POU Drinking Water Treatment –Pilot Project Nepal

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- Baseline survey & consumer preference survey
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Nepal is rich in water resources and depends on both surface and ground water for household consumption. However, problems of bacterial contamination in both water sources has led to major waterborne diseases.
After years of effort on reduction of diseases, the concentration still is in curative measures rather than preventive ones.

13,000 children under five die of diarrhea every year in Nepal.

Incidences of diarrhea is still high though the annual death is said to be decreased.
Baseline Survey- UNICEF/USAID/HIP (2005)

• To address the supply and demand issues related to POU drinking water treatment options
  - collect data on the awareness and practices of treating drinking water management in households and
  - identify potential treatment options for promotion and distribution.
<table>
<thead>
<tr>
<th>Target Audience</th>
<th>Study Instruments</th>
<th>Total Number (equally divided among 4 districts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers/Caretakers</td>
<td>Household survey – Structured Questionnaires</td>
<td>1,800</td>
</tr>
<tr>
<td>Adult males</td>
<td>FGDs</td>
<td>16</td>
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<tr>
<td>School Children</td>
<td>Questionnaire based Interview</td>
<td>120</td>
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<tr>
<td>Women Workers</td>
<td>Individual Interviews</td>
<td>8</td>
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<tr>
<td>Sanitation Motivators</td>
<td>Individual Interviews</td>
<td>20</td>
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<tr>
<td>CMs/Female Volunteers</td>
<td>Individual Interviews</td>
<td>40</td>
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<td>FCHVs</td>
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<tr>
<td>FCHVs</td>
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<td>MCHW/VHW</td>
<td>Individual Interviews</td>
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<tr>
<td>Retailers</td>
<td>Questionnaire based Interview</td>
<td>40</td>
</tr>
<tr>
<td>Mothers/ Caretakers</td>
<td>Product Trials</td>
<td>80</td>
</tr>
</tbody>
</table>
Perceived quality of water for drinking

• Over $\frac{3}{4}$th households did not perceive that they have problems with the quality of water for drinking

• Most cases of problems were:
  – Turbid water
  – Visible impurities like sand/mud mixed with water

• In some cases problems were:
  – Insects in water
  – Bad smell
  – Arsenic (Dang, Kapilvastu and Parsa)
Drinking water treatment

• Around 60% of the households did nothing to improve the quality of water from the source for drinking,

• Most common methods to improve quality of water for drinking are:
  – Keeping water storage vessels covered
  – Sieving water through cloth and,
  – in some cases, letting water settle/ sedimentation
Consumer Preference Survey

• Efficacy of Products (*it works in the “lab”*)
• Market Feasibility
• Consumer Acceptability
Various POU Drinking Water Treatment Methods

- Boiling
- Chlorination - Piyush and Water Guard
- SODIS
Filtration

Biosand filter

Colloidal silver filter
Overall acceptability, without considering cost

• CS Filter the favorite
• Chlorination “second”

• SODIS and boiling both acceptable, but considered lesser options
Common Dislikes

• Methods making water warm
  – Boiling
  – SODIS

  – Chlorination
  – CS Filter
Cost

• Costs considered within ‘easy’ reach for all methods EXCEPT CS filters

- **SODIS and boiling** - ‘budget alternative’, esp. poor villagers
- **Chlorine** - within reach when considering disinfection of drinking water
- **CS filter** – Most underestimated the cost. Preferred with installment payment or financial schemes
Overall objective:

- Reduce morbidity and mortality among children under five in Nepal through a coordinated communication and social mobilization campaign promoting use of drinking water treatment options in households.

- Ensure availability of the POU options for sustained use of safe water
UNICEF/USAID/HIP project area

Piloted in 4 districts - representing 4 regions (about 200,000 HH)
Schools - 200
Specifcics

• Provide adequate information to households that **clean water is not safe water and the need to treat water for drinking**

• Promote reliable and affordable POU options available in Nepal

• Collaborate with various producers of POU options to support the availability of the options in the market (private sector participation)

• Collaborate with various stakeholders of water supply and sanitation to incorporate POU in their regular programs

• Advocate together on POU inclusion in National Water Supply and Sanitation Policy
Activities

Capacity Building

Orientation
National Regional District

Masters Training
Training to CWs (FCHVs, HWs, Women’s grp, youth grp etc)
School child clubs training

Generic Promotion (Demand)
IEC
Mass Media

Ensure Product availability (Supply)
Product improvement with good QC
Distribution Network & continuous supply
Local Market

Advocacy/ POU integration in regular programs of WATSAN stakeholders

National Strategy/Policy on POU

Households
Formation of Task Force for POU

- Department of Water Supply and Sewerage (DWSS)
- Nepal Red Cross Society (NRCS)
- Nepal Water for Health (NEWAH)
- Rural Water Supply and Sanitation Fund Development Board/ World Bank (Fund Board)
- Community Water Supply Project/ADB
- Small Town Project
- WHO
- UNICEF
- USAID/HIP
- WaterAid
- ENPHO- for technical input
Function of the task force

• Advise/feedback to the activities conducted sp. making IEC materials and training package
• Include POU in their individual organization’s regular programs
• Support in promotion of POU nationwide
• Advocate for POU inclusion in national water and sanitation policy
School POU promotion

• Provision of POU options in schools with school contributing to about 20-30% of the total budget

• Involvement of Child club and teachers for regular operation and maintenance

• Involvement of child clubs in community awareness through programs in schools and activities such as street drama
Demand Generation
Awareness package of POU options (Nepali)

IEC materials-
  – Posters
  – Brochures
  – TV commercials
  – Radio spots
  – Stickers
Training package

- **Fact sheets** - water supply implementers, policy makers and related stakeholders

  - **Technical Manual** - frontline workers such as female community Health Volunteers, Teachers, Village health promoters, community motivators, women’s group etc.
  - **Flip chart** - frontline workers
  - **Game book** - school children
  - **Children’s notebook**
सुरक्षित खानेपानी, स्वस्थ जिन्दगानी

अनुसरण गरी भएको साधनहरूको सहयोग साधन बनाउको विशेष गर्न सक्छ 

पर्यावरणीय छापाहरूको बनावट धाराका पार्श्वभूमि छापाहरूको बनावट 

हामी सबैले बुनियादी र अपनाउँ पनि, पानी झुल्सीकरण गर्न विश्वसनीय 

सुधारी बानी, पिउने गरी सुरक्षित पानी
सुरक्षित खानेपानी, स्वस्थ जिंदगानी

धानले पानी शुद्धीकरण गर्ने विधि (सोडिसा)

एक वेदी दुई लिटरसम्मको पार्स्वदिशी फ़ाटिकाको बोल्डमा पानी भरेर धाम लामे टाईलिन मिश्रण वा वाकर लामोले खण्डमा दुई विन लगार रखेको पानीमा संक्षिप्त कीटांगुलक नहुने पानी पिउनोयो गर्नुहोस्।

शुद्धीकरण जस्तो अन्य विधिहरू

फिल्टर प्रयोज गरेर पानी शुद्धीकरण गर्ने विधि

कोलाइडल सिल्क मात्र फिल्टर प्रयोग गर्ने पानीमा रहेका कीटांगुलक नहुने पानी पिउनोयो गर्नुहोस्। यसले आम्ल मजारा पानी र प्रिक फिल्टर से पनि प्रयोग गर्न सकिन्छ।

शुद्धीकरण जस्तो अन्य विधिहरू

हाम्रो सचमुच दुकानातील अपनाउने पानी, पानी शुद्धीकरण गर्ने विधिको सुशारी बाणी, पिउने गरी सुरक्षित पानी
Fact Sheets
फिल्टर
खानेपानीमा भएको धमिलोपन र जीवाणु हटाउने प्रविधि । बायोस्क्याण्ड, कोलाइडल शिल्प र क्याण्डल फिल्टर ।

सोडियम
पारदशी १-२ लिटरको प्लास्टिक बोतलमा खानेपानी भरेपरेपरिथो घामाग्याकर राखी जीवाणु नष्ट गर्न प्रविधि ।

क्लोरिन भौल (पीयूस, वटर मार्क)
पानीमा क्लोरिन भौल राखेको ३० मिनेट पछि जीवाणु नष्ट हुने ।

हरै सोहेल नै राखी र अनन्त फनी, पानी सुधिकरण को बिधिक
सधारण बाणी धुन्नु गरी सुरक्षित पानी
Children’s book
सुरक्षित पानी
स्वस्थ जिन्दगाई
हामी सबैले युक्तिशोधी र अपनाउ न पनि, पानी सुदृढ़करण गर्न मिलिए
सुधारी बानी, पिउने गरी सुरक्षित पानी
All the materials has been approved by the Task force and pre-tested in the field before finalizing
Integration into at Scale Water & Sanitation Activities of Stakeholders (beyond 4 project districts)

- Rural Water Supply and Sanitation Fund Development Board/World Bank
- Community Water Supply Project/ADB
- Small Town Project
- NEWAH
- Education Department
- UN-Habitat
- Water Aid

Many more to meet …
Supply
Collaboration with producers on availability of POU products

Chlorine- Piyush (ENPHO), Water Guard (PSI)
Filters- CS filters (IDE/SBL)
Biosand (ENPHO)
SODIS- Promoted by ENPHO
Boiling
Field visits at HHs, schools together with producers
Achievement

Joint collaboration of producers to address the demand in districts thru:

District Level Assessments on supply chain and promoters (agents)- UNICEF funding

Individual producers already working on product availability at districts with their own agents
Products Supply

• Piyush and Waterguard- supply through agents at districts

• CS filters- the filter will be made centrally in KTM and assembled at the districts- initially in Dang and Kapilvastu

• Biosand- local entrepreneurs who are capable of installing at location

• SODIS- dependant on PET bottle availability
Challenges

• Some of the producers still very primitive, product availability
  (some support to make the products available- UNICEF)

• Involvement of several agencies- a must but challenging

• Project focuses in rural area- creating gap between urban and rural linkage (UN-Habitat is willing to address this side)

• Project period- very short to see the impact

• Needs very strong monitoring- much more complex than hand washing (monitoring of the supply and demand)
• Addressing Schools- A separate POU research in May, 2007 to identify the most appropriate method to treat water at schools

• Education and Health Ministries- funds needed

• Working with Govt. body and its network together with current political situation
Additional Collaboration

UN-Habitat, UNICEF and HIP- working together to make the entire promotion package in English with additional information on monitoring and evaluation for global community
Project launch

The Project has been launched on April 23\textsuperscript{rd} , 2007 by Minister of Physical Planning and Works, Ms. Hisila Yami

Followed by district level operational launch in May, 2007
Thank you!