Promotion of Point of Use Water Treatment in Nepal Challenges and Opportunities of Giving Choice

Arinita Maskey Shrestha, USAID Hygiene Improvement Project (AED)

USAID FROM THE AMERICAN PEOPLE | HIP HYGIENE IMPROVEMENT PROJECT

unicef

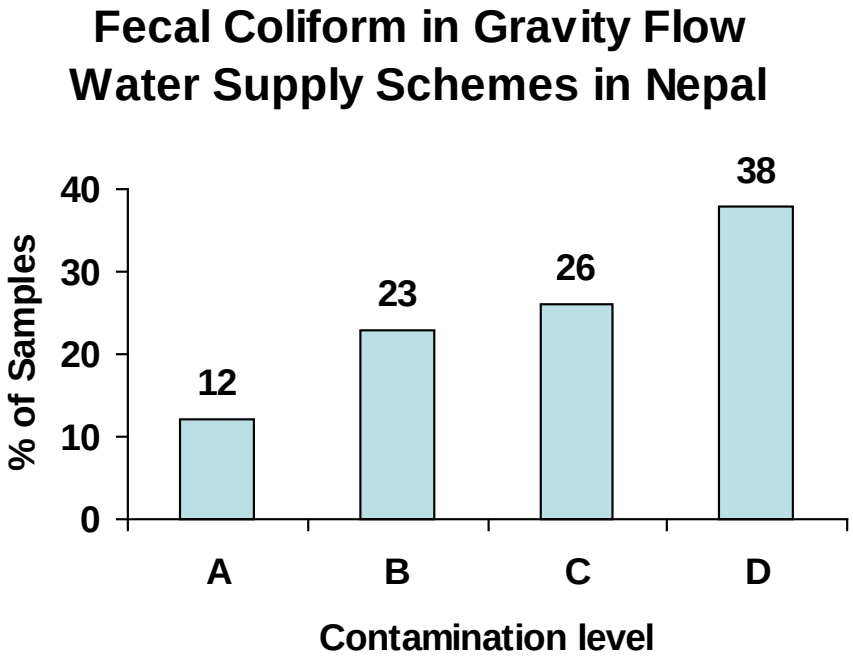
Nepal is second richest country on water resources and depends on both surface and ground water for household consumption

Despite advances made in increased access to water supply during the past two decades—37% in 1990 to 82% by 2001

(Central Bureau of Statistics, 2001),

- the quality of water remains unacceptably low

Surface Water Quality in Gravity Flow Schemes



A: No Risk (FC count: 0/100 ml)
B: Low Risk (FC: 1-10 / ml)
C: High Risk (FC: 11-100 / ml)
D: Very High Risk (FC: 101-1000/ml)

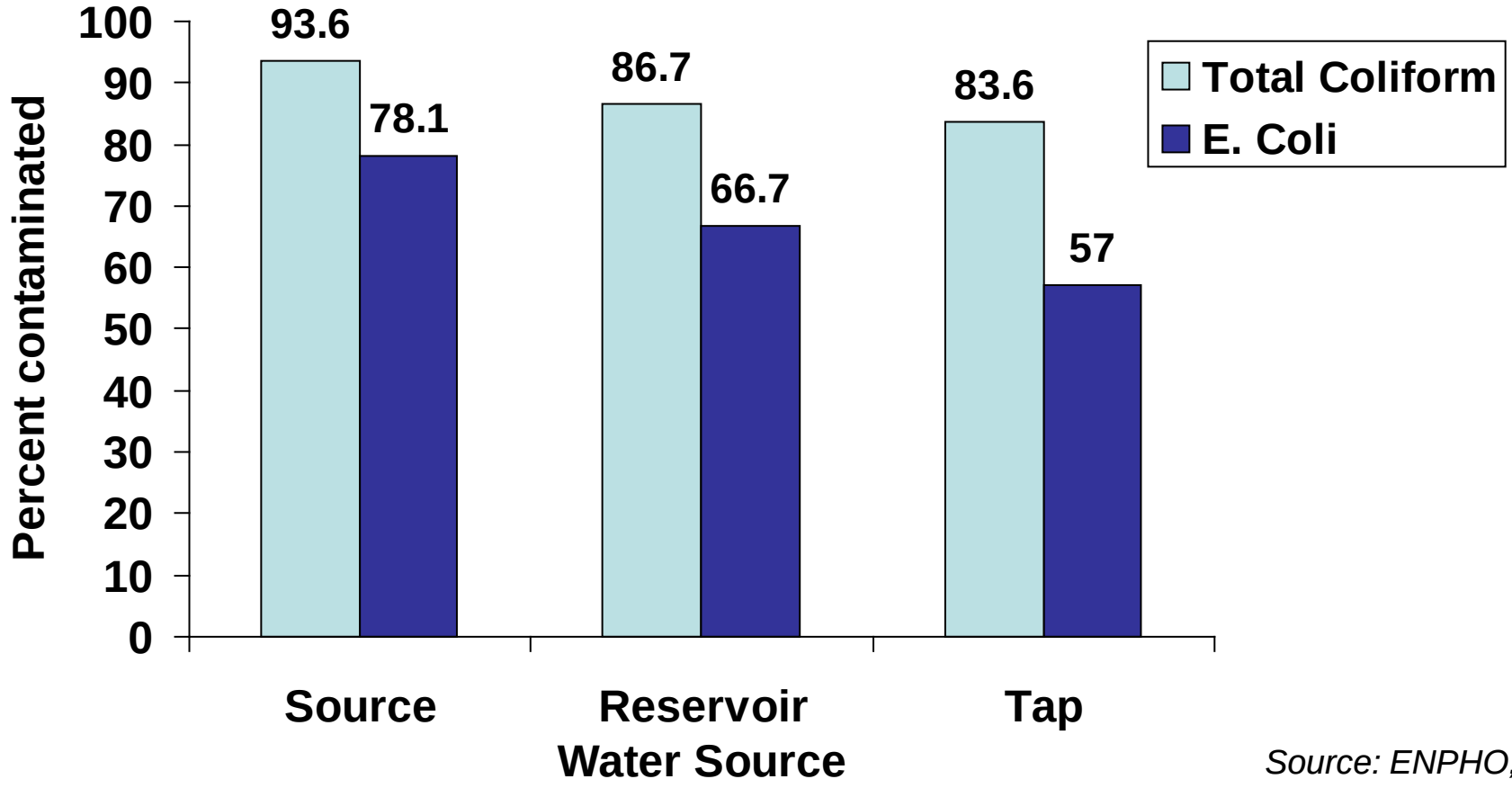
Source: RWSSFDB, 2001

- Most schemes do not have any treatment system
- Chemical parameters are normally within WHO guideline values
- Fecal coliform problem in majority of the schemes.

Ground Water Quality in Terai (Southern Belt)

- Microbial
  - ENPHO/NRCS conducted P/A test in 14,394 samples & found 47 % to be contaminated
- Arsenic
  - Problem in several Terai districts such as Nawalparasi & Rautahat
- Iron
  - 1260 samples analyzed by ENPHO/NRCS, RWSSFDB, DWSS/UNICEF
  - 33 % very high (>5 mg/l)
  - 20 % within WHO GV (0.3 mg/l)

Microbial Contamination in 11 Cities



Source: ENPHO, 2007

Total Coliforms ranged from 0-2,480 cfu/100 mL and *E. coli* from 0-1,860 cfu/100 mL. Bacterial counts were particularly high in some samples tested from Banepa, Bhairhawa, Mahendra Nagar, Nepalgunj, Pokhara, Panauti and Taulihawa.

NEPAL WATER SUPPLY CORPORATION
TANKER SECTION

Problems in Water Quality

- Most of the supply system do not have treatment provisions before supply

- Treated water becomes contaminated due to defective pipe system

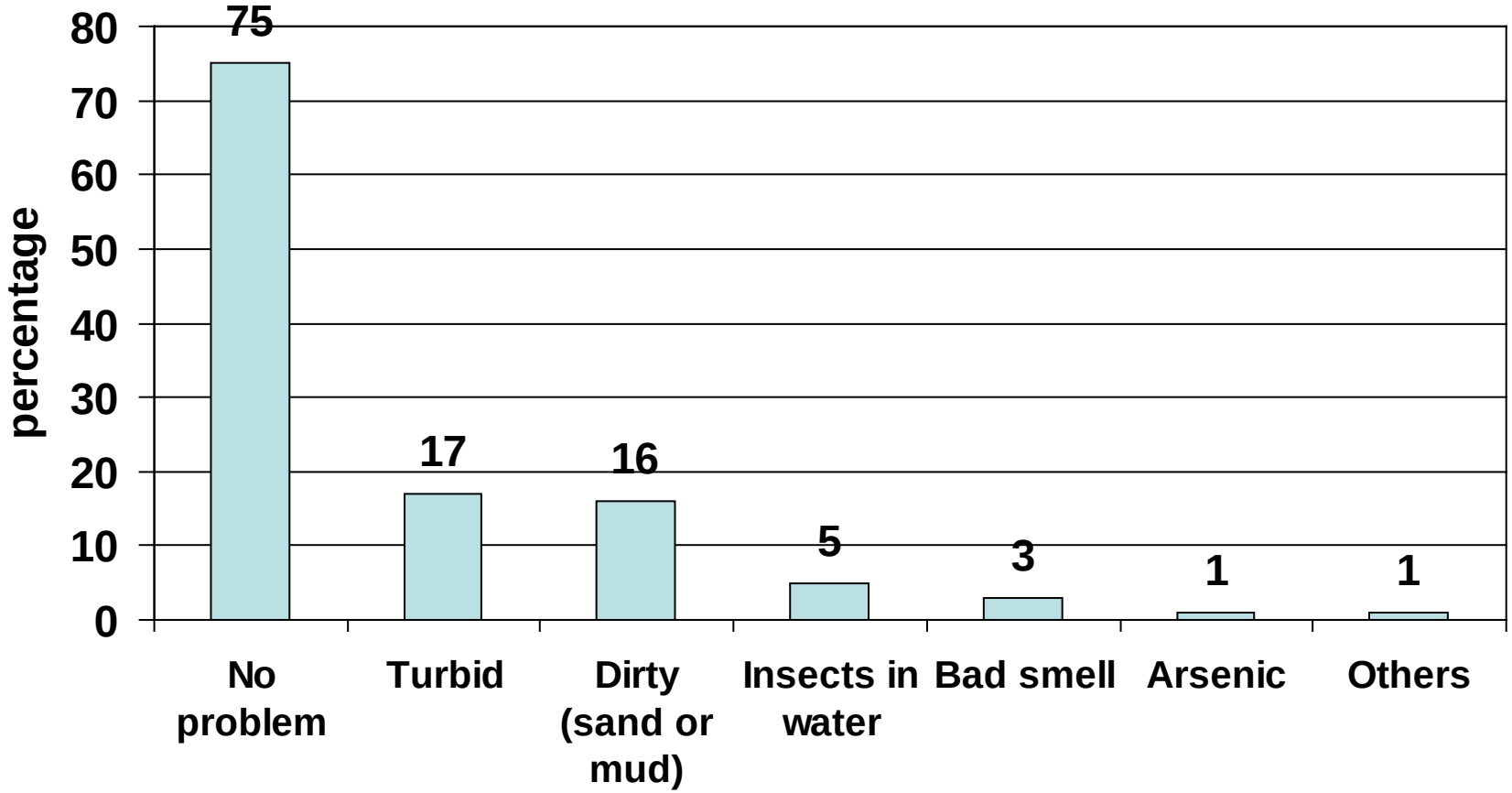
  (leakages, interim supply, illegal connection, pressure etc.)

- Water in the household becomes contaminated through unhygienic handling and storage

  (unclean water storage tank, water storage vessels, water handling practices)

in addition…

Perceived Problem with Water Quality



1800 Samples from 4 districts (Dang, Kapilbastu, Parsa, Panchthar)

Source: UNICEF/USAID, 2006

2,200 children under five die only of diarrhoea every year in Nepal (NDHS,2006)

Incidences of diarhhea is still high though the annual death is said to be decreased

12% of children suffers from diarrhea and it peaks in monsoon season (NDHS,2006)

The health sector of Nepal concentrates in curative measures rather than preventive ones

Cholera outbreaks- threatening every year even in the highly populated area like Kathmandu City

National Drinking Water Quality Standards-2006

Implementation Schedule

- 1st Phase (first five years)
  - All existing urban systems serving over 10,000 people
  - All new urban water supply systems
  - All urban systems that are vulnerable to water borne diseases
  - Urban water supply provider, private industry and health care institutions
  - Need to prepare water quality improvement plan by 1 year and submit it to relevant ministry as well as Ministry of Health and Population

- 2nd Phase (5 to 10 years)
  - Within first three years all district headquarters
  - All rural community based water supply systems (16 parameters)

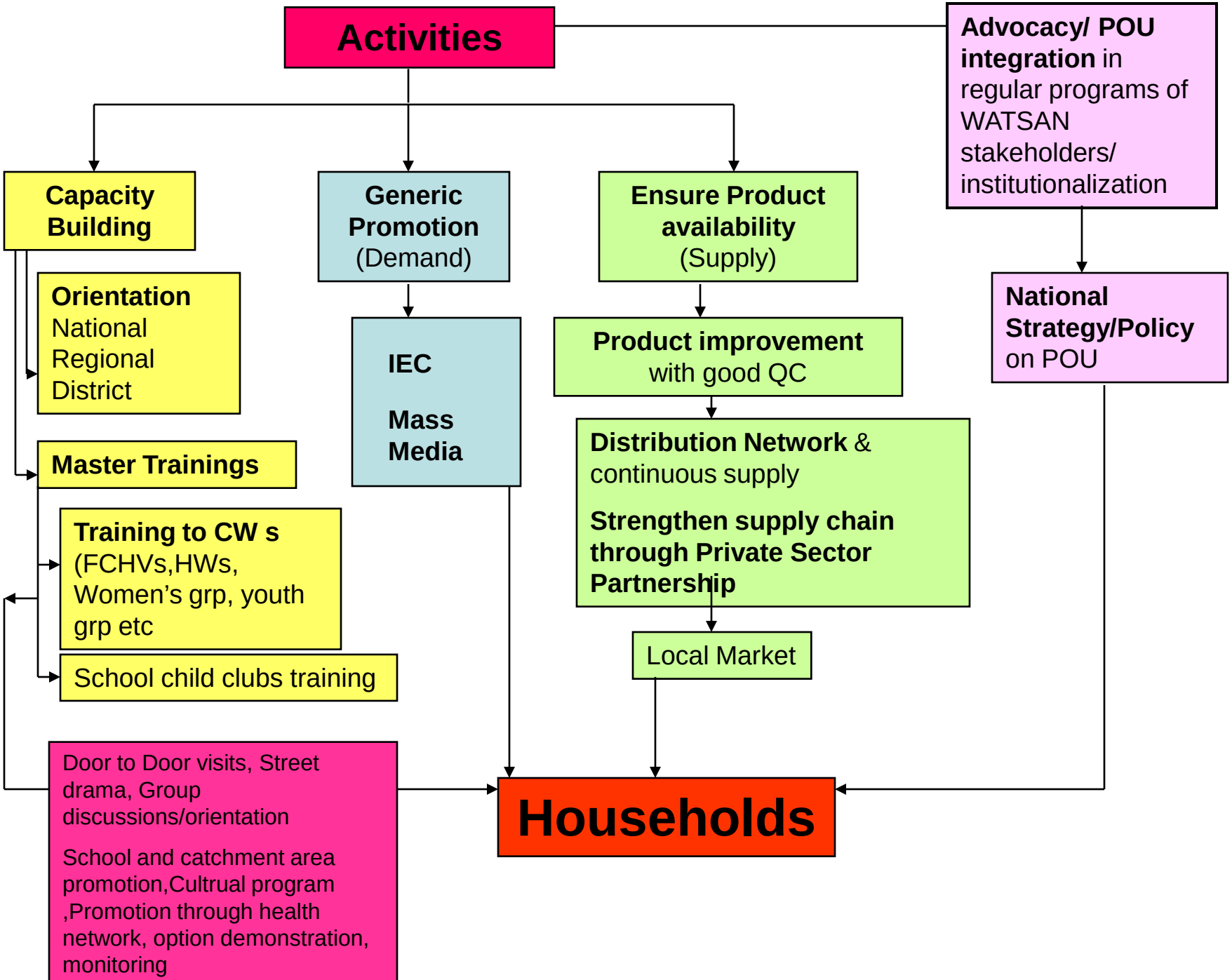
Hygiene Improvement Project- USAID/UNICEF

- Objective: Reduce under-5 morbidity and mortality through:
  - **50%** increase in knowledge of mothers/caretakers - that hand washing with soap and drinking water treatment helps to prevent diarrhea;
  - **10%** increase (80,000 people) in practicing both
  - **200** primary schools - treating drinking water through installation of safe water options and will practice hand washing with soap
  - Increased awareness level of the general population (500,000) using mass media campaign; and
  - Facilitation on integration - in existing regular programs of public and NGO sector water, sanitation and health programs

USAID/UNICEF/HIP project area

Piloted in 4 districts - representing 4 regions (about 500,000 HH)
Schools- 200

Household Drinking Water Treatment Methods


Activities
Advocacy/ POU integration in regular programs of WATSAN stakeholders/ institutionalization
Capacity Building
Generic Promotion (Demand)
Ensure Product availability (Supply)
Orientation National Regional District
IEC
Mass Media
Product improvement with good QC
National Strategy/Policy on POU
Master Trainings
Distribution Network & continuous supply
Strengthen supply chain through Private Sector Partnership
Training to CW s (FCHVs,HWs, Women's grp, youth grp etc
Local Market
School child clubs training
Door to Door visits, Street drama, Group discussions/orientation
School and catchment area promotion,Cultrual program ,Promotion through health network, option demonstration, monitoring
Households