



Lien Foundation and NTU launch second watsan wave with fresh S\$12m fund for the Environmental Endeavour

Aim to bring clean water and sanitation to one million people in Cambodia, China and Vietnam by 2013

The National Kidney Foundation (NKF) contributes its expertise to bring clean water to Vietnam's largest dialysis centre

Singapore, 26 March 2010

1. The **Lien Foundation** (LF) and the **Nanyang Technological University** (NTU) today announced their second thrust to bring clean water and sanitation to poor communities in the region with fresh funds, new expertise and partners, and an inaugural environmental fellowship programme.
2. The Lien Foundation is injecting a new sum of S\$12m into the **LF-NTU Environmental Endeavour** (Endeavour). Started in 2006, the Endeavour seeks to improve the living conditions of Asia's developing communities through technology-based developmental work (see *Annex A*). In the second phase of their cooperation, LF and NTU will sharpen the Endeavour's mission of providing innovative and sustainable solutions for those without clean water and sanitation in Cambodia, China and Vietnam. The Endeavour will be administered by **NTU's Nanyang Environment and Water Research Institute (NEWRI)**, an eminent centre for water technologies.

Tapping the Grassroots Wellspring

3. Since its start, the Endeavour has reached over 200,000 lives through the work of **Lien Aid**, the Endeavour's international developmental non-governmental organization (NGO). Using innovative methods, Lien Aid has piloted new technologies and models of service delivery. They have initiated 38 projects across six countries (*see Annex A*), steadily earning the trust and recognition of local government officials at central and provincial levels. This is evident from the many joint programmes Lien Aid runs, where local officials, institutions and communities benefit from knowledge transfer and capacity building initiatives.

4. The Endeavour has also garnered some S\$5.7m of external support from philanthropists, foundations, international NGOs, private sector enterprises and governments.

Spreading wings and planting roots

5. "We will intensify our efforts as a philanthropic pioneer in bringing clean water and sanitation to Asia's poor," said Mr Lee Poh Wah, Chief Executive Officer of Lien Foundation. "We aim to impact 1 million lives by 2013. Taking a market-based and community-driven approach, we hope to break down political, economic and cultural barriers for greater access to water & sanitation. To better understand and influence the local communities, we will continue to strengthen our regional offices and staff in Cambodia, China and Vietnam."

Water and environmental powerhouse

6. Led by Professor Ng Wun Jern, NEWRI Director, NTU will augment the Endeavour's efforts with the expertise, innovations, and resources of NEWRI - the environmental and water research and technologies powerhouse (*see Annex B*).

7. "NEWRI brings together a multi-disciplinary R&D team in environmental and water technologies (EWT). This ecosystem allows NTU to integrate its strengths and expertise and tackle environmental problems from different angles. Under the Endeavour initiative, NEWRI will coordinate the research and education in EWT and support applications through Lien Aid. Such seamless arrangement will ensure that a more sustainable and effective implementation of the projects," said Professor Ng.

Lien Environmental Fellowship Programme: from research to real world results

8. Under the Endeavour, LF and NTU will launch a new **Lien Environmental Fellowship** (LEF). The fellowship aims to seek innovative ideas from leading academia/researchers in Asia's developing countries in order to tackle today's water and sanitation challenges. These fellows must translate their ideas into successful solutions that can benefit their home communities. Lien Aid will also assist in the implementation. S\$500,000 has been committed towards the LEF programme for each of the next four years (see *Annex C*).

NKF joins the Endeavour to help Vietnam

9. The latest partner to join in the effort is Singapore's NKF (see *Annex D*). NEWRI, Lien Aid and NKF have teamed up with Vietnam's Ministry of Health to improve the quality of water and patient care at Bach Mai Hospital in Hanoi. Vietnam's largest dialysis centre is in Bach Mai Hospital and everyday, it needs large volumes of high quality clean water for its patients' dialysis treatment. NEWRI will work with Lien Aid to improve the hospital's existing reverse osmosis (RO) water treatment system. NKF will share their know-how on the operations and maintenance of the RO water treatment system.

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About Lien Foundationwww.lienfoundation.org

The Lien Foundation was created in 1980 by Dr. Lien Ying Chow, an eminent business leader, banker and hotelier. His influence extended beyond the private sector and Singapore, as a community leader, diplomat and philanthropist.

Lien Foundation envisions a better Asia where clean water and sanitation form a keystone of its progress. Together with the Nanyang Technological University (NTU), it has formed an international arm for development called Lien Aid, to focus on tackling the water and sanitation crisis in Asia's developing countries.

The Singapore-based Foundation draws from the country's strategic position and resources as a water hub, as well as NTU's strong base of research and innovation to develop creative solutions to advance water and sanitation. It also pursues this cause through alliances with local governments and their communities, the private sector, philanthropists, institutes of higher learning and other NGOs.

About Nanyang Technological Universitywww.ntu.edu.sg

Nanyang Technological University (NTU) is a research-intensive university with globally acknowledged strengths in science and engineering. The university has a beautiful garden campus and a distinguished lineage with roots that go back to 1955.

NTU's 12 schools span diverse disciplines – from engineering and the sciences to art, design and media. The university has a strong engineering college focused on innovation, a business school with one of the top 100 MBA programmes in the world, an internationally-acclaimed National Institute of Education, one of the best communication and information schools in Asia, and a biological sciences school at the forefront of Singapore's life sciences initiative. The Institute of Defence and Strategic Studies is a world authority on terrorism issues.

Ranked among the top 50 universities in the world, NTU has in place multi-country programmes and initiatives, many established through its strategic alliances with 300 institutions in more than 45 countries, including Massachusetts Institute of Technology, Stanford University, California Institute of Technology, Cornell University, Cambridge University, and Beijing University.

About Lien Aidwww.lienaid.org

Lien Aid is an international development NGO headquartered in Singapore. Its core mission is to build a firm foundation for human development by making safe water and sanitation accessible and affordable to poor communities in Asia. Founded in 2006 by the Lien Foundation and the Nanyang Technological University, Lien Aid's strength lies in delivering solutions using appropriate technology backed by knowledge transfer. In less than four years, Lien Aid has impacted over 200,000 lives in Cambodia, China, Indonesia, Myanmar, Thailand and Vietnam through various water treatment, sanitation and community development initiatives.

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Annex A

About the LF – NTU Environmental Endeavour

Phase One: 2006 – 2009

In 2006, Lien Foundation and Nanyang Technological University (NTU) established the LF – NTU Environmental Endeavour to improve the living conditions of Asia's developing communities through technology-based developmental work.

The Lien Foundation committed S\$8.3m to Phase One of the Endeavour. From 2006 to 2009, the Endeavour achieved its mission through two arms – the Lien Institute for the Environment (LIFE) that was in charge of developing innovative environmental technologies, and Lien Aid, the international development agency that deployed the technological know-how in the field.

Overview

- **S\$5.4m spent**
- **S\$4.6m funding raised from external donors** (including *United States Agency for International Development*, Singapore Water Association, Ian Ferguson Foundation, Temasek Foundation, corporate partners and individual philanthropists)
- **S\$1.1m financial and in-kind contributions** from local government agencies and partners in beneficiary countries

Achievements

- **38 projects initiated in 6 countries** – Cambodia, China, Indonesia, Myanmar, Thailand and Vietnam
- **29 projects completed, 9 projects in progress**
- Impacted **more than 200,000 lives**
- Local presence: with Lien Aid staff in Cambodia, China and Vietnam

Project Highlights:

- **Brought clean water to Vietnamese hospitals**, benefiting some **50,000 patients from The National Cancer Hospitals and National Hospital of Pediatrics** who were previously without potable water. Clean water has also resulted in better patient care and infection control.
- **Achieved arsenic removal intervention for over 10,000 Vietnamese in Nam Dinh and Ha Tay provinces.** Lien Aid will also partner Vietnam's Ministry of Natural Resource and Environment to develop and design effective and affordable arsenic treatment options for locals.
- **Built sustainable change with new business model.** A unique **floating water treatment plant** now offers some **1,000 Cambodian households** living in the Tonle Sap river access to clean drinking water daily. The market-based business model allows Cambodians to buy, sell and value the importance of drinking water.
- **Partnered the Lezhi community** in China to build 750 water wells and 12 water reservoirs to get potable water and to irrigate farmlands. Some 6,000 villagers have benefited and the average per capita income of the villagers has increased.

ANNEX B

About NEWRI Nanyang Environment and Water Research Institute

Officially launched by Minister Yaacob Ibrahim on 19 March 2008, NEWRI unifies NTU's EWT efforts in academia, research and new applications. It also serves as the 'entrance' to NTU's EWT capabilities and allows researchers to engage in leading research, bringing together groups across the university so as to leverage one another's strengths.

With funding from National Research Foundation, Economic Development Board, and the Environment & Water Industry Development Council, NEWRI's ultimate goal is to translate cutting-edge EWT research into industry relevant technologies and to bring these to an industry eager to benefit society.

As one of Singapore's key research centres of excellence in environmental and water technologies (EWT), NEWRI provides a strategic operating platform for The Endeavour to fulfill its key charter in water and environment sustainability. The existing expertise and ongoing research on water and environmental technologies at NEWRI will further complement and support the objectives of the EE2.

ANNEX C

About the Lien Environmental Fellowship (LEF)

The LEF scheme aims to recruit academics/researchers that are passionate about improving water sanitation and sustainability in his/her community to undertake related research in NTU.

Key features

The key feature of LEF is its “train-the-trainers” approach. It aims to identify candidates who have the desire to help his/her community so that these people can be better served with clean water, good sanitation and renewable energy. The successful candidates will be mentored by leading scientists in NEWRI to better conceptualise the LEF proposal, test the ideas in laboratories and discuss the implementation plans with Lien Aid’s implementation engineers.

Aim of the programme

To identify and nurture local champions to transfer and magnify the expertise and know-how in water sanitation and sustainability to the community

Terms and Conditions

- The duration of the fellowship will be from three to six months
- An economy class return air ticket will be provided
- On-campus accommodation will be provided
- Monthly allowance of S\$2,500 will be provided
- Laboratory and prototyping costs shall be provided

Eligibility

Outstanding scientists and researchers with a Ph.D degree in the relevant discipline of science or technology from the partnering universities are eligible to apply for the LEF.

Application Procedures & Selection Processes

Interested parties who wish to apply for the LEF are invited to submit a five-page proposal that defines a problem and outlines the proposed solutions.

Applications will be short-listed by a LEF Review Panel. The applicants will be selected based on his/her passion for water sanitation and sustainability, his/her academic credentials as well as the proposal that he/she will implement when he/she returns to his/her community.

ANNEX D

About the NKF-LF-NTU Clean Water for Dialysis project (Bach Mai)

Clean water for dialysis

Vietnam's largest dialysis centre to get leg-up from NTU, Lien Aid, and NKF

Nanyang Technological University (NTU) together with Singapore NGOs - Lien Aid, and the National Kidney Foundation (NKF) are partnering the Vietnamese Ministry of Health to improve the quality of water and patient care in Bach Mai Hospital, which houses Vietnam's largest dialysis centre.

Engineers from NTU's Nanyang Environment and Water Research Institute (NEWRI) will be working with Lien Aid to improve the hospital dialysis centre's existing reverse osmosis (RO) water treatment system. Bach Mai Hospital's dialysis centre requires large volumes of high quality clean water daily to provide life saving dialysis treatment for their kidney patients. This project will make certain that their dialysis machines get their needed supply of high quality clean water.

As one of the leading dialysis providers in Singapore for the past 40 years, the NKF will be sharing their know-how and advice on the operations and maintenance of the RO water treatment system. This will help to ensure that Bach Mai Hospital's dialysis centre takes the best measures to ensure a consistent supply of high quality water to their dialysis machines. In addition, NKF will also share their best practices in the area of infection control.

Estimated cost & duration S\$100,000
About 1-2 years

- *Together with local experts and Vietnam MOH, Lien Aid plans to undertake a water audit for Bach Mai hospital in late March 2010.*
- *Engineers from NEWRI and NKF will also participate in this water audit to recommend the best course of action.*

Note: Apart from leading the project for the dialysis centre, Lien Aid will also be improving the main water storage for Bach Mai hospital.

Renal care and dialysis much needed in Vietnam

Vietnam has around 5.4 million people with renal failure, about 7 percent of its total population. Of this, about 72,000 people in Vietnam are in the final stage of renal disease, where dialysis is the only viable option. However, the hospitals can only handle about 10 percent of them.

Lien Aid committing S\$1.4m to address water and sanitation issues in ten Vietnamese hospitals over the next four years

Lien Aid has officially expressed its commitment to the Vietnam Ministry of Health to provide S\$1.4m to address water, sanitation, waste management and infection control issues in Vietnam's hospitals over the next four years. The quality of

water and proper sanitation are vital components of good patient care and hygiene as well as infection control. Lien Aid will also push out initiatives to promote proper hand washing practices in the hospitals.

In addition to Bach Mai Hospital, Lien Aid is working with the Ha Tinh provincial government to improve their hospitals' water, sanitation and wastewater treatment facilities. Ha Tinh is a very poor province with a population size of about 1.3 million. Thach Ha District Hospital will be the first of nine hospitals to benefit from this initiative.

Since its establishment in 2006, Lien Aid has initiated eight projects in Vietnam and impacted over 90,000 lives. Key projects include the improvement of water and sanitation facilities of the National Cancer Hospitals and National Pediatric Hospital in Hanoi, Vietnam.