

**THE SECOND ANNUAL MEETING OF THE
INTERNATIONAL NETWORK TO PROMOTE HOUSEHOLD
WATER TREATMENT AND SAFE STORAGE**

**Nairobi, Kenya
14-15 June 2004**

Meeting Notes

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1. Summary

The principal objective of the 2nd Annual Meeting of the International Network to Promote Household Water Treatment and Safe Storage (the Network), 14-15 June, Nairobi, Kenya was to develop an operational plan to advance the Network towards its agreed strategic goals as outlined in the Draft Strategic Plan. The meeting built on the groundwork laid by a preliminary meeting in Geneva, the 1st Annual Meeting in Washington DC, the on-going contributions to the Network by its members, and by the work of members in their individual capacities.

Participants agreed to a number of specific activities related to four working groups (advocacy, communications, implementation and research), drawing on background discussion documents, presentations, and dialogue in plenary and in breakout sessions. Prioritized activities included establishing a website and other communication tools, which would feature material on household water management actors, implementation activities, research activities and priorities, and household water treatment and storage technologies. In this regard, it was agreed that polling members through an integrated survey (cutting across all working groups) would be a key near-term task. With regards to advocacy, it was felt important to engage with appropriate policy-makers and practitioners in a systematic and targeted way and to expand membership to developing country institutions and organizations. In addition to establishing web-based tools to facilitate information-sharing on technology options, the implementation group emphasized their role to coordinate activities between Network members to seek program implementation of household water interventions in several countries. The group would provide support by developing various tools to guide implementation. The research group agreed to further refine the research agenda, undertake an inventory of existing research, expand outreach to Southern research institutions, and to consider taking forward work on a substantive integrated research proposal.

It was felt that this meeting, along with the subsequent International Symposium on Household Technologies for Safe Water, 16-17 June, also in Nairobi, were productive meetings that significantly raised the profile of, and built collective momentum on, household water interventions. It was agreed that the next annual meeting of the Network would be hosted by the Asian Institute of Technology, in Bangkok, Thailand. Participants felt it would be worth exploring the possibility of convening a second Symposium meeting back-to-back with the Network meeting, in light of this successful Nairobi experience.

2. Background

Stirred by the potential to improve the health of vulnerable populations through sound point-of-use water management, WHO convened a meeting in Geneva in February 2003 to explore the formation of an international network to promote household water treatment and safe storage solutions to middle- and low-income countries. The participants observed that reaching the targets established under the Millennium Development Goal (MDG) for water would require increased levels of investment and would nonetheless leave large numbers of persons unserved by conventional water supplies. Participants noted that interim measures will be needed as a means of accelerating health gains to these vulnerable populations. After further discussion on the health impact and cost-effectiveness of household water interventions and the potential

benefits offered by multi-sector collaboration at the global level, the participants unanimously agreed to establish an International Network to Promote Household Water Treatment and Safe Storage, to bring together international organizations, governments, NGOs, private sector companies, and international financial institutions to work to improve the health of vulnerable populations through domestic point-of-use water management. They articulated some of the ways in which the Network was anticipated to contribute to improving health, and the activities and initiatives that it would pursue. They also agreed to adopt a simple network structure with Secretariat services provided by the WHO Water, Sanitation and Health Program. The Network was announced at the Third World Water Forum in Kyoto, Japan, on 17 March 2003.

3. Meeting Objectives

The goal of the meeting was to establish the Network's operational plan for the next 12 months, in line with the objectives set forth in our five-year strategy. In this regard, participants were expected to identify a clear set of achievable activities/goals that will be undertaken by Network members in the areas of communications, advocacy, research and implementation over the coming year.

4. Opening Session

Welcome

The Second Annual Meeting of the International Network to Promote Household Water Treatment and Safe Storage (Network) was held at The Norfolk, Nairobi, Kenya on the 14 and 15 June, 2004. Federico Properzi of the World Health Organization (WHO) welcomed attendees and introduced Bruce Gordon who was recently charged with managing secretariat support for the Network. Mr Properzi expressed regrets from Dr. Jamie Bartram, Coordinator, WHO Water, Sanitation and Health Programme and Dr. Peter Eriki, WHO Representative of Kenya, who were unable to attend the meeting.

In prepared remarks read by Mr Properzi, Dr Bartram welcomed meeting participants. He observed that Kenya was a particularly appropriate venue, given the need for improved water security and the presence of ongoing projects underway. While citing the progress made in improving water access over the last decade, Dr Bartram noted that even if the Millennium Development Goal of halving the proportion of people without sustainable access to safe drinking water by 2015 is accomplished, 700 million people will remain unserved. He stressed that these vulnerable populations cannot afford to wait, and that we must be realistic, and understand that economic and political constraints require that we develop alternatives that can be implemented quickly. He drew particular attention to the cost-effectiveness of household interventions, with an overall benefit of up to US\$60 for each US\$1 invested. Dr Bartram underlined the importance of the Network and the opportunity to use the meeting to advance its objectives. He emphasized the need for the Network to develop an achievable operational plan with priorities and deliverables established for the next twelve months. He closed his remarks by urging those present to seize this important opportunity to promote household water treatment and safe storage (HWTS).

Introductory Remarks

Mr Properzi then invited certain participants to make brief introductory remarks. Mr Mansoor Ali, UNICEF, confirmed his organization's support for the Network and emphasized the importance of its mission. He pointed out the particular value of the Network in improving the health and well-being of children, and noted the benefits of

intervening at the family and household level where experience has shown changes to be particularly effective. In focusing on the poor and underserved, the Network has aligned itself with the populations served by UNICEF. Mr Ali stressed the need for combining HWTS with behavioral change, hygiene instruction and improved sanitation. He also emphasized the need to promote handwashing, capacity building and other measures that encourage families to assume responsibility for their own health. He concluded his remarks by noting that UNICEF can help accelerate adoption of appropriate, effective and low-cost technologies, and assist in developing programmatic approaches with like-minded NGOs in household water management.

Dr Richard Rheingans of the Center for Global Safe Water, Emory University, described the Center's collaboration with the US Centers for Disease Control and Prevention in the area of household water treatment and safe storage. He summarized its objectives and noted its willingness to assist in the areas of applied research, evaluation/assessment and elaboration/implementation of appropriate technologies and intervention programs.

Mr Jeff Sloan of the Chlorine Chemistry Council noted that he was attending the meeting on behalf of the World Chlorine Chemical Council which is supporting the Network as one of its key global initiatives. He explained the council's role in continuous improvement of chlorine and chlorine-related products. The council recognizes the key role of chlorine in water treatment and has played a role in supporting water treatment programs in Madagascar and elsewhere. Mr Sloan expressed the council's interest in seeking opportunities where it could support market-based solutions using household water treatment approaches.

Mr Martin Wegelin of SANDEC, the main proponent of the SODIS solar disinfection projects, encouraged Network members to use this meeting to agree on actions and not just declarations. He stressed that in order to achieve the MDG for water, a bottom-up approach that was consistent with the strategies of the Network would be required. Mr Wegelin challenged participants to take advantage of the meeting to share ideas and approaches that could advance the aims of household water treatment and safe storage.

Official Opening

Regrets were expressed on behalf of Dr James Nyikal, Director of Medical Services, Ministry of Health, Kenya, for being unable to attend the meeting due to an outbreak. However, in prepared remarks delivered on his behalf, Dr Nyikal welcomed attendees to Kenya and to the City of Nairobi. He congratulated organizers of the meeting and the 2004 International Symposium on Household Technologies for Safe Water, which followed, on 16-18 June 2004. Dr Nyikal stressed the heavy burden of disease associated with waterborne agents, particularly in Africa and Asia. In Kenya alone, the number of deaths from diarrhea was nearly the same as from HIV/AIDS. He noted the progress that has been made as a result of interventions in water, sanitation, hygiene and case management. While progress was also being made in bringing safe water to vulnerable populations, it is still well below the rates needed to achieve the MDG goals. Again, this requires the development and implementation of simple, effective and appropriate technologies that can be used at the household level to provide safe water as part of a comprehensive strategy that includes hygiene and sanitation. Dr Nyikal observed that the Kenyan Ministry of Health supports this initiative as one of its

key strategies in the reduction of diarrhea/gastroenteritis. He closed his remarks by expressing hope for a productive meeting.

Round of Introductions

Mr Properzi then invited those in attendance to introduce themselves and describe briefly their activities and interests relating to household water management.

Confirmation of Officers

Upon motion by Mr Properzi, participants resolved that Mr Terrence Thompson, World Health Organization, Regional Advisor-Water, Sanitation and Health, WHO South East Asia Regional Office, serve as Chairman of the meeting, and that Mr Thomas Clasen, London School of Hygiene and Tropical Medicine, act as rapporteur.

5. Overview of the Meeting and Methods of Work

Assuming the Chair, Mr Thompson observed that while the first two meetings of the Network rightly focused on organizational and strategic matters, the objective of this meeting was operational: to develop detailed work plans for the Networks' four working groups (communication, advocacy, research and implementation). He stressed the need for such work plans to include specific activities, persons responsible for each activity, and measurable indicators of success. Mr Thompson also emphasized the role of all Network members and others in preparing these work plans. He noted the particular contribution of NGOs and others who had practical field experience with some of the technologies and approaches under consideration, as well as government ministries and other organizations whose support would be essential in scaling up promising solutions. The Chairman concluded his remarks by explaining how the work plans would be developed in a series of breakout sessions to promote individual contributions, along with panel discussions and presentations to stimulate open discussion and cooperation, and technology demonstrations and field trips to expose participants to different interventions.

6. Presentation: Background on the Network

Mr Properzi then provided certain background on the Network. He noted that it was initiated as a result of a meeting in Geneva in February, 2003. The first annual meeting in Washington DC in June, 2003 focused on the Network's strategic plan. Its mission is "to contribute to a significant reduction in waterborne disease, especially among vulnerable populations, by promoting household water treatment and safe storage as a key component of water, sanitation and hygiene programs." In accordance with the Network's strategic plan, its objectives center around communication, advocacy, research and implementation. Achievements to date include the establishment of the Network and strategic plan, the commencement of various communication and advocacy initiatives, and the recent creation of the Network secretariat within WHO. In addition to setting the twelve-month plans for each working group, current priorities include engaging new stakeholders and increasing the Network's membership and momentum. Mr Properzi summarized some common household-based approaches to water treatment, stressing that there is no best solution for all conditions.

Commenting on Mr Properzi's remarks, Dr Ali stressed the need for action-oriented work plans. He also underscored the need to develop and advance appropriate

technologies to the front line where they can be implemented. Eric Fewster of Medair Switzerland, emphasized the need to increase member participation from developing countries. Camille Dow Baker of CAWST noted that NGOs/field workers often cannot afford to attend meetings such as this without assistance, and that the Network should find ways to encourage and support such participation.

7. Working Group Introductory Presentations

Following a tea break, brief presentations were made on each of the Network's working groups. Dr Greg Allgood, Proctor & Gamble, discussed the communication group. He provided participants with a comprehensive list setting forth accomplishments to date. These include the distribution of approximately 1500 brochures at a variety of events and meetings; press releases and announcements; presentations and briefings at more than a dozen conferences and meetings worldwide; and at least five publications describing the work of the Network. Dr Allgood also cited some of the upcoming events at which Network activities would be presented. He also described work to date on the Network's website, noting in particular the contributions of Mr Sloan. The website, which will be hosted by WHO, will provide information on the origins and objectives of the Network, information resources for members, news and developments, and information on household-based water treatment and storage technologies. It will provide access to the Network's strategic plan and the operational plans of each working group. Advocacy and communications resources will include brochures, fact sheets, photos and a research library.

In response to a question, Dr Allgood indicated that while non-members would have access to the website and could thereby obtain useful information, the site was intended mainly to facilitate communication among Network members and as a resource for member outreach. Dr Ali stressed the need to keep the site simple and to highlight accomplishments. Participants also recommended that the site be multi-lingual, not only in UN official languages, but also key "Southern" languages where messages about household water management are particularly relevant.

Bruce Gordon then briefed participants on the advocacy working group. The group's objective is to promote and facilitate the inclusion of HWTS in policies and practices at the national, regional and global level across all relevant sectors. It seeks to accomplish this goal by raising the profile of household water management, mobilizing resources, delivering a consistent message, focusing on relevant events and providing members with advocacy tools and resources. Mr Gordon also stressed the need to advocate from an evidence base, to coordinate with other groups (e.g. The Water and Supply and Sanitation Collaborative Council and the Healthy Environments for Children Alliance), to identify and facilitate the resolution of policy barriers such as regulations, taxes and tariffs, and to facilitate dialogue and cooperation in program implementation. He discussed specific tools and resources, as well as issues associated with "branding" the Network. He also underscored the need to cooperate with the communications working group and to present case studies and success stories. Techniques for working with the media and planning for events were suggested. Mr Gordon also outlined possible indicators of the working group's success.

Considerable discussion ensued about the common purposes of the communication and advocacy working groups and whether they should be combined. Dr Allgood reminded participants of the background for the separate groups and

emphasized the special role of advocacy in policy articulation and advancement that warranted a separate focus. Mr Gordon noted the importance of recruitment and participating with NGOs in collecting lessons learned from these implementing organizations. Others emphasized the need to connect software with hardware in the field. In response to another question about languages, Mr Gordon noted that the Secretariat can help with official UN languages but that Network members would have to help translate advocacy documents and other resources into other local languages.

The research group presentation was made by Dr Mark Sobsey, University of North Carolina. He began by summarizing what the group had accomplished thus far: the drafting, circulation and revision of a proposed research agenda; the development and strengthening of research collaborations and cooperation among Network members and others in the area of research; and the preparation of systematic reviews on HWTS. Current activities also include evaluation/validation studies on established methods (safewater system, solar disinfection and combined flocculation/disinfection), field validation of identified methods (ceramics), and identification of other candidate technologies for which field validation was still needed (biosand, solar cookers). Progress is also being made in research associated with planning and implementing economic, social science, marketing and management of household water management; assessing the relative impacts of different measures; and scaling up. Dr Sobsey observed that the research working group's main themes revolve around candidate technologies and systems, assessment methodologies, socio-economic and cultural settings and considerations, and links to WSH (Water, Sanitation and Hygiene) programs. He concluded his remarks by noting that the one-year work plan that the group would prepare in break out sessions must also assign responsibility for carrying out the agreed priorities.

Certain participants commented on the frequent discontinuity between research and implementation, and the need for these working groups to work closely. It was noted that rapid, low-cost, low-tech water quality monitoring is a particular need in the field, and that H2S and other potential alternatives need further exploration and development. There was also discussion around "demand creation"—generating the demand for increased water quality. Finally, the importance of collecting and disseminating existing research to implementing organizations was emphasized.

Subsequently, John Borrazzo, USAID, introduced the implementation working group which he chaired jointly with Susan Murcott, MIT. He suggested that the group could seek to address three areas linked to successful household-based interventions: sustainability, scalability and measurable program impact. Sustainability could be conceptualized using an adaptive, integrated assessment tool "7 Questions": 1. Engagement with all relevant stakeholders), 2. Social sustainability, 3. Technical sustainability, 4. Financial sustainability, 5. Economic sustainability 6. Institutional sustainability 7, Overall integrated evaluation. Scaleability is the viability of bringing a given HWTS option to scale. Measurement of program impact might be carried out through health-based measurement, water quality measurement, and, by behaviour/utilization. The Implementation Working Group Plan would work in at least two dimensions, encouraging coordination and joint planning of activities implemented by individual and multiple Network members (members→Network) and between Network and members (Network → members). Such coordination would include agreeing on guidelines and approaches for implementation, monitoring, evaluation and reporting; starting or scaling up country-level activities; and evaluation and programmatic

documentation of these country-level activities. Among the priorities envisioned for year one are: propose draft technology verification parameters; develop and field test data collection templates (social, technical, financial, economic and institutional sustainability); refine templates into comprehensive programmatic guidelines for HWTS; create a web-based database of existing HWTS options from such templates and create a web-based database of implementation programs, including site locations, scale, and cost of implementation.

At the Network level, activities could also include: hosting website for overall knowledge management; publishing programmatic guidelines; coordinating with other initiatives; and cooperating with WHO activities on water quality guidelines, by proposing guidance on methodologies for technology verification. Other activities might include fundraising, publication of a "glossary of terms", and organizing group meetings.

There was discussion about the potential merit of combining research and implementation working groups. It was also observed that implementation should drive the research. It was suggested that technology options should be driven from the bottom up. There was encouragement that Network should consider engaging in cross-cutting work, including collaborating in the area of nutrition, anti-poverty and with emergency and relief and other initiatives. Finally, it was noted that the group should help identify obstacles to private sector participation and freeing up market forces to assist with implementation.

8. Breakout Sessions

Following lunch and for the remainder of the day, the meeting devolved into breakout sessions for developing the initial twelve-month working plans. It was proposed and accepted that the communication and advocacy working group would be combined for this session to form one group, while the research and implementation working groups formed an additional two groups. Working groups were guided in their discussions by background discussion documents (See Annex) and by the Draft Strategic Plan.

9. Recommendations for Operational Plan

Beginning the following morning (June 15), and after a brief review of the previous day by the Chairman, rapporteurs from each of the working groups presented their preliminary work plans. The following is a summary of the salient points presented at the meeting, as well as select comments from participants:

The breakout session reports below have been edited from the original presentations and re-organized into a format that more clearly points the way forward to an operational plan. Where applicable, names or organizations appear beside, or as a footnote after action items reflecting stated commitments. The original "report backs" and participants for each breakout session can be seen in the Annex.

Advocacy and Communications

The combined advocacy and communications breakout session identified the following action points as priorities for the next 12 months, focusing largely on the "low hanging fruit" of the Strategic Plan. The overarching advocacy goal of the Network is to promote and facilitate the inclusion of HWTS in policies and practices at the national, regional and global level across all relevant sectors.

1. Expand Outreach to Key Target Audiences:

It was agreed that the most significant stakeholders were vulnerable populations. While efforts have to be made to involve them specifically, existing and potential new members were seen as key target audiences by the communications working group. It was also agreed that advocacy efforts need to be targeted towards policy makers, health and water sector professionals, funding organizations, and related networks and agencies.

Recommendations for Operational Plan

- Advocate for HWTS at various meetings of the water sector (e.g. WASH meeting in Dakar, IWA meeting in Marrakech) and identify and engage in subsequent events and other opportunities for promoting HWTS
- Advocate for HWTS within individual member organizations
- Expand membership, emphasizing institutions from developing countries
- Collaborate with other Networks and groups (e.g. WSSCC, the Rural Water Supply Network, the Healthy Environments for Children Alliance)
- Approach funding organizations as identified in a resource mobilization strategy, with advocacy messages based on the evidence-base, comprehensiveness and programmatic performance
- Secure funding and other resources for Network administration

2. Enhance Network Communications :

It was agreed that in order to enhance the effectiveness of the Network, it is necessary to develop tools that increase information exchange between existing members and that engage potential members. In particular, it was agreed that the establishment of a website would be a key tool to promote household water interventions, and the Network as an entity. Many activities proposed by the research and implementation working groups would be most effectively shared through a regularly updated website.

Recommendations for Operational Plan

- Establish website (Secretariat)
- Expand listserv (Secretariat)
- Develop web-based databases to share information, e.g. on HWTS technologies, and implementation experiences (MIT et al)
- Develop speaking tools such as a PowerPoint presentation for the Network (Secretariat)

3. Develop a Network Identity and Enhance Network Profile:

It was recommended that the Network define itself more clearly (e.g. roles, membership). To this end, it was agreed to develop material that described the Network's background, functions, and strengths; and to clarify what was within the mandate of the Network and what was the responsibility of individual members. It was recommended that action be taken to take stock of the capacities, activities, and plans of individual members. Participants also identified the need to articulate and include the benefits of membership.

Recommendations for Operational Plan

- Establish global inventory/mapping of activities and programs (Secretariat)

- Disseminate a document on frequently asked questions (Secretariat)
- Draft a quarterly newsletter (Chlorine Chemistry Council)
- Update brochure and translate into additional languages (Secretariat)
- WHO to draft statements/letters to members (pending legal)

4. Disseminate Accessible Documents Highlighting HWTS:

Participants felt that it would be important to develop accessible and compelling documents that would highlight HWTS, through fact sheets, Op-Eds, case studies and issue briefs. It was also recommended that household water interventions be linked with other issues like emergencies, HIV/AIDs, nutrition etc.

Recommendations for Operational Plan

- Translate selected technical documents into promotional materials (Secretariat)
- Develop cross-issue briefs (Care, USA)
- Write case studies/success stories/lessons learned (LSHTM)

Research

1. Refine Research Agenda

Participants emphasized that the purpose of the Network's research agenda is to advance the objectives of the Network. More specifically the research agenda aims to advance the effective implementation of HWTS technologies and how to provide them. It was agreed that the agenda needed to be driven by science, evidence, and by health impacts. It was also felt the agenda needed additional input from other working groups.

Recommendations for Operational Plan

- Revise the language of the agenda to clarify the role of research in developing and verifying technologies and demonstrating and increasing the effectiveness of implementation (D Baker and M Figueroa)
- Develop a survey to gain input from other Network members to identify research priorities, gaps, and potential linkages, based on the existing agenda. This may be most effectively taken forward as an integrated survey that addressed information needs of all working groups.

2. Undertake Inventory of Existing Research

It was recommended that relevant existing research be identified and utilized.

Recommendations for Operational Plan

- As part of an integrated survey, collect information on current or completed research. (M Sobsey and M Figueroa)
- Disseminate through the Network website, and other relevant sites, this inventory of existing projects (including links, project reports and articles)
- Link to or develop websites that provide users with detailed information on specific technologies. (Biosand and Safe Water System websites can provide potential templates.)
- Form group to peer-review available information that has not already been evaluated

- Collect copies of existing data collection instruments that have been used. These would be solicited in the survey of members. Consider the usefulness of developing generic protocols for specific purposes as needed.

3. Expand Outreach and Collaboration with Developing Country Institutions

Consistent with the recommendations of the communications and advocacy breakout session recommendations, it was agreed that action needed be taken to engage Southern research institutions.

Recommendations for Operational Plan

- As part of the Network outreach strategy, identify potential research partners in developing countries and other organizations working on HWTS.
- Plan and fundraise for a back-to-back symposium/conference on HWTS to complement next Network meeting.

4. Address Resource and Technical Challenges

It was agreed that a number of specific challenges needed to be addressed. These included the difficulty of ensuring that research reflects the realities of the field. It was felt that guidance would be needed on practical levels of acceptable performance (e.g., do we need 3 decimal places?)

Recommendations for Operational Plan

- Recruit more members of working group to assume responsibility for the action items identified
- Develop better, risk-based standards that reflect actual resource availability in the field
- Secure funding for participation of researchers from developing countries, and for research activities
- Initiate work on ways to measure water safety in absence of resources. This includes addressing the issue of standards for technology performance, and how to monitor this in the field with sensitive and simple tests.

An additional potential action would be to create a team to form an integrated research proposal for addressing the continuum of issues associated with HWTS.

Implementation

It was emphasized that HWTS implementing organizations include universities, NGOs, service organizations, governments, bilaterals, international organizations, and the private sector. Yet the group stressed that no organization could do it all. Therefore it was important to pair up researchers with implementers, technology developers with program developers, and ensure that implementers are engaged with those that have the resources and skills for impact evaluation and technology verification. It was noted that Implementation of HWTS can occur on a continuum of scale from research to pilot to small-scale field to large-scale field; that it can take place in urban and rural settings, and that these conditions and the community needs will influence technology choices. Participants of the breakout sessions identified three levels of Network implementation activities. The first level would have Network secretariat resources (people, money) devoted to cross-cutting functions and to stimulate action to fill key implementation gaps; the second level would see Network member's resources committed to an agreed strategic implementation plan, while the third level would have Network member's

activities contributing to network goal/objectives but that were not part of the implementation plan.

1. Develop Tools to Support HWTS Implementation

Much of the recommendations from this breakout session focused on providing support for implementing organizations within the Network. These tools aim to provide guidance on recommended approaches for implementation, monitoring, evaluation, and reporting.

Recommendations for Operational Plan

- Create Web-based tool for HWTS technology and program options, organized according to key parameters (e.g. source water quality, setting, costs, performance etc.)¹
- Propose common approaches for technology verification methods and create a web-based tool for sharing technology verification methodologies and results²
- Develop agreed common guidance for evaluation, including both impact evaluation for health, water quality, and behavior/use as well as program implementation evaluation³
- Develop tool for formative research to guide implementation⁴
- Develop tool for estimating programmatic costs (Emory⁵)
- Develop program and business development checklist⁶

2. Initiate or Increase Scale of Implementation of HWTS Activities

While support, information resources, and strategic guidance can be given by the Network, implementation activities will be carried out by individual Network members or coalitions of members acting in their own capacities.

Recommendations for Operational Plan

- It was agreed that scaled-up HWTS activities should be limited in number and strategically selected. Implementation activities need to consider among other factors: promotion and social marketing, market development, technology availability, and the degree of support offered by the policy environment.

3. Track Progress and Disseminate Implementation Experiences

It was recognized that the success of the Network's ultimately is about whether its has made a difference to the lives of the most vulnerable. Monitoring, evaluating and sharing implementation activities is key to understanding progress and a core activity of the the Network.

Recommendations for Operational Plan

- Create Web-based database of implementation experience of the Members⁷

¹ MIT, CDC, IDE, UNICEF, USAID, UNC

² Volunteers: MIT, CDC, UNC, LSHTM, AIT, IDE, CAWST, Practica, UNICEF, Anglican Church, MedAir, Samaritan's Purse, Bushproof

³ Volunteers: IDE, Rotary, Emory, KWAHO, CDC, CAWST, Practica, USAID, LSHTM, Water Resources Management Authority, Ministry of Health-Gov't of India, JHU, Ministry of Local Government-Kenya, City Council of Nairobi-Kenya, DOH/MOPH-Thailand, MOH-Kenya, Nursing Council of Kenya

⁴ Volunteers: (IDE, PSI, USAID, LSHTM, JHU, National Nurses Assoc. of Kenya)

⁵ Also: CDC, USAID, LSHTM, WSP-Africa, JHU

⁶ IDE, MIT, CAWST, PSI, USAID, Practica,

- Track implementation activities and report progress toward strategic goals, drawing on the implementation database above.

The implementation group flagged a number of issues as needing further discussion. This included how to address the cross-cutting issues shared between implementation, research and advocacy, and more specifically the distinction between research, programmatic research and evaluation. The issue of whether HWTS initiatives needed to demonstrate program health impact as part of research was also "parked". However, it was agreed that health impact would not need to be measured as part of implementation, but that research activities to demonstrate health impact could be overlaid on implementation. A final recommendation was that when promoting, HWTS implementation in one setting, it may be best to promote one program, if possible, with multiple technologies.

While capacity building was seen as key to successful implementation the group also highlighted the need to: identify opportunities and challenges for multi-country implementation; identify mechanisms for assessing levels of compliance and utilization of technologies, and the obstacles to broad acceptance and use; and the need to understand acceptability issues better; and identify the health messages that must accompany the interventions.

Following further discussion and upon motion from the Chairman, the meeting unanimously

RESOLVED, to approve in principle the work plans as prepared and presented to this meeting, it being understood that the working groups would continue to solicit comments and other input from Network members, would circulate final plans, and would then begin taking the steps to execute such plans.

10. Rural Water Supply Network Presentation

Sally Sutton, SWL Consultants, and Piers Cross, The World Bank, then provided background on the Rural Water Supply Network (formerly, Hand Pump Technologies). They expressed appreciation for the HWTS Network's focus on the household, which has always been dominant model for the RWSN. They noted that the RWSN had achieved a membership of approximately 400 after 20 years. They believe they have been successful in establishing the case for improved hand pump technology, and described the recent expansion of their mandate to the broader issues related to rural water supply. The main themes of the RWSN are low-cost drilling, consistent supply chain, and promoting "self-supply". In the experience of the RWSN, household-based and other small-scale strategies have proved most effective, and this presents an opportunity for collaboration with the Network. Sally also noted that the Tech-Fest (end of 2005) would be another forum for promoting HWTS interventions.

⁷ Volunteers: IDE, P&G, Ministry of Local Government-Kenya (City Council of Nairobi), Medentech (provision of data), SANDEC (provide data), National Nurses Assoc. of Kenya (provide data)

11. Improving Regional and Inter-Regional Cooperation

The Chairman then invited Mr Reid Harvey of IDE, Mr Peter Lochery of CARE USA and Dr Oleg Shipin of AIT to conduct a panel discussion on improving regional and inter-regional cooperation. Mr Harvey commented on the natural territoriality and independence of certain efforts in HWTS and the need to bridge these propensities. Mr Lochery observed that the Network presented an opportunity for organizations such as CARE to share their experiences on POU water treatment, methodologies used, lessons learned, strategies for scaling up, and integration of activities. He also stressed the role of such organizations in evaluating and implementing promising interventions on a regional and inter-regional basis where they have a presence. Dr Shipin emphasized the historical opportunity to shape policy by introducing household-based technologies. He stressed the value of meeting in venues like Nairobi where participants could see first hand examples of programs and technologies and meet with organizations eager to explore household-based solutions. In this connection, he invited the Network to hold its next annual meeting in Bangkok.

Dr Sobsey expressed support for convening in Bangkok and urged Dr Shipin to take advantage of the meeting to organize and hold a symposium on household water treatment and storage technologies such as the one to follow the Nairobi Network meeting. There was also a discussion about the disease burden associated with unsafe drinking water which should form a basis for regional cooperation. However, participants noted that participation from the developing countries would require financial support. Cooperation could also be enhanced by using the UN agencies to communicate and advocate for measures in HWTS on a regional level.

12. Conclusion

In closing, the Chairman summarized the progress made over the past two days in sharing information and working together to develop action plans for the ensuing year. He congratulated participants on their work but encouraged them to take responsibility for the individual action items contained in the work plans in order to ensure continued progress over the coming year. He noted the consensus to hold the next annual meeting of the Network in Bangkok, and urged the Secretariat to set dates as soon as possible. Finally, he expressed gratitude to PSI and CDC for hosting the meeting and coordinating the symposium. Bruce Gordon also expressed his appreciation to the hosts. He noted that the working groups would be circulating their work plans and encouraged not only participants but all Network members to become involved in carrying out the priorities set forth in these work plans. He also confirmed that the presentations and background documents from the meeting would be circulated to all Network members. Finally, he invited participants to take advantage of demonstrations of various technologies that would be made later in the day, as well as the field trip to Kibera to view the SODIS project there.

Annex 1 – Draft Discussion Documents (circulated prior to or during the meeting)

Network Communications Summary (as of June 2004)

Brochures Distributed:

- 100 distributed to World Chlorine Council members
- 300 distributed by JHUCCP/PSI/P&G/USAID to Pakistan Safe Water Council
- 300 distributed by JHUCCP/CDC/WHO/P&G at CSD-12
- 200 distributed to P&G employees
- 200 distributed by UNC/WHO/CDC/Univ Pretoria at IWA Health-Related Microbiology Meeting
- 200 distributed at various meetings by P&G
- 200 distributed at various meetings by CDC
- PDF version posted on World Chlorine Council and Chlorine Chemistry Council websites.
- PDF version posted on CDC website

Total brochures: Approximately 1500

Communication of Network

- The UN Association of Greater Boston Conference on Achieving UN Water and Sanitation Goals, CDC, Boston, May 03.
- PAHO media briefing by Network, Washington, DC, June 03.
- Media briefing by ICN/P&G/CDC, London, June 03.
- International Council of Nurses Biannual Meeting, ICN/WHO/P&G, Geneva, June 03.
- Intercountry Workshop on Safe Water, Food, and Hygiene, WHO/CDC/First Water/P&G, Katmandu, Nepal, Jul 03.
- International Conference on Safe Water "Safe Water 2003", Atlanta, Oct/Nov 03.
- Spellman College Conference by CDC, Atlanta, Sept 03.
- University of North Carolina Bottom-of-the-Pyramid Learning Laboratory, UNC/CDC/PSI/P&G, Sept 03.
- IWA Microbiology Meeting, UNC/WHO/Univ Pretoria, Cape Town, South Africa, Sept 03.
- Asian Scientific Conference on Diarrheal Diseases by CDC/P&G, Dhaka, Bangladesh, Dec 03.
- Italian Government Partnership Conference by P&G, Rome, Marh 04.
- Emory University Rollins School of Public Health Dean's Council Annual Meeting by CDC, Atlanta, Mar 04.
- The 53rd Annual Epidemic Intelligence Service Conference by CDC, Atlanta, Apr 04.
- 12th Meeting of the Commission on Sustainable Development, CSD-12 Partnership Conference (4 separate events) and media outreach by USAID/WHO/UNICEF/JHUCCP/CDC/P&G, New York, Apr 04.
- CDC Foundation Atlanta Advocacy Council and National Advocacy Council Meeting, Atlanta, Apr 04.
- Acquasur 2004 - Water in the Sustainable Development of Latin America by CCC, Buenos Aires, Argentina, May 2004.

- International Symposium on Safe Drinking Water and media outreach by USAID/JHUCCP/PSI/P&G, Karachi, Pakistan, May 04.

Publications:

- Clasen TF and Cairncross S (2004). Household water management: Refining the dominant paradigm. *Trop. Med. Intl. Hlth* (9) 187-191.
- Clasen TF and Mintz ED (2004). The International Network to Promote Household Water Treatment and Safe Storage: Looking Back, Looking Forward. JEID (in press).
- "Promoting Safe Household Water Treatment and Storage." *Water Quality and Health* (online newsletter). Spring 2003.
- Hart S and Reck J. *Water for the Masses: An Assessment of Point-of-Use Water Treatment Solutions*, Center for Sustainable Enterprises, University of North Carolina, Chapel Hill. <http://www.kenan-flagler.unc.edu/KI/cse/index.cfm>
- "Hopes for a household solution", IWA, Water21, February 2004.

Planned Communications

- Press releases from chlorine industry associations in U.S, Canada, Europe, and South America to announce WCC's participation and financial support for Network, Summer 2004⁸.
- Forum Barcelona by P&G, Aug 04.
- Press release from P&G to announce participation and financial support for Network, Summer, 2004¹.
- Myers E (Arch Chemicals), "Use of Dry Chlorine for Low Tech Sanitation: Case Studies in Developing Regions." Presentation at *Chemistry for Water: Toward Fresh Water for Everybody During the 21st century*, June 2004, Paris.
- Presentation at *Acquasur 2005* by WCC, Mexico, Spring 2005
- IWA Conference in Marrakesh, September 2005.

⁸ Note: "Contributors may not... seek promotion from the fact that they have made a donation [to WHO]. However, they may make reference to donations in their corporate annual reports or similar documents. *Guidelines on working with the private sector to achieve health outcomes*. World Health Organization, Executive Board, 107th Session, 30 November, 2000

Advocacy Working Group – Draft Background Discussion Document

2nd Annual Meeting of the International Network to Promote Safe Household Water Treatment and Storage

Advocacy

Advocacy is winning the support of key constituencies, and changing the behaviour of politicians and decision-makers in order to influence policies and spending and bring about social change. Advocacy requires identifying those people that need to be influenced and planning the best ways to communicate with them. It also requires mobilizing people and working in partnerships, advocating on the basis of sound evidence, working with the media, and engaging in meetings and events. Advocacy activities must be supported by effective tools and resources.

Advocacy in the Context of the Network

The very name of the Network, "... to promote household water treatment and safe storage," (HWTS) implies that advocacy is a central component of its work. Indeed, the establishment of the network itself is a crucial step in building the groundswell of support that can raise the profile of household water management, and influence decision-makers to more seriously consider the inclusions of HWTS in policies. Specifically, by increasing the visibility of HWTS so that it more prominent with health sector professionals; and by increasing awareness among health sector professionals as to household water management's potential to deliver cost-effective, and rapid health gains (and associated benefits). Awareness needs to be raised with decision-makers in governments, donors, international organizations, and NGOs.

Network advocacy is closely linked with the activities of the working groups. Messages are dependent on the results of research and implementation activities. Much cross-cutting work is shared with the communications working group. Successful advocacy will entail efforts by individual members, and by a well-functioning advocacy working group and secretariat working on behalf of the Network.

Advocacy in the Network's Strategic Plan (2003-2008)

Objective

The Network will directly advocate, promote and facilitate the inclusion of HWTS in policies and practices at the national, regional and global level across all relevant sectors.

Activities

1. The Network will develop advocacy tools such as brochures, posters and audio-visual materials.
2. The Network will organise advocacy events at major policy venues.
3. The Network will advocate for the need for the evidence base for HWTS interventions.
4. The Network will coordinate advocacy efforts with other related initiatives such as the WASH campaign, gaining strength from mutual synergy.
5. The Network will identify and facilitate resolution of policy barriers, such as regulations, taxes and tariffs, unclear roles and responsibilities and product

certification, which may prevent introduction or scaling up of HWTS interventions.

6. The Network will facilitate dialogue among in-country actors with an interest in HWTS, such as Ministries and research centres. Such dialogue will encourage each to recognize the inter-relatedness of their respective missions, promote information and resource sharing, and motivate cooperation in planning and implementation of programs.
7. The Network will seek funding for research and implementation of agreed Network activities.

The first set of tasks (1 and 2) can be done by the Advocacy Working group. However, many of the subsequent activities must be done in collaboration with other working groups and with inputs from Network members.

Working Group Tasks

1. Prioritize which advocacy resources are most needed and achievable

Some advocacy and communications tools are clearly needed and have already been initiated or planned. These include the Network website, a listserv, and a newsletter. In addition, there are a number of resources which can be developed drawing on existing technical documents, on unpublished material, or information that can be easily compiled by Network members. One task would be to create a menu of options, expanding on the list below, and prioritizing what resource materials are most needed by the Network as a whole, including at key events. The working group may also consider what can be done quickly and at low cost. For example, a common powerpoint on the Network could be developed. An example menu of options could include:

-Adapting existing technical documents for advocacy purposes:

- Adapt 2003-2008 Strategic Plan
- Adapt Nairobi outcomes, including the operational plan developed by the working groups
- Adapt existing technical documents to advocacy booklets or posters
 - E.g. *Managing Water in the Home: Accelerating Health Gains from Improved Water Supply*
 - Upcoming World Bank/WHO work on cost-effectiveness of point-of-use technologies*

-Creating clearinghouse advocacy resources:

The advocacy group may also want to present, in a “glossy” a catalogue of past and projected member activities that complement the Network’s strategic goals. This could complement a more comprehensive stocktaking that could be posted on the web. Alternatively, a brochure could be produced giving an overview of the technology types being promoted by different members, and where they have been successfully applied.

- Advocating for good implementation practices

A more focused document could be produced, for example, case studies of good practice highlighting promising implementation activities of certain members.

-Finally, incorporating the Network and the issue of household water management into other advocacy material, for example, children’s environmental health.

2. Identify and engage in upcoming events

It would be useful for the working group, with input from other groups to fill in a suggested unfinished table below:

Event	When	Who (Network Representation)	Advocacy Material Required
AIDIS Puerto Rico,	August 2004		
IWA, Marrakech,	September 2004		
CEHI, Bahamas	October 2004		
WASH, Dakar	November 2004		

3. Discuss network branding

The name represents the Network's purpose and identity very well, but is of course, long, and is difficult for those unfamiliar with it to remember. Therefore, it may be worth briefly discussing ways to brand the network more simply and more effectively (without perhaps re-opening the original debate on the name of the network). It may be also worth exploring ways to articulate the network's emphasis on health, and exploring ways to develop a more compelling message.

4. Plan cross-cutting work with other working groups

Many of advocacy activities identified by the 2003-2005 strategic plan involve work that can only be done with wider input from the Network and working groups. Resource mobilization, in particular, may benefit from a strategy that would require the formation of an additional working group or sub-working group. In this regard, a donor mapping exercise might be a useful exercise. Other activities which require expert input include identifying and resolving policy barriers in countries which may prevent the introduction or scaling up of HHWTT&SS; and with the implementation or research group, actions to promote dialogue among country actors to facilitate implementation programs. This could be a key advocacy activity for Network members, considering that many governmental decisions are made on the basis of what bureaucrats are familiar with and what donors promote. Policy-makers need to hear simple messages on household water management that clearly and quickly get to the heart of the issue. Examples of successful advocacy approaches need to be shared so they could possibly be adapted to other regions.

5. Clarify Roles and responsibilities

Responsibility must be assigned for those tasks that have been identified in the 12 month work plan. In general, however, Network members are best at advocating for the technology they have a stake in. The Advocacy WG will develop resources to support the network in advocating for HWTS as a whole and to support individual members. The Secretariat will play a role coordinating, sharing information, and providing general support. It will also keep track of advocacy inputs, monitor impacts and progress towards the overall strategic goals of the network.

6. Explore ways to work with the Media

The media is recongized as the most influential advocacy vehicle, playing a key role in mobilizing public support, and setting the political agenda. Media vary considerably in different countries. In some countries, much is government-run. In others, international media may be more politically influential, than local media. All use of the Network name

must be in accordance with the terms set out in the Network strategic plan. It may be useful to develop a media strategy around specific events. This could include making available factsheets and information briefs, sending out opinion pieces (op-eds) or writing proposals for feature articles. The Network should also establish contact points for media inquiries.

7. Identify indicators to monitor progress

The following example indicators that have been proposed in the strategic plan may need to be reviewed and expanded on:

- Materials produced, Materials distributed, # of events organised, # of attendees to household water events, # of press releases, # of coordinated events organized...
- Description of actions taken to lower policy barriers to implement household water management activities...
- # of Ministries per country with standing inter-sectoral mechanisms attending household water related meetings, # of countries in which dialogue has taken place through Network intervention, Description of activities resulting from such dialogue...
- # of research projects funded (through Network or independently), # of implementation projects funded (through Network or independently)...

DRAFT IMPLEMENTATION AGENDA, *John Borrazzo and Susan Murcott, drawing on Susan Murcott's draft discussion paper (v2), revised June 2004*

Objective of Implementation Working Group (IWG) Work Plan:

IWG plan seeks to address three keys to successful HWTSS implementation:

- Sustainability
- Scalability
- Measurable Program Impact

Measuring Implementation Impact

- Health?
- Water quality?
- Behavior / Use

IWG Plan: Two (Three?) Dimensions

- Strategic coordination and joint planning of activities implemented by individual or multiple Network members (members add value → Network)
- Activities undertaken corporately by the Network (Network adds value → members)
- ???Activities of individual or multiple Network members which support the goal/objectives of the Network, but are not formally part of the Network's implementation work plan???

IWG Strategic Coordination:

Activity Areas

- Agree common guidelines and approaches for implementation, monitoring, evaluation, and reporting, e.g.
 - Tools for including HHWTSS in water and sanitation activities
 - Tools for including HHWTSS in health programs
 - Tools for including other hygiene and sanitation elements in HHWTSS programs
 - Tools for formative research to guide implementation
 - Tools for estimating programmatic costs
 - Tools for effective documentation

Activity Areas

- Agree common guidelines and approaches for implementation, monitoring, evaluation, reporting
 - Start or increase scale of implementation of HHWWTS country-level activities
- Limited number, strategically selected
- Evaluation and programmatic documentation of these country-level activities

Year One activities [July 2004 – June 2005]

- Finalize draft of technology verification parameters
- Develop and field test data collection templates for:
 - Social sustainability (e.g. acceptability; long-term use)

- Technical sustainability (e.g. parameters for technology verification)
- Financial sustainability (e.g. programmatic costing)
- Economic sustainability (e.g. local materials and employment)
- Institutional sustainability (e.g. public-private partnership)
- Monitoring and evaluation (e.g. program-level impact)
- Refine templates into a comprehensive programmatic guideline for HHWTSS, including water source and treatment combinations
- Create Web-based database of existing HHWTSS options using data from the templates
- Create Web-based database of implementation programs, including site locations, scale, and cost of implementation
- IWG Network Corporate Activities
- Host website for overall knowledge management of IWG
- Publish programmatic guidelines for HHWTSS implementation
- Coordination at international level with other relevant initiatives (e.g. WASH, HECA)
- In coordination with WHO activities on water quality guidelines, provide implementation guidance on technology performance (?)
- Fundraising for IWG plan implementation (both advocacy for member proposals and directly[?])
- Publish “glossary of terms”
- Organize annual meeting

Executive summary

This agenda has four sections:

1. **Candidate technologies and systems** - Sets out the research required to identify, evaluate and characterise the features and performance characteristics of the various candidate household water treatment and storage technologies.
2. **Assessment methodology** - Addresses how such research should be structured and conducted, including the various criteria by which technologies and systems will be evaluated and judged.
3. **Socio-economic and cultural settings** - Summarises more general but essential research required to understand the role of household water treatment and storage within the socio-economic and cultural setting of developing countries, their communities and people.
4. **Links to water, sanitation and hygiene programmes** - Sets out the research required to compare household water treatment and storage with other water, sanitation and hygiene interventions with respect to their relative and absolute impacts on health and to integrate the systems into WSH programmes.

Its purpose is to focus network members' research activities and form the basis of a funding proposal to a major donor. It will also provide a summary of our plans to research institutions in developing countries and enable them to join our network and contribute to specific activities.

1. Candidate technologies and systems

“Research is required to identify, evaluate and characterise the features and performance characteristics of the various candidate household water treatment and storage technologies.”

Candidate technologies and systems, with examples and special research requirements are:

- a. **Improved storage** - Vessel with tightly fitting lids and taps. Special requirements: materials, fabrication methods, size, portability, cleanability, durability and vessel location in the home.
- b. **Heat** - Boiling, and pasteurisation (e.g. solar cooking).
- c. **Solar with heat and light** - Solar treatment combining heat and light on water in clear bottles (e.g. SODIS). Special requirements: effect of turbidity, relative contributions of heat and light, capacity (volume) constraints.
- d. **UV lamp** - Special requirements: water vulnerability to recontamination, energy sources, costs operations/maintenance.
- e. **Filtration, granular** - Rapid granular media (e.g., “bucket” filters), slow sand (SSF) and biosand filters (BSF) Special requirements: filtration of chemical contaminants by additional medium components
- f. **Filtration, other media** - Ceramic filters, fabric or membrane filters. Special requirements: review microbiocidal effects of colloidal silver.
- g. **Other physical treatments** - Sedimentation, settling (e.g., ‘2 or 3 pot’ systems); aeration processes
- h. **Chemical treatments for physical removal** (with or without microbe inactivation) – Coagulation / flocculation (e.g., with Morenga seed extracts or alum potash), adsorption (to minerals and organic materials), and ion exchange. Special requirements: Traditional use needs documenting.
- i. **Chlorination and other chemical disinfection** - Chlorination and the use of natural antimicrobial materials, such as limejuice to eliminate v. cholerae. Special requirements: efficacy and acceptability for highly coloured and turbid waters, combination with pre-treatments.
- j. **Ozonation**. Are there appropriate systems for home use that can be powered by accessible energy sources (e.g., aquarium-type ozonators)?
- k. **Combined water treatment technologies and systems** - in general, combination of two or more candidate technologies. Special requirements: relative contribution of each component.

2. Assessment methodology

“Addresses how such research should be structured and conducted, including the various criteria by which technologies and systems will be evaluated and judged.”

Protocols and assessment criteria should be developed that are applicable in the laboratory, in field at pilot scale, and at full-scale implementation.

- a. **Assessment of health impacts** - Epidemiological studies provide the needed health data for determining impact on disease burden as well as for economic analyses, such as health-based cost-effectiveness analyses. Protocols are needed to document baseline demographics and conditions, also the effects of interventions relative to control or reference individuals/groups. Guidance on ethical requirements should be given.
- b. **Water quality assessment** - Existing and alternative sampling, analytes and analytical methods for microbial, chemical and radiological contamination need to be identified. They should be evaluated for use in sub-tropical and tropical climates, in laboratories without advanced equipment and trained staff and where electrical power, clean water, temperature and humidity control and cleaning and sterilization capacities are lacking. Portable field laboratory systems and kits need to be validated. Also required are routine methods for water quality monitoring and surveillance.
- c. **Water quantity and use changes** - Measuring water quantity used and quality changes after interventions by individuals and households. Choices of water sources and the patterns of home water use for different purposes: drinking, personal hygiene (handwashing and bathing), food preparation and household cleaning.
- d. **Certification systems** - Currently, there is no global or international standard for the performance of a system or technology for household treatment and storage. The US Environmental Protection Agency and NSF International have developed standards that could be relevant (US EPA 1987; NSF/ANSI 42 and 53).
- e. **Social marketing** - Application to communication, education, mobilization and marketing of household water treatment and storage systems.
- f. **Target populations and coverage** - When scaling up from intervention trials to more widespread implementation across broader areas and their populations, guidance needs to be developed for selecting target populations to cover and methods to reach and engage them.
- g. **Choice of solution** - Organisations promoting household water storage and treatment need guidance to determine which technologies and implementation approaches are most suitable for any given population and setting.

3. Socio-economic and cultural considerations

“Summarises more general but essential research required to understand the role of household water treatment and storage within the socio-economic and cultural settings and belief systems of different countries and regions, especially developing countries, their communities and people”

This section identifies the research needs to investigate socio-economic, behavioural and cultural aspects of household water use.

- a. **Cultural views of water** - Beliefs and customs about water and its use may inhibit adoption of certain candidate solutions. These need to be identified and understood so that the technological solutions can be adapted accordingly.
- b. **Sensory perceptions of water** - Acceptability of any technological solution depends on taste, odour, temperature and appearance of household stored water.
- c. **Understanding of water borne diseases** - Such knowledge is an important precursor to the adoption of point-of-use technologies, on how to best determine these beliefs and on how to identify effective socio-cultural approaches and technical solutions.
- d. **Water use patterns and collection, transport and storage methods** - Local water use patterns, including methods of storing and transporting water and the acceptability of different vessel designs need to be understood in order to identify and promote effective and acceptable treatment and storage systems.
- e. **Willingness to pay and other valuation measures** – value systems and the valuations placed on household water treatment and storage systems will determine their acceptability and sustainability.
- f. **Social marketing** - Effective approaches to education, behaviour modification, social marketing, implementation and distribution methods are needed to achieve high uptake and compliance for different target groups, including the very poor. This is also needed for upscaling from small intervention trials to widespread adoption and dissemination.
- g. **Business models** - Delivering solutions on a larger scale – commercially through the market place, through partial subsidy, or through the state sector, needs appropriate business analysis. Intellectual property rights and the role of securing patent rights and/or license agreements need to be considered.
- h. **Local manufacturing capacity** - Low-cost, locally obtained, manufactured versions of candidate systems need to be developed to increase political acceptability, increase local employment and achieve sustainability,
- i. **Long term compliance** - Long-term solutions of education, promotion and monitoring of interventions and their impacts will counteract the long-term declines in uptake and compliance.

4. Links to water, sanitation and hygiene programmes

“Sets out the research required to compare household water treatment and storage with other water, sanitation and hygiene interventions with respect to their relative and absolute impacts on health and to integrate the systems into WSH programmes.”

This section sets the research agenda within its broader policy context i.e. the water, sanitation and hygiene intervention programmes adopted by donors, NGOs and developing country governments.

- a. **Comparative impacts of different WSH interventions** - Research is needed to quantify and compare the absolute and relative impacts of water, personal hygiene and sanitation interventions on household burdens of waterborne diseases. Research also is needed to understand better the role of hygiene and sanitation practices in the use and handling of household water not only for drinking but also other purposes, such as food preparation, other consumption uses such as beer-making, and personal hygiene. Such research can identify the hygiene and sanitation behaviour practices that interact with water hygiene measures, impact their effectiveness and facilitate or support safe household treatment and storage technologies.
- b. **Inter-sectoral policy considerations and potential conflicts** - Home water treatment and storage may fall within the remit of several government departments such as those concerned with health, water, and education. Research is needed on the identification and analysis of institutional aspects of technology delivery in order to develop strategies and methods that avoid and overcome inter-sectoral policy conflicts and achieve acceptance and integration into policy and practice.
- c. **Cost-effectiveness** - Research is needed on the products and merits of different approaches to or kinds of cost-effectiveness analyses, and on the linkage or integration of health outcome variables, such as waterborne diarrhoeal disease reduction and DALYs (disability adjusted life years), into such analyses. The relative cost-effectiveness of different home water treatment and storage systems also needs to be compared to other WSH interventions.
- d. **Donor perceptions and their roles in creating support** – Research is needed to understand donor perceptions and knowledge of the health impacts and economic benefits of water and sanitation interventions and the roles they play in creating donor support.

Annex 2 – Reporting Template for Breakout Session

<p>Identify achievable activities in the next year that are in line with the strategic plan</p> <ul style="list-style-type: none">• Prioritize the activities
<p>Identify people who would be willing to participate in the working group (to assist with achieving identified activities or to act in an advisory capacity)</p>
<p>Identify people who are willing to commit time in relation to achieving one or more of these activities</p>
<p>Determine/report accomplishments of working group or significant accomplishment of Network members</p> <ul style="list-style-type: none">• Questionnaire• People who will design, execute and interpret the questionnaire data
<p>Identify challenging issues to be addressed; obstacles, or issues that need further work to resolve</p>
<p>Indicators of success in achieving the above</p>

Annex 3 – Breakout Session Reports (as presented in meeting)

1. Advocacy and Communication

Participant in the Advocacy and Communication Breakout Session

1. **Mr Peter Lochery**, Care/USA
2. **Mr Jeffrey Sloan**, Chlorine Chemistry Council, USA
3. **Mr Martin Wegelin**, EAWAG/SANDEC Switzerland
4. **Mr Thomas Clasen**, London School of Hygiene and Tropical Medicine
5. **Mrs. Theechat Boonyakarnkul**, Ministry of Public Health, Thailand
6. **Dr Greg Allgood**, Procter & Gamble USA
7. **Dr Paul Goddard**, Reckitt Benckiser UK
8. **Sally Sutton**, SWL Consultants UK
9. **Mr Bruce Gordon**, WHO

(a) Analysis

Target Audience:

- Members and potential members
- Policy Makers
- Health Professionals
- Funding Organizations
- Collateral Networks/Agencies
- Vulnerable Populations

Message/Objective

- Enhance Network Profile
- Expand Membership (who is missing—e.g., South)
- Provide Programmatic and other Tools to Members
- Become and “enabler” for WSH sector
- Map out existing activities
- Present success stories
- Distill lessons learned
- Secure funding and other resources for Network administration

Strategies

- Learn from other successful advocacy groups
- Start with “low hanging fruit”
- Develop international, regional, national and local approaches
- Use members’ own public relations and other resources
- Link with and leverage off other networks/groups

(b) Brainstorming

Develop/identify for the Network

- Website
- Newsletter
- Brochures (multi-lingual)
- Listserv
- PowerPoint presentation on network
- Video

Raise profile of Network

- WHO statements/letters to members
- Leverage member PR departments

- Encourage local/national organizations to promote HWTS
 - Collaborating with other networks and groups
 - Highlighting success stories and lessons learned
- Develop tools for Network members
- Translate technical documents into promotional materials
 - Map activities globally
 - Develop speakers materials
 - Prepare FAQ
 - Promote Op-Eds and other communications
 - Develop questionnaires and templates
- Seek resources/overcome barriers
- Secure funding
 - Identify barriers for private sector participants
- (c) *Consensus Priorities (and lead persons responsible)*
1. Already underway
 - Website (G. Allgood)
 - Newsletter (J. Sloan)
 - Speaker material (B. Gordon)
 2. Additional priorities
 - Case studies/success stories/lessons learned (T. Clasen)
 - Cross-issue briefs (P. Lockery)
 - Formulate strategy for resource mobilization (B. Gordon)
 3. Ranked wish list
 - Global inventory/mapping of activities and programs (B. Gordon)
 - FAQ/Fact Sheets/Op-Eds (B. Gordon)
 - Video

Comments: need to articulate and include the benefits of membership; need to identify events and other opportunities for promoting HWTS; need to tailor communication and advocacy messages to funding agencies which focus on evidence-base, comprehensiveness and programmatic performance

2. Research

(a) Refine research agenda

- Purpose of the agenda is to advance the objectives of the Network
 - Advance the effective implementation of HWTS (technologies and how to provide them)
 - Science-driven
 - Evidence-driven
 - Health-driven
 - Need additional input from other working groups to define the priority
- Action – Revise the language of the agenda to clarify the role of research in developing and verifying technologies and demonstrating and increasing the effectiveness of implementation
 - Derek Baker and Maria-Elena Figueroa will provide an initial draft
- Action – Request that other working groups identify and prioritize key research questions that are needed for their work
- Action – Develop a survey to gain input from other Network members on prioritizing research questions. This would request priorities (based on the existing agenda) and areas of research activities and interest (current or future). Would be used to identify research priorities, gaps, and potential linkages.
 - Survey to be conducted in the next 4 months
 - Need to identify individuals would be willing to work on analyzing input and refining research agenda based on the results (by end of 2004)
 - Need to work with communications and others interested in polling the memberships
 - Would be used to identify research priorities, gaps, and potential linkages. Could be used to develop a strategic plan for research.
 - Mark Sobsey and Maria-Elena Figueroa

(b) Inventory of existing research

- Need to ensure that we adequately utilize existing research
- Action – Develop a survey of members to collect information on current or completed research (work with communication workgroup)
 - Mark Sobsey and Maria-Elena Figueroa
- Action – Make the inventory of existing projects (including links, project reports and articles) available on line
- Action – Form group to peer-review available information that has not already been evaluated
- Action – Link to or develop websites that provide users with detailed information on specific technologies. Biosand and Safe Water System websites can provide potential templates.
- Action – Collect copies of existing data collection instruments that have been used. These would be solicited in the survey of members. Consider the usefulness of developing generic protocols for specific purposes as needed.

(c) Expand outreach and collaboration with developing country institutions

- Potential Action – Plan for symposium/conference along with next years Network meeting. Need to begin planning and fundraising now.
- Action – Identify potential research partners in developing countries as a part of Network outreach to NGOs and other institution working on HWTS.

(d) Challenges

- Funding for participation of researchers from developing countries
- Funding for research activities
 - Potential Action – Create a team to form an integrated research proposal for addressing the continuum of issues from technology verification to full-scale implementation and evaluation (distribution model, communication, behavior change, adoption, water quality, health impact, economic analysis)
- How to measure water safety in absence of resources
 - What are the standards for technology performance?
 - How do you regularly monitor this in the field (e.g. turbidity, microbial quality)? Must be sensitive but simple.

Comments: must always be cognizant of the technical challenges in the field; be mindful too of the suitability of the technology to developing country settings; need guidance on practical levels of acceptable performance (i.e., do we need 3 decimal places?); need to recruit more members of working group to assume responsibility for the action items identified; need to develop better, risk-based standards that reflect actual resource availability in the field

3. Implementation

(a) Participants

Participants in the Implementation Working Group Meeting

1. John Borrazzo USAID (Co-chair)
2. Susan Murcott – MIT – Co-chair
3. Mansoor Ali – UNICEF
4. Daniel Abbott, Emory
5. Cleo Wiesernt Brandsma – NGO Bushproof
6. Uma Chawla – NICD India
7. Ron Denham – Rotary International
8. Stan Foster – Prof. Emory University
9. Adriaan Mol – NGO Medair Switzerland
10. Federico Porperzi – WHO - Geneva
11. Joshua Otieno – Kenya Water for Health Project
12. Steve Burgess – Anglican Ministry
13. Alfred Lang'at - Ministry of Health-Kenya
14. Reid Harvey – NGO: IDE Nepal
15. Rob Quick – CDC Atlanta
16. Shweta Verma – NGO: Population Services International-India
17. Camille Dow Baker – NGO: CAWST, Alberta Canada
18. Eric Oude Vrielink – Practica Foundation

- Broad range of institutions: universities, NGOs, service organizations, government, bilaterals, international organizations, (private sector?)
- Broad range of experience (continuum scale from research to pilot to small-scale field to large-scale field; urban and rural settings, technology choices at various levels, effective partnerships, concerns with access for low-income groups)

(b) Redefined “Network Activities”

- Level 1: Network secretariat resources (people, money) devoted to cross-cutting functions and to stimulate action to fill key implementation gaps
- Level 2: Network member’ resources (people, money) committed to agreed strategic implementation plan
- Level 3: Network members’ activities contribute to network goal/objectives but not part of implementation plan

(c) Refined Activity Areas

- Agree common guidance and approaches for implementation, monitoring, evaluation, reporting, e.g.
 - Tools for including HHWTSS in water and sanitation activities
 - Tools for including HHWTSS in health programs
 - Tools for including other hygiene and sanitation elements in HHWTSS programs
 - Tools for formative research to guide implementation
 - Tools for estimating programmatic costs
 - Tools for effective documentation
 - Etc.
- Start or increase scale of implementation of HWTS activities
 - Limited number, strategically selected
 - Promotion activities
 - Market development
 - Technology availability
 - Policy
 - Etc.
- Evaluation, programmatic documentation and sharing of these activities

(d) Priority Activities and interested members (July 2004 to June 2005)

IMPLEMENTATION ACTIVITY	INTERESTED MEMBERS
Create Web-based tool for HHWTSS technology and program options, organized according to key parameters	MIT, CDC, IDE, UNICEF, USAID, UNC, SANDEC (need more info), CCN (need more info Dr Nynku)
Create Web-based database of implementation experience of the Members	IDE, P&G, Ministry of Local Government-Kenya (City Council of Nairobi), Medentech (provision of data), SANDEC (provide data), National Nurses Assoc. of Kenya (NNAK) (provide data), Nursing Council of Kenya (MCRC?) (need more info for final decision)
Develop agreed common guidance and approaches for technology verification	IDE, CDC, MIT, CAWST, Practica, UNICEF, Anglican Church, MedAir, UNC, LSHTM, Samaritan’s Purse, AIT, Bushproof
Create Web-based tool for sharing technology verification methodologies and results	CDC, IDE, MIT, UNICEF, UNC, Emory, City Council of Nairobi (consumer of this information)
Develop agreed common guidance	IDE, Rotary, Emory, KWAHO, CDC, CAWST,

for evaluation, including both impact evaluation for health, water quality, and behavior/use as well as program implementation evaluation	Practica, USAID, LSHTM, Water Resources Management Authority, Ministry of Health-Gov't of India, JHU, Ministry of Local Government-Kenya, City Council of Nairobi-Kenya, DOH/MOPH-Thailand, MOH-Kenya, Nursing Council of Kenya (MCK) (behavior/use, program implementation, evaluation)
Develop tool for formative research	IDE, PSI, USAID, LSHTM, JHU, National Nurses Assoc. of Kenya (NNAK)
Develop tool for estimating programmatic costs	Emory (will take the lead role), CDC, USAID, LSHTM, WSP-Africa, JHU
Develop program and business development checklist	IDE, MIT, CAWST, PSI, USAID, Practica,

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- (e) *Reminder of “Network” function*
 - Not all organizations can “do it all”
 - Pair up researchers with implementers
 - Pair up technology developers with program developers
 - Pair up technology and/or program developers with those with resources/skills for impact evaluation
- (f) *Interests of participants (partial list)*
 - Technology/program options database (MIT, CDC, IDE, UNICEF, USAID)
 - Implementation database (IDE)
 - Technology verification guidance (IDE, CDC, MIT, CAWST, Practica, UNICEF, Anglican Church)
 - Technology verification database (CDC, IDE, MIT, UNICEF)
 - Evaluation guidance (IDE, Rotary, Emory, KWAHO, CDC, CWAST, Practica, USAID)
 - Formative research tool (IDE, PSI, USAID)
 - Programmatic costing tool (CDC, Emory, USAID)
 - Program and business development checklist (IDE, MIT, CWAST, PSI, USAID)
- (g) *Future*
 - Other tools (promotion, community capacity-building, training, institutional support mechanisms, policy, quality control)
 - Community-based M&E
- (h) *Parked issues*
 - How does research relate to implementation (and advocacy)?
 - Distinction between research, programmatic research and evaluation
 - Should HWTS be required to demonstrate program health impact as part of research? [Agreed that health impact would not need to be measured as part of implantation, but that research activities to demonstrate health impact could be overlaid on implementation.]

- Promotion of multiple program or technology options vs. single program or technology. [Perhaps resolution is, in any setting, to have one program but multiple technologies.]

Comments: need to clarify what is driving the agenda—should it really be health-driven, or science-driven? Emphasized need for capacity building; need to identify mechanisms for assessing levels of compliance and utilization of technologies, and the obstacles to broad acceptance and use; need to understand acceptability issues better; identify the health messages that must accompany the interventions; at some point, we don't need to keep measuring health impact—this can be assumed based on other research if the technology is microbiologically effective; identify opportunities and challenges for multi-country implementation (UNICEF); solutions must be assessed long-term for sustainable impact

Annex 4 – Agenda

Agenda

The International Network to Promote Household Water Treatment and Safe Storage

June 14-15 2004, Nairobi, Kenya

Monday June 14th, 2004

- 09:00-09:15 **Welcoming**
Mr Federico Properzi, Network Secretariat
- 09:15-09:30 **Introductory remarks**
Mr Mansoor Ali, UNICEF
Dr Richard Rheingans, Center for Global Safe Water
Mr Jeffrey Sloan, Chlorine Chemistry Council
Mr Martin Wegelin, SANDEC
- 09:30-09:45 **Official opening by Dr James Nyikal, Ministry of Health, Kenya**
- 09:45-10:15 **Round of introductions**
- 10:15-10:30 **Confirmation of Officers**
Chairperson: Mr Terrence Thompson, WHO-SEARO
Rapporteur: Mr Thomas Clasen, London School of Hygiene and Tropical Medicine
- 10:30-10:45 **Overview of the meeting and methods of work**
Chair
- 10:45-11:00 **Presentation: Background on the Network**
Mr Federico Properzi, Network Secretariat
- 11:00-11:30 **Tea Break (Hotel garden)**
- 11:30-12:30 **15 Minute Presentation from Working Groups**
1. *Communication:* Dr Greg Allgood, Procter and Gamble
2. *Advocacy:* Mr Bruce Gordon, Network Secretariat
3. *Research:* Professor Mark Sobesky, University of North Carolina
4. *Implementation:* Ms Susan Murcott, MIT
- 12:30-14:00 **Lunch Break**

- 14:00-15:30 **Move into breakout sessions**
 Breakout Group 1 - Communication & Advocacy
 Breakout Group 2 - Research
 Breakout Group 3 - Implementation
- 15:30-16:00 **Tea break (Hotel garden)**
- 16:00-17:30 **Breakout sessions continue**
- 18:00 **Cocktail and African dances (Hotel pool)**
 Hosted by the Network Secretariat

Tuesday June 15th, 2004

- 09:00-09:15 **Review of Day 1**
 Chair
- 09:15-10:30 **Breakout Groups report back**
 Rapporteurs of Working Groups
- 10:30-11:00 **Tea break (Hotel garden)**
- 11:00-11:45 **Plenary Discussion: Approval of Working Groups workplans**
 Chair
- 11:45-12:30 **Plenary Discussion: Experiences from the Rural Water Supply Network**
 Mr Piers Cross, The World Bank
 Ms Sally Sutton, SWL Consultants
- 12:30-13:00 **Panel Discussion: How can we improve regional and inter-regional cooperation?**
Moderator: Mr Terrence Thompson, WHO-SEARO. *Panelists:* Mr Reid Harvey (IDE), Mr Peter Lochery (CARE USA), Dr Oleg Shipin (AIT)
- 13:00-13:30 **Next actions, Closure**
 Chair
- 14:00-17:30 **SODIS field trip, if interested**
- 16:30-17:30 **Technology demonstrations (Hotel garden)**
 Mr Reid Harvey, IDE
 Mr Adriaan Mol, Medair
 Ms Susan Murcott, MIT
 Mr Eric Oude Vrielink, Practica Foundation
 Prof. Mark Sobsey, University of North Carolina
- 18:00 **Symposium reception (Hotel pool)**
 Hosted by PSI, CARE, CDC

Annex 5 – List of Participants

THE INTERNATIONAL NETWORK TO PROMOTE HOUSEHOLD WATER TREATMENT AND SAFE STORAGE

Nairobi, 14-15 June 2004

Provisional List of Participants

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