I were requested to present plans for project sustainability.
57. The objectives are:
 - Phasing down dental amalgam project phase 2
 - Continue awareness raising of preventive dental care and encourage a switch to appropriate alternatives, when clinically indicated, among dentists and patients.
 - Continue capacity building and training on oral health promotion, waste management and other provisions as set out in Annex A part II of the Minamata Convention.
58. The workshop setting facilitated the discussion for each country's objectives, as they are built on countries outputs of Phase I and presentations from the experts. Each country formed a group which discussed the specific objectives, expected outputs, activities and time frame.
59. The workshop was informed that US\$30,000 was available for each country and each country devised how it will be done. They also shared the responsibilities among its key stakeholders

X. Observations

Feedback from participants emphasized the following:

- i. Conventional ways of mixing the amalgam have over time changed and new technologies of mixing to reduce exposure to mercury have been introduced. These need to be studied to find out how they can help to reduce the impacts of mercury exposure.
- ii. Medical waste containing mercury has been handled like any other medical waste through disposal by incineration and other methods like landfilling. There is need to undertake further studies/research on other technologies for separation of amalgam other than the use of separators because they are not easily affordable.
- iii. Development of awareness raising materials on available alternatives for dental restoration
- iv. Project facilitated countries' (especially the dentists') understanding of mercury-added products as stipulated in the Minamata Convention.

- v. Dentists are grateful for the training on the elements of “dental amalgam phase-down” and suggest to expand training to benefit other dentists.
 - vi. Dentists are concerned about the limitations of alternatives such as higher cost, less strength and more time needed for dental filling procedures compared to dental amalgam.
 - vii. The general public is made aware about oral health promotion and disease prevention but awareness needs to be strengthened.
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- viii. Continue to gather information on the current supply and trade of dental amalgam and alternative materials and make recommendations for future information systems.

Proposed Activities:

43. Each of the states summarized the activities to be carried out in the second phase. They include
- i. Data and information collection on dental restorative materials (amalgam and alternatives) and waste practices
 - ii. Awareness raising (general public and policymakers)
 - iii. Capacity building/training on dental amalgam phase down (oral health and ESM of dental waste)
 - iv. Installation of dental amalgam separators in more health care facilities to capture mercury and keep it out of the environment
 - v. Increase local market for alternatives
 - vi. Enhance local ownership of project for sustainability.
 - vii. Create a Subpage for EADAPD 2 in the MIA website

Action specific to countries

44. On the continuation of activities initiated in Phase I it was the following comments were made:
- i. Uganda noted that it is developing waste management guidelines and that it would procure waste bins for clinics
 - ii. Tanzania will be shipping their separators to US.
 - iii. FDI will endeavor to assist all the three states if requested.
 - iv. Tanzania will complete its business plan.
 - v. The key players as in phase I form a consortium in phase II.
 - vi. Each country should then develop a small scale funding agreement (SSFA).
 - vii. Each country selects and institution to manage this SSFA.
 - viii. Countries mentioned the institutions for implementing phase II. For Uganda it would continue to be NEMA, Kenya, Ministry of Environment and in Tanzania, the vice president’s office.
 - ix. To kick start activities, countries are invited to submit a more detailed action plan before the Easter week.

XI. Annexes

AGENDA

Time	Item	Responsible
8:00- 8:30	Registration	UNEP ROA
8:30-9:00	Welcome and opening; introduction of participants	Kenya Ministry of Environment and Mineral Resources and Ministry of Health
9:00-9:20	Updates on Global Mercury Partnership; Minamata Convention on Mercury	UNEP Chemicals
9:20-9:40	WHO Programme on Oral Health Promotion and Dental Restoration ;	WHO Oral Health Programme
9:40-11:00	<p>Project milestones and outputs:</p> <ul style="list-style-type: none"> • Institutional arrangements; interagency/stakeholder meetings • selection of pilot clinics • survey of trade flows and waste management practices • training of dental personnel on oral health promotion, clinical preventive dentistry, the best management practices (BMP) / environmentally sound management (ESM) of waste (amalgam and its alternatives) • environmentally sound management of dental waste • awareness raising activities <p>Lessons learned, challenges and opportunities, recommendations</p>	National project coordinators or representatives of Kenya, Tanzania, Uganda, National dental associations, iLima and other dental NGOs, FDI, IDM
11:00- 11:20	Coffee Break	
11:20- 11:40	Health and Environment Information Systems (supply and trade, procurement chain, use of	FDI

	dental restoration materials, waste management)	
11:40-12:00	Developing a business plan (gap analysis, ISO 1400, increasing local market for alternatives)	IDM
12.00-12:20	Training and education of dental professionals	WHO Oral Health Programme
12:20-12:40	Country Case Studies: Best Practices on Dental Amalgam Phase Down Strategies	Mercury Policy Project
12.40-13:00	EADAP II presentation of project objectives, methodology and design; open discussion	UNEP Chemicals and all participants
13.00-14.00	Lunch	
14.00-15.30	Planning workshop (business plan, strategies, activities, budget)	
15.30-16:00	Break	
16.00-18:00	Presentation by country and open discussion	All participants
18:00	Closure	UNEP, WHO

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PHOTOS AT THE INCEPTION WORKSHOP



Participants during the inception workshop



Group photograph at the inception workshop