

# **Access to Clean Water and Sanitation in Rural Honduras: Impact on Health of the Community**

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**"Water and Sanitation is one of the primary drivers of public health. I often refer to it as "Health 101", which means that once we can secure access to clean water and to adequate sanitation facilities for all people, irrespective of the difference in their living conditions, a huge battle against all kinds of diseases will be won."**

**Dr LEE Jong-wook, Director-General, World Health Organization.**

## *What is the situation in the world.....*

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### **Access to water supply and sanitation**

- In 2000, 2.4 billion people lacked access to improved sanitation. 81% of these were in rural areas.
- In 2000, 1.1 billion people lacked access to improved water sources. 86% of these were in rural areas.
- Coverage for both improved water supply and sanitation lags behind in the poorest communities - in rural areas and in urban/peri-urban slums.

# *What is the situation in the world.....*

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## **The sanitation gap**

- Only 53% of the sub-Saharan population is served with sanitation services. - In South Central Asia only 38% of the population is served with sanitation services.
- Access to sanitation in rural areas is much worse than in urban areas.
- 930 million people live in slums and most population growth is expected to occur in urban areas.

## *What are some of the problems....*

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### **Diarrhea**

- 1.8 million people die every year from diarrhea diseases (including cholera); 90% are children under 5, mostly in developing countries.
- 88% of diarrhea disease is attributed to unsafe water supply, inadequate sanitation and hygiene.
- Improved water supply reduces diarrhea morbidity by 21%.
- Improved sanitation reduces diarrhea morbidity by 37.5%.
- The simple act of washing hands at critical times can reduce the number of diarrhea cases by up to 35%.
- Additional improvement of drinking-water quality, such as point of use disinfection, would lead to a reduction of diarrhea episodes of 45%.

## *What are some of the problems....*

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### **Intestinal helminthes (Ascariasis, Trichuriasis, Hookworm disease)**

- 133 million people suffer from high intensity intestinal helminthes infections, which often leads to severe consequences such as cognitive impairment, massive dysentery, or anemia.
- These diseases cause around 9400 deaths every year.
- Access to safe water and sanitation facilities and better hygiene practice can reduce morbidity from ascariasis by 29% and hookworm by 4%.

## *What are some of the problems.....*

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### **Malaria**

- 1.2 million people die of malaria each year, 90% of whom are children under 5.
- There are 396 million episodes of malaria every year, most of the disease burden is in Africa south of the Sahara.
- Intensified irrigation, dams and other water related projects contribute importantly to this disease burden.
- Better management of water resources reduces transmission of malaria and other vector-borne diseases.

## *What are some of the problems.....*

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### **Schistosomiasis**

- An estimated 160 million people are infected with schistosomiasis.
- The disease causes tens of thousands of deaths every year, mainly in sub-Saharan Africa.
- It is strongly related to unsanitary excreta disposal and absence of nearby sources of safe water.
- Basic sanitation reduces the disease by up to 77%.
- Man-made reservoirs and poorly designed irrigation schemes are main drivers of schistosomiasis expansion and intensification.

## *What are some of the problems.....*

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### Trachoma

- 500 million people are at risk from trachoma.
- 146 million are threatened by blindness.
- 6 million people are visually impaired by trachoma.
- The disease is strongly related to lack of face washing, often due to absence of nearby sources of safe water.
- Improving access to safe water sources and better hygiene practices can reduce trachoma morbidity by 27%.

## *What are some of the problems.....*

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### Hepatitis A

- There are 1.5 million cases of clinical hepatitis A every year.

### Arsenic

- In Bangladesh, between 28 and 35 million people consume drinking-water with elevated levels of arsenic in their drinking-water.
- The number of cases of skin lesions related to arsenic in drinking-water in Bangladesh is estimated at 1.5 million.
- Arsenic contamination of ground water has been found in many countries, including Argentina, Bangladesh, Chile, China, India, Mexico, Thailand and the United States.
- The key to prevention is reducing consumption in drinking-water with elevated levels of arsenic, by identifying alternative low arsenic water sources or by using arsenic removal systems.

# Learning more about Honduras.....

Central America and the Caribbean



## *Learning more about Honduras.....*

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- **Located in Central America and the Caribbean Area**
- **total: 112,090 sq km**
- **Area - comparative: slightly larger than Tennessee**
- **Land boundaries: border countries: Guatemala 256 km, El Salvador 342 km, Nicaragua 922 km**
- **Climate**  
subtropical in lowlands, temperate in mountains
- **Terrain**  
mostly mountains in interior, narrow coastal plains

### **Natural resources**

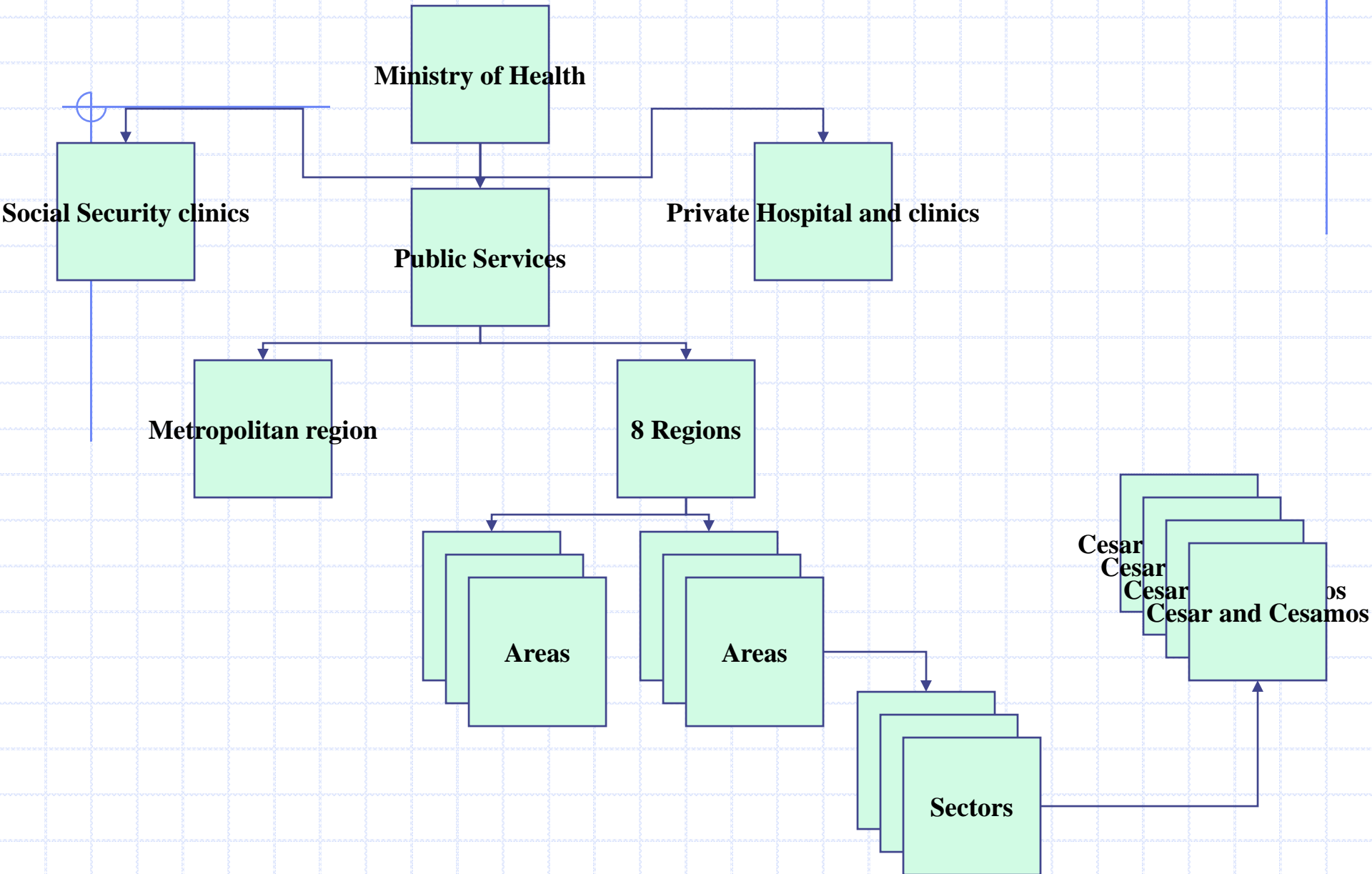
timber, gold, silver, copper, lead, zinc, iron ore, antimony, coal, fish, hydropower

# *What is the health situation in Honduras....*

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	<b>Honduras</b>	<b>Mexico</b>	<b>USA</b>
<b>Statistics:</b>			
<b>Total population:</b>	6,781,000	101,965,000	291,038,000
<b>GDP per capita (Intl \$, 2001):</b>	2,510	8,903	35,182
<b>Life expectancy at birth m/f (years):</b>	64.2/70.4	71.7/77.0	74.6/79.8
<b>Healthy life expectancy at birth m/f (years):</b>	56.3/60.5	63.4/67.6	67.2/71.3
<b>Child mortality m/f (per 1000):</b>	44/42	30/24	9/7
<b>Adult mortality m/f (per 1000):</b>	269/150	170/97	140/83
<b>Total health expenditure per capita (Intl \$, 2001):</b>	153	544	4,887
<b>Total health expenditure as % of GDP (2001):</b>	6.1	6.1	13.9

# *How does the health system work....*



## *How bad is access to clean water and sanitation in Honduras...*

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- Honduras is the poorest country in Central America.
- The water crisis in Honduras is severe. In the rural mountain communities, families must gather water from small springs and waterholes that form close to their houses during the rainy season.
- During the dry season, these water sources dry up and families must walk long distances to obtain water from larger streams.
- When these unsafe water sources are used for drinking, diarrhea illnesses are common, especially in the young children.

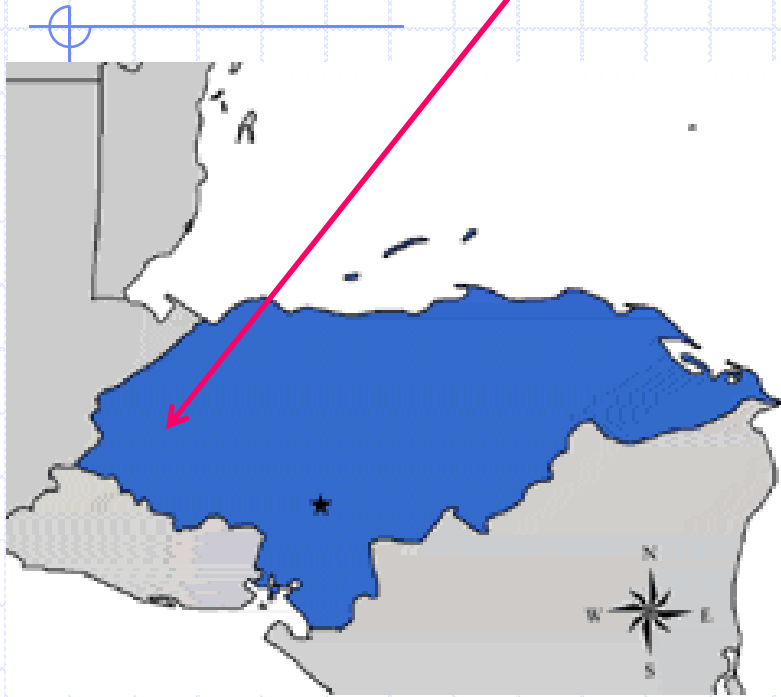
# *How bad is access to clean water and sanitation in Honduras...*

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# *Access to clean water and building of latrines in La Encarnacion, Honduras*

1989 to 1991



- La Encarnacion is a tiny Honduran coffee-growing town close to the Guatemalan border.
- To get there, you drive for three hours along a dirt track rising through the mountains in a series of terrifying hairpin bends.
- It is one of the poorest areas in the country, with no electricity or telephone line.

*With no latrines, open defecation is routinely practiced. Children and adults often have diarrhea*

# *Objectives of the project.....*

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## Goals and Activities

### Project goals:

- provide access to a safe and adequate water supply;
- provide access to sanitation; improve hygiene habits;
- train the community to maintain its improved water supply and sanitation facilities through community participation.

The project includes construction of a gravity-flow system with water faucets, and latrines at each household.

## *Objectives of the project.....*

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*Typical scenes in Latin America*

# *How was the project developed.....*

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## **Staff:**

**The Health Promoter**

**Community trained volunteers:  
Community health volunteer  
Malaria volunteer  
Community trained midwife**

**Community public health nurse  
Health Center Physician**

## *How was the project developed.....*

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### **Selection of community:**

- **Populations: 10,000**  
La Encarnacion and surroundings villages
- **Volunteers were organized**
- **Cooperation from the community leaders**

# *How was the project developed.....*

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## **I. Training and Education**

All the recipients of latrine or a faucet to their home

a) General health information and education

Education regarding water borne diseases

Education on nutrition

Education on hygiene

Education on vaccines

b) Training on how to build a latrine

Make adobe (mud and straw)

Build the walls

Build the hole

Install the toilet

## *How was the project developed.....*

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### **II Construction of the latrine**

- All the community participate
- Materials are provided by the health department  
Ceiling, nails, construction equipment
- Community collect basic material  
Rock, stones, prepare the adobe

## *How was the project developed.....*

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### **III Results**

- 400 homes had a faucet with running water and a latrine
- Diarrhea and dehydration cases decreased by 30%
- Intestinal parasite cases decreased by 40%

## *How was the project developed.....*

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### **IV Follow up and control**

- Regular visits by the Health Promoter and health center staff
- Hygiene education  
General health information
- Community volunteers continue collaborating with health center staff

## Water for Life Decade: 2005-2015

- UN Declares 2005-2015 "Water for Life" as the International Decade for Action and set's the world agenda on a greater focus on water-related issues.
- "We shall not finally defeat AIDS, tuberculosis, malaria, or any of the other infectious diseases that plague the developing world until we have also won the battle for safe drinking water, sanitation and basic health care." Kofi Annan, United Nations Secretary-General
- "The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses" – General Comment No. 15 (2002): The Right to Water.