

DM 2003 Project Implementation PROGRESS REPORT

[01/31/2005]

In order to ensure transparency, accountability, as well as to share lessons learned, we will post this Progress Report on the Development Marketplace website at www.developmentmarketplace.org. However, if you would like to share any sensitive information with us, you can do so in section VI. The information provided in this part of the report will be handled as confidential, thereby it will not appear on the DM website.

I. Background Information

DM Project Number and Title	000407 – Arsenic Biosand Filter: Sustainable Implementation of an Appropriate Household Drinking Water Filter for Rural Nepal	
Report Author's Name (if different from Team Leader)	Tommy Ngai & Susan Murcott	
Total Award	US\$ 115,000	
Amount Disbursed to Date	US\$ 97,750	(85 % of the Total Award)

II. Progress Against Milestones

i) List the milestone objectives in the first column as expressed in the Project Agreement. The second column should indicate the current status of each milestone objective. In the third column, please provide quantitative data and qualitative information describing the status of the project against that particular milestone.

Milestone Objectives (Copy from the Agreement)	Status (Completed/ In Progress)	Descriptive Information on the Status
Finish orientation to all communities and stakeholders of selected model VDCs	Completed	<ul style="list-style-type: none"> • Conducted 30 VDC-level orientation workshops on health, diseases, and safe water management. • Conducted 178 village-level workshops on health, hygiene, and proper KAF operation and maintenance. • About 400 filters have been distributed through the above workshops. Another 400 sold by our entrepreneurs • Developed a Value-Based Educational Manual with information about water quality, treatment and options (e.g. KAF), for teachers and trainers
Finish monitoring of installed filters (1000+) in all districts	Completed	<ul style="list-style-type: none"> • Currently about 2000 filters are in operation. • All of the 2000 filters have been monitored and evaluated by our field staff.
Compile all information in a database	Almost Completed	<ul style="list-style-type: none"> • First round monitoring data of 1000+ KAFs have been compiled into an ACCESS database • Data entry for second round monitoring of 2000 filters is on-going. • Expected completion date: February 28, 2005.
Submit project completion report	Mar 31, 05	<ul style="list-style-type: none"> • It will be submitted on Mar 31, 05

Conduct national workshop in Kathmandu	Completed	<ul style="list-style-type: none"> • Held a national workshop at ENPHO on information dissemination of the Arsenic Biosand Filter on May 25, 2004. Attendance included major water supply implementers representatives, government officials, donor agencies, media, and other interested parties • Will present the KAF as an appropriate mitigation option at the National Arsenic Steering Committee meeting on Feb 4, 05. • Plan to hold another national workshop at ENPHO after the completion of the project completion report in Mar 31, 05
Hold seminars at MIT and internationally	Completed	<ul style="list-style-type: none"> • Presented project results in over 15 international conferences and programs on 5 continents (US, Chile, Italy, Kenya, Japan, China, Taiwan, Thailand, Nepal)
Project evaluation	Completed	<ul style="list-style-type: none"> • Evaluation on VDC-level and village-level workshop is completed. About 6000 people (authorities, health workers, teachers, villagers) attended the workshops. • Preliminary analysis showed excellent technical performance and high user satisfaction and acceptance. Full analysis will be reported in the final project completion report. • Currently there are about 2000 filters in operation, serving over 15,000 people
Submission of Project Report outlying activities carried out during the implementation period	Completed	<ul style="list-style-type: none"> • This is the progress report

ii) If you did not achieve some of your stated milestone objectives, please explain the reasons.

We have achieved all of our stated milestones except data entry and compilation. It is because some of our field staffs there involved in filter monitoring were occupied by other unexpected activities (e.g. assist our partner organizations on arsenic research and health survey). Therefore, filter monitoring was behind schedule, causing delays in data entry. Data entry is on-going, and is expected to be completed by Feb 28, 05.

iii) Has your project's overall accomplishments to date exceeded the original plan?

Yes No

If Yes, describe your achievements:

Originally, we planned to conduct workshops in 25 VDCs, to distribute 1000 filters, to reach 10,000 beneficiaries. We exceeded this plan. We conducted 30 VDC-level workshops and 178 ward-level workshops. Currently, about 2000 filters are in operation, serving about 15,000 people. In addition, our partner (Red Cross) aired a 1-month local radio program in Parsa district to promote the KAF. They will conduct 84 more ward-level workshops with their own support. The content of those workshops will be similar (i.e. arsenic and water and KAF). More filters will be distributed and more people will be benefited through these extra awareness activities.

Originally, we planned to conduct one workshop to teach our entrepreneurs on filter construction. We exceeded this plan. We, in collaboration with Center for Affordable Water and Sanitation Technology of Canada, conducted a second workshop to our established local entrepreneurs in Birgunj. 20 participants shared their experience on KAF, and learned advance skills in business promotion and management.

We have also presented our findings in 17 national/international conferences/workshops on 5 continents, far exceeding our original plan. Over 1000 conference participants learned about the KAF and this project.

III. Overall Project Progress

i) What have been the main challenges of your project to date? What, if any, adjustments have you made to your original business plan in order to overcome the challenges and meet your objectives?

Challenges:	Adjustments:
We were unable to obtain a work visa for Tommy Ngai due to unexpected complications and regulations from the Nepali government. Tommy's travel plan to Nepal was delayed for 4 months.	Tommy returned to Nepal in Dec 04 instead of Aug 04. During that 4 months, Tommy managed the project from Hong Kong through phone call and email communications. Tommy also attended and presented the findings of this project in 4 conferences (Chile, Japan, Japan, China) during that time.
Because of Tommy's delay and the unstable security situation, some project activities were delayed beyond control.	We have extended the project duration for 3 months, until Jan 31, 05.
Security conditions and frequent strikes (bandha) continued to delay our field work schedule.	We hired extra field workers to speed up our field work progress in order to meet our deadlines.

ii) Have any of your objectives changed or have you added new objectives since you signed your Project Agreement? If Yes, explain the changes.

Yes No

iii) Do you have any concerns about meeting your next milestone objectives?

Yes No

If Yes, what are the concerns and how do you plan on addressing those challenges?

iii) Although this is an interim report, are there any development outcomes or results of your activities to date that you would like to call attention to?

Shyam Ranjitkar visited our project site in Nawalparasi in July 2004. He was impressed and satisfied with our project. He agreed that this project should be expanded to reach more beneficiaries.

iv) **Reminder:** In accordance with Paragraph 3.1.1 of the Project Agreement, each project team is required to submit a statement of account showing the use of the funds within three months after the last disbursement. As a part of periodical expenditure review exercise, please provide an annex with un-audited summary of expenses during this reporting period.

IV. Ancillary Achievements

i) Have you or has your organization received any awards/recognitions or media attention as a result of your DM-funded project during this period?

Yes No

If Yes, please specify the sources and identify the names.

Award /Recognition	Media
<input type="checkbox"/> Local: <input type="checkbox"/> National: <input type="checkbox"/> International:	e.g. <input checked="" type="checkbox"/> International: BBC News on Dec. 3-4, 2003 <input type="checkbox"/> Local: <input checked="" type="checkbox"/> National: <i>various newspapers, TV programs, radio programs, magazine articles</i> <input checked="" type="checkbox"/> International: <i>conferences</i>

Explain the Award/Recognition or the Media content:

Conference: 14-15 June 04 – The Second Annual Meeting of the WHO International Network to Promote Household Water Treatment and Safe Storage, Nairobi, Kenya
 Susan Murcott explained the benefits of household-level water treatment systems for the developing countries, with the Kanchan Arsenic Filter as an example for rural Nepal.

Conference: 21-25 June 04 – Inter-country Workshop to Build Capacity for Arsenic Epidemiology and Research, Bangkok, Thailand
 Roshan Shrestha attended this WHO organized workshop, and disseminated information about the Kanchan Arsenic Filter and DM project activities.

Conference: 26-27 June 04 – International Business & Education Conference – A Focus on Water Management, Worcester, USA
 Tommy Ngai presented details of the Kanchan Arsenic Filter technology and our implementation activities at this conference organized by the Worcester Polytechnic Institute. About 50 participants attended, including business leaders from environmental industries, universities, United Nations, and NGOs. Many people expressed interest in the Kanchan Filter technology, considering it an appropriate solution for rural Nepal.

Conference: 24-26 August 04 – International Workshop on Safe Drinking Water in Developing Countries, Trieste, Italy
 Roshan Shrestha presented the KAF as an appropriate local drinking water solution for rural Nepal. About 20 participants, representing national governments and NGOs attended.

Conference: 30 Sep to 2 Oct 04 – Engineers for a Sustainable World National Conference - Solutions for a Shrinking Planet: Sustainable Engineering and Enterprise for Human Development, Stanford University, USA
 Susan Murcott presented the need for appropriate solutions for water problems in the developing countries. Participants (mostly students, professors, and water professionals) were very interested to learn about the KAF design process and implementation scheme.

Conference: 14 Oct 04 – Arsenic Contamination Strategies for Remediation and Residuals Management, University of New Hampshire at Durham, USA
 Susan Murcott presented the perspective on designing and implementing the Kanchan Arsenic Filter at this

conference organized by Water for People, an association of environmental consulting company interested to assist water supply concerns in developing countries. Participants included university students, environmental consulting companies managers, Water for People staff, and government officials.

Conference: 19 Oct 04 – The Water and Sanitation Program Brown Bag Lunch Seminar, World Bank Washington, USA

Susan Murcott presented the Kanchan Arsenic Filter development process and findings of the DM03 implementation program to a group of interested WB staff.

Conference: 19 Oct 04 – New Mexico Environmental Health Conference Arsenic Vendor Forum - Technology Overviews, Albuquerque, USA

Sophie Walewijk presented the technical basis and advantages of the Kanchan Arsenic Filter.

Conference: 8-11 Nov 04 – International Conference: Evaluation and Management of Drinking Water Sources Contaminated with Arsenic, University of Chile at Santiago, Chile

Tommy Ngai explained the Kanchan Arsenic Filter research and development process, as well as our implementation scheme. Participants were mostly from South American countries (Chile, Peru, Argentina, Brazil). They were excited to learn about this simple technology, and were interested to pilot test it in their own countries.

Conference: 14-16 Nov 04 – International symposium and Workshop on “Technology to overcome the pressures of a changing earth: In search of a new intermediate technology for the local community”, Kyoto, Japan

Tommy Ngai explained the Kanchan Arsenic Filter research and development process, as well as our implementation scheme. 30 participants were mostly government officials, university professors, and environmental NGOs involved in sustainable development projects worldwide.

Conference: 20-21 Nov 04 – The 9th Forum on Arsenic Contamination of Groundwater in Asia, Yokohama, Japan

Tommy Ngai presented the Kanchan Arsenic Filter development and implementation scheme at this international conference organized by the Asia Arsenic Network. 80+ government officials, NGO representatives, and researchers from Japan, China, Bangladesh, Nepal, and USA, who are involved in arsenic mitigation were present at this conference.

Conference: 28-30 Nov 04 – International Conference on Security and Sustainability in Water Resources, Kathmandu, Nepal

Bipin Dangol and Roshan Shrestha presented information about the Kanchan Arsenic Filter technology and our implementation program to a group of 50+ research scientists, government officials, and NGO representatives involved in sustainable development of water resources.

Conference: 22-26 Dec 04 – Inter-Regional Conference on Water Quality – Arsenic Mitigation, Taiyuan, China

Tommy Ngai presented safe water options for arsenic mitigation in household level, emphasizing the need for solution appropriate for local context. This conference organized by WHO, UNICEF, and the Chinese government was attended by 70+ policy-makers, government leaders, head researchers, NGO representatives, and practitioners from 11 Asian countries affected by arsenic.

Conference: 13-17 Dec 04 – WaterAid Regional Networking Meeting, Dhulikhel, Nepal

Roshan Shrestha presented the KAF information and DM project findings to an international group of water professionals, government officials, and prominent NGOs representatives.

Workshop: 6 August 04 – Nepal Red Cross Society, Birgunj, Parsa, Nepal

ENPHO staff, in collaboration with NRCS, conducted a one-day orientation to 30 representatives from local government, municipality, and interested group on arsenic contamination of drinking water. Information and demonstration of the KAF was given.

Workshop: 25 Nov 04 – Municipality-level Workshop on Kanchan Filter, Kalaiya, Bara, Nepal
Bipin Dangol presented to a group of 32 government officers, health post workers, and local NGO

representatives about arsenic in water, and Kanchan Arsenic Filter.

Workshop: 25 Jan 05 – Geologic Controls of Arsenic Contamination of Groundwater in the Terai Region of Nepal, Kathmandu, Nepal.

Tommy Ngai presented the KAF research process, implementation activities, and evaluation results in this workshop organized by the Nepal Geological Society, the American Embassy, and US Geological Survey.

National Radio Interview: 5 June 04, Taiwan National Radio, Taipei, Taiwan

Tommy Ngai explained about the water contamination problems in Nepal, and the development of the Kanchan Arsenic Filter as a sustainable solution.

National Daily Newspaper Interview: 29 July 04, Annapura Post, Nepal

Roshan Shrestha gave information about Kanchan Filter and our implementation activities under the DM project. Article was published on August 04.

National TV Interview: 20 August 04, Nepal One, Nepal

Roshan Shrestha talked about groundwater depletion in Kathmandu valley, arsenic contamination in Kathmandu and rural Terai, and available mitigation options, such as the Kanchan Arsenic Filter.

International Radio/TV Interview: 15 August 04, British Broadcast Corporation (BBC), UK

Roshan Shrestha gave information about water quality, such as the arsenic contamination in Nepal. He recommended that the Kanchan Filter technology and our implementation activities are appropriate for rural Nepal.

Magazine Article: University of Toronto Faculty of Applied Science and Engineering, Skulematters Magazine, Volume 7, Issue 1, Autumn 2004, page 11-14.

See attached.

Magazine Article: University of Toronto Chemical Engineering and Applied Chemistry, Interfaces Magazine, Volume 2, Number 2, Fall 2004, page 10-11.

See attached.

Attach web links/news clips, if available:

7 August 04, Annapurna Post, Nepal

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अन्नपूर्ण पोष्ट

पानीका डाफ्टर

मोह सय रुपैयाँको लगानीमा वर्षौ टिक्ने 'कञ्चन फिल्टर'बाट छानिएको पानी स्वास्थ्यका दृष्टिले कीटाणुरहित मात्र नभएर स्वादिलो पनि हुने बा, श्रेष्ठको दाबी छ। यसबाट प्रतिघण्टा २० लिटर पानी छानिने र जुनसुकै स्थानको पानीमा पनि प्राकृतिक स्वाद स्थापना हुने श्रेष्ठ बताउनुहुन्छ।



जबन श्रेष्ठ

श्रेष्ठले कञ्चन फिल्टरको विकास गर्न सकेको छ। यो फिल्टर पानीमा रहेका विभिन्न प्रकारका जैविक र रासायनिक प्रदूषकहरूलाई फिल्टर गर्दछ। यसबाट प्राप्त पानी स्वच्छ र स्वादिलो हुन्छ।

पानीको अभावले ग्रस्त रहेको नेपालमा पानीको कमीलाई पूर्याउने एक मात्र राम्रो उपाय नै हो। यसको लागि अन्नपूर्ण पोष्टले 'कञ्चन फिल्टर'को विकास गरेको छ। यो फिल्टर पानीमा रहेका विभिन्न प्रकारका जैविक र रासायनिक प्रदूषकहरूलाई फिल्टर गर्दछ। यसबाट प्राप्त पानी स्वच्छ र स्वादिलो हुन्छ।

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Water



"Tommy Ngai's determination and ingenuity have brought safe drinking water to half a million people in Nepal – and two prestigious awards."

Cleaning Contaminated Water

Alumni are in the forefront of a prize-winning innovation in Nepal
BY RUTH WEINSTOCK



want to apply my engineering knowledge in a practical way that can help people, not in a selfish way to make money," asserted alumnus Tommy Ka Kit Ngai (Chem 0T1, Environmental Option) with quiet conviction.

Ngai's determination and ingenuity have brought safe drinking water to half a million people in Nepal and a major World Bank prize. Currently a Research Affiliate at the Massachusetts Institute of Technology (MIT), Ngai and a team headed by his MIT thesis supervisor, Professor Susan Murcott, and including fellow UofT engineering alumna Sophie Walewijk (Chem 0T1, Environmental Option) and a number of partner agencies, have met with considerable success in addressing the problem of high levels of arsenic and pathogens in drinking water in Nepal's most populous region, Terai. Arsenic in water can cause stunted growth, skin lesions and cancer and is a scourge affecting tens of millions of people in developing nations.

"The World Health Organization's guideline for arsenic in drinking water is 10 parts per billion (ppb)," Ngai explained. "Terai's water can be as much as 100 times over this guideline." Because of the local geochemistry, arsenic in rocks has gradually infiltrated the groundwater. In addition, 40% of the region's well water contains pathogens that can cause childhood diarrhea, leading to dehydration, malnutrition and sometimes death. It's estimated that four to six million people in India and 40 million in Bangladesh are at risk by drinking water with greater than 50 ppb. Countries unable to meet the WHO guideline include Argentina, Chile, Jamaica, Mexico, Mongolia, Nicaragua,



Shown with children and villagers in Nepal, are (l-r) Tommy Ngai (Chem OT 1) and Sophie Walewijk (Chem OT 1), who helped develop a filter to remove arsenic and pathogens from drinking water.



the Philippines, Taiwan, Thailand, Vietnam and parts of Eastern Europe.

After his 2001 graduation from UofT, Ngai was accepted in MIT's Civil and Environmental Engineering M.Eng program, while his classmate, Sophie, headed to Stanford to do her M.A.Sc. The two remained in touch. In September 2001, Ngai joined Murcott's team that had been studying water quality in Nepal since 1999. He stated, "A big part of how I developed the filter was by looking through others' results. I didn't invent it out of the blue."

His travels in poor countries ("I've seen how the average citizen of the world lives"), intensified Ngai's determination to find a method of supplying clean water that was cheap and easy to implement in local conditions. The young engineer's "light bulb" moment came when he picked up a handful of iron nails in a Nepalese hardware store. The prize-winning filter capitalizes on the fact that iron adsorbs arsenic.

Apart from its novel use of inexpensive nails, the arsenic-bicsand drinking water filter requires low cost materials such as sand, gravel, concrete, and PVC pipes. Pathogens are eliminated as water is filtered through sand and gravel; arsenic is removed as the iron nails rust. Simple to operate, the filter supplies 15 to 30 litres of water per hour – enough for a large family. Performance has improved and the price has dropped from US\$35 for the original design, to \$15 for the latest version.

The filter has been given two prestigious awards. In May 2002, an early version brought Ngai the top prize from the Lemelson Foundation, awarded through an MIT competition. The Foundation doubled its usual cash prize to \$10,000, enabling the group to further its work. Ngai called on Sophie to join the team field-testing the idea he had developed in a lab. Sophie later assisted Tommy in writing a proposal to a World Bank Development Marketplace Global Competition. The team vied with nearly 3,000 entries from over 100 countries. In December 2003, they won a US\$115,000 prize.

With the help of funding from the World Bank, the group is hoping to make the blue plastic tub a ubiquitous sight in Nepalese households.

PHOTO: COURTESY OF TOMMY NGAI

particularly in Terai, where nearly 50 per cent of the country's 24 million people live. Local "entrepreneurs" in each of the districts most affected by arsenic have been trained in manufacturing, water testing and troubleshooting. Agencies involved in an effort that began last February to promote the use of the filter are: MIT, the Nepalese Environment and Public Health Organization, the Rural Water Supply and Sanitation Support Program and the Red Cross.

Since many Nepalese have no idea their water is contaminated, education is critical. With local governmental bodies and health clinics, the team is conducting workshops to teach villagers about health, hygiene, and water-related diseases, inform them how to obtain a filter and demonstrate its use. A study showed high acceptance.

The team encountered many challenges, from strikes and intermittent electricity, to the dangers of working in a country ravaged by a decade-long civil war. Tommy recalled the group getting caught on a jungle road blocked by an exchange of fire between government forces and guerrillas. To zoom through a war zone filled with burning vehicles, fallen trees and telephone lines, they put a large sign saying "tourists" on their vehicle and hoped for the best.

Sophie and Tommy first met and began grappling with the question of contaminated water in developing countries in their fourth year at UofT, when they took the core Environmental Engineering Design Project Course, in the undergraduate Collaborative Program in Environmental Engineering for Civil and Chemical students.

Tommy and Sophie's design project was proposed

continued on page 14

ILLUSTRATION & PHOTO: COURTESY OF PROFESSOR GREGORY ANTONIEN

(centre) Tommy Ngai conducts a workshop to teach Nepalese villagers about health and water-related diseases.



by Henry Miyamoto, an industrial advisor to the course, which was supervised by Chemical Engineering and Applied Chemistry Professors Don Kirk and Masahiro Kawaji. The project's goal was to come up with a practical means of eradicating arsenic in water in Bangladesh using the technique of an in-ground zero valence iron filter.

While at UofT, Tommy and Sophie won awards at the Ontario Engineering Competition. In addition, Sophie made her mark as the founder of UofT's chapter of Engineers Without Borders and by participating in Women in Science and Engineering (WISE).

The pair credit the "inspiring" environmental lessons of lecturer Namir Kahn, who encouraged students to use their technical skills to better society. Sophie also cited her undergradu-

ate thesis supervisor Professor Elizabeth Edwards and the financial support and encouragement she received at UofT. She affirmed, "Studying at UofT absolutely gave me the tools, contacts and confidence that I needed to meet my goals." She is currently working on her PhD at Stanford on treating water using reverse osmosis membranes.

Tommy remarked, "My academic training at UofT was so good that higher studies at MIT were much easier for me than for many of my classmates". He laughs, recalling that he cut his sleep to four hours a night to meet demanding UofT expectations, but that when he began his M.Eng at MIT he was able to snooze for seven hours.

Murcott is currently on a world tour to spread the word. Tommy plans to address conferences, including the Sustainable Technology Conference in Kyoto, Japan in November. After recent travels to Bangladesh and Peru, he has returned to Nepal until December 2004. Ultimately the team hopes to overcome the many challenges of bringing the technology to other countries and to improve it further. But funding remains a problem. World Bank support ends in November 2004. Ngai will shortly need to redirect his energies and look for a new position.

Still Tommy Ngai remains strongly committed to the project's goals: "I believe ideas should be put into action."

PHOTOGRAPHY: BIRYI DANJOCK

Arsenic Mitigation in Nepal

Many villagers in the rural Terai region of Nepal lack access to safe drinking water. Tube well drinking water sources in a number of districts are contaminated with arsenic and often contain fecal bacteria. Villagers continue to use the wells, suffering from preventable water-borne diseases including diarrhea, stunting, skin lesions, and cancer.

In 2002, an innovative household water filter, the Arsenic Biosand Filter (ABF), was developed by a collaborative effort involving the Massachusetts Institute of Technology (MIT) and two local water supply agencies in Nepal, the Environment and Public Health Organization (ENPHO) and the Rural Water Supply and Sanitation Support Programme (RWSSSP). The filter, which provides simultaneous arsenic and pathogen removal at the household level, can be built using locally available materials and local labour. A pilot study showed excellent performance and high user acceptance.

The ABF won an award from the World Bank at its Development Marketplace Competition 2003. The US\$115,000 grant will provide start-up capital for promoting the ABF in arsenic affected districts in Terai. The project will run from February, 2004 to October, 2004

and will be managed by a three-member network consisting of representatives of MIT, ENPHO, and RWSSSP.

The beauty of the ABF is the simple underlying principle. Arsenic particles are adsorbed on the surfaces of rusted iron nails. Larger pathogens are trapped on a sand layer by physical straining, and smaller pathogens are removed by predation by microorganisms residing in the sand. Moreover, operating the ABF does not require a technical background.

Two of the participants in the project are **Sophie Walwijk** (Chem 0T1) and **Tommy Ngai** (Chem 0T1). Sophie, now a graduate

student at Stanford, was a member of the MIT team. She continues to work on the Nepal arsenic project while pursuing her Ph.D. in Civil and Environmental Engineering. An honours student who completed the environmental option, Sophie was one of the founders of the Department's chapter of **Engineers Without Borders**.

Tommy earned a Master of Engineering degree from the Department of Civil and Environmental Engineering at MIT, where he is now a lecturer and researcher. He is supervising the implementation of the ABF project in Nepal until its completion in October.

ii) Has your organization made any new partnerships as a result of this project during this reporting period?

Yes No

If Yes, specify type of the organization from the list below and describe nature of the partnership:

<input type="checkbox"/> Local Government: <input type="checkbox"/> National Government: <input checked="" type="checkbox"/> NGO: <i>Center for Affordable Water and Sanitation Technology (CAWST) of Canada</i> <input type="checkbox"/> Bilateral Development Agency:	<input type="checkbox"/> Multilateral Development Agency: <input type="checkbox"/> Private Corporations: <input type="checkbox"/> Other:
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- *CAWST is very impressed at our research and implementation activities of the Kanchan Arsenic Filter. They agreed to provide technical assistance and to assist our entrepreneurs training in the future. They also agreed to help our team to develop scale-up implementation and financing protocols.*
- *We continue our partnership with NEWAH by providing KAF consultation service in June 2004*
- *Nepal Red Cross Society is highly supportive of our KAF project. They are promoting the KAF in radio and village-level workshop using their own funds.*

iii) Sustainability and scalability after completion of the DM fund are top of the DM Team’s priorities. Has your organization leveraged new funding or secured future funding during this reporting period?

Yes No

If Yes, provide the following information.

Funding Sources: Names of the Organizations
 Amounts Funded/Committed: US\$ 000,000

V. Requests to the DM

i) Do you have any comments on the overall process and support provided by the DM Team or Project Liaison?

<p>After the departure of our previous Washington-based project liaison, Amy Lin took over and was very supportive to our project. We are thankful for her tremendous contribution.</p>

ii) If your contact information has changed, please provide us with the new information.

Please send all project correspondence/information to both Susan Murcott (Principle Investigator) and Tommy Ngai (in-country representative). Contact information for Tommy Ngai is shown below:

Contact Name:	Tommy Ngai
Title:	Lecturer and Researcher
Organization:	Massachusetts Institute of Technology
Primary Email Address:	tommy.ngai@alum.mit.edu
Secondary Email Address:	

Organization's Website	http://ceemeng.mit.edu/~water/index.html www.enpho.org
Phone:	+977-1-4468641 (Nepal)
Fax:	
Address:	U.S.A. ADDRESS: Massachusetts Institute of Technology Department of Civil and Environmental Engineering Room 1-138 77 Massachusetts Avenue, Cambridge, Massachusetts 02139, USA NEPAL ADDRESS: Environment & Public Health Organization Thapagaon, New Baneshwor, Kathmandu, Nepal. P.O.Box 4102
Postal Code:	02139

VI. Confidential Report

Please provide, if any, sensitive comments or requests in the box below. Information provided in this section will be handled as confidential and will not be publicly posted on the DM website.

VII. Next Steps

- Send this Progress Report to your Project Liaison via email
 - cc to the DM team dmwinner@worldbank.org
- The Project Liaison will review the Report and will either
 - a) approve the Report and authorize disbursement via email with cc to dmwinner@worldbank.org ; or
 - b) does not approve (or does not authorize disbursement) but responds with comments, questions, requests for team to address with cc to dmwinner@worldbank.org (in this case, the team would address PLs concern to move to approval)
- Once approved, team send signed Request for Payment to DM Team
 - via fax +1-202-522-2042
 - or scanned document via email to dmwinner@worldbank.org
- Upon receipt of the following, the DM Team can process disbursement:
 - a) Progress Report & Expense Addendum in Annex I
 - b) Signed Request for Payment
 - c) Project Liaison's approval of report and authorization of payment

Annex I. Project Expenses for this Reporting Period (ending Jan 31, 2005)

Items	Sub-Totals (USD)
1 Personnel	15,000
2 Materials and Equipment	5,000
3 Training	7,000

4	Travel	20,000
5	Evaluation/Information Dissemination	5,000
6	General Administration/Overhead	2,000
7	Other	1,000
Total Expenses		55,000

For Internal Use Only		
Progress Report Number	<input type="text"/>	
Approved by Project Liaison	<input type="text"/>	Date <input type="text"/>
Received by DM Team	<input type="text"/>	Date <input type="text"/>