Scientific Research vs.

Practical Application







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Drinking Water & Surface Water Problems

- Microbial contamination;
- Chemical contamination (Arsenic, Iron, Ammonia and Nitrate);
- Urban rivers converting to Open Sewer;
- Frequent outbreaks of water borne diseases;
- Chronic shortage of Water in cities.



Waterborne diseases dog valley denizens

Himalayan News Service Kathmandu, July 12

The valley has been facing fectious Disease Hospital. several outbreaks of waterborne including acute gastroen- dominal pain and cramps, teritis, since April

demiology and Diseases chiefly caused by contami-Control Division (EDCD), nated water. over 3,339 cases of gastroenteritis were reported ty of the valley, conducted in the valley from April 15 by the Central Laboratory,

were confirmed as having in the valley since April this cholera and five deaths year. In April-May, 28 per were reported. The record cent of water in the valley is based on the number of was found undrinkable. In patients in the Kanti Chil- May-June 39 per cent of dren Hospital, Patan Hos- water was found unsafe for

pital, Bhaktapur Hospital, Nepal Medical College and Sukraraj Tropical and In-

Gastroenteritis is an illdiseases, ness with symptoms of abfever, vomiting, diarrhoea According to the Epi- and loss of appetite that is

A survey on water quali-Kirtipur, showed that wa-Out of the patients, 185 ter quality is deteriorating



Response to Microbial Contamination

- PIYUSH is a 0.5% chlorine solution produced by local NGO -ENPHO in 1991/92
- Took nearly 10 years for its official recognition;
- UN-agencies like UNICEF and WHO started to promote need of household water treatment (HWT) from early 2000;
- International brand "WaterGuard" started its market in 2005
- Government launched National HWT Programme in 2005;
- Finally PIYUSH has been recognised.....



Response to Arsenic Contamination

- Joint systematic research by MIT and local Researchers and developed arsenic removal filter called **Kanchan Arsenic Filter** in 2003;
- Involvement of MIT with regular technical backstopping;
- Research papers and publications;
- International and National Award and Recognition;
- Follow up research and regular monitoring & evaluation;
- Can be assembled with locally available materials;
- Capacity building of local entrepreneurs;
- Government recognition.











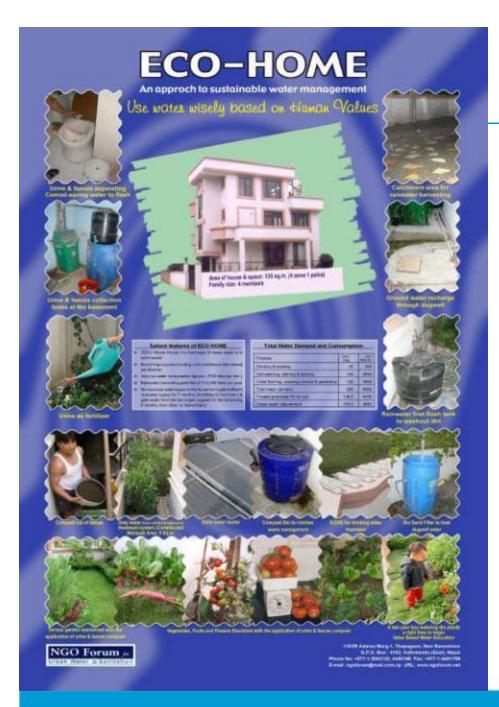
Response to Wastewater Management Problem

- Introduced Constructed Wetland in 1997
- Adequate scientific researches but limited professionals for practical applications;
- Consultants and contractors are not well trained;
- Government and donors procurement modality not appropriate;
- Ignorance in O&M; Challenges remain in its sustainable operation
- Took nearly 2 to 3 years to build a small unit;
- Socio-political factor, poor governance, lack of elected representative;
- No encouragement and least priority at all levels;
- Negative attitude towards WWT system.















Key Lesson Learnt

- Research can be operationalised need patient and better strategy;
- Applied researches (need based) are more important for developing nations;
- Team work is the must;
- Need networking and partnership with national and international institutions;
- Advocacy through publication and dissemination;
- Need to link with livelihood or economic benefit
- Build local capacity;
- Government Recognition.



Way Forward 니디디 WASTE FROM CITIES Cha WATER FOR SALE TO THE HIGHEST BIDDER HEY. THERE'S ENOUGH FOR ALL OF US DUER HERE! WASTE FROM RICH NEIGHBOURHOODS