





# LIST OF POSIBLE STAKEHOLDERS IN THE "LIVING LAB" IN BAJO LEMPA REGION

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#### STAKEHOLDERS LOCATED IN SAN SALVADOR

# • National Institute of Health, Ministry of Health of El Salvador (INS the Spanish acronym)

An institution created for health research in El Salvador. This is a new institution in the country, at the moment, has developed several research areas: Renal health, Environmental and Occupational Health, Social Determinants of Health, Sexual and Reproductive Health, GIS and statistics. Furthermore, INS has Laboratory Networks, Blood banking, and School of Government. INS has own building, with auditorium, meeting room, library and each research areas has its own office with computers, printers, GPS, scanners, telecommunication networks and internet. Also each research areas have its own skills form the research fields. This institution is located in San Salvador (around 100 km far from El Bajo Lempa) and it has several transport units with their own professional drivers.

Web: http://www.ins.salud.gob.sv/

# • National Reference Laboratory, Ministry of Health of El Salvador (LNR the Spanish acronym)

It is the laboratory of Ministry of Health specialized in clinical samples, cytological, food, water and environmental for prevention and control of diseases and / or events associated to health. The specialized methodologies and validated that they include are: Microbiological Human and Environmental Virology, Molecular Biology, Immunoserology, Metals in biological sample, pesticides (carbamates, glyphosate, chlorinated and phosphorus) and metals in foods, water and soil (Arsenic, Cadmium, Chromium, Lead, Copper, Aluminum, Mercury, Zinc).

Web:

http://www.ins.salud.gob.sv/index.php/temas/redesdelaboratorios/laboratorionacionaldere ferencia







## Department of food safety, quality and toxicology

This area carried out analysis and blood lead level determination, heavy metals and pesticides in water and spols, physicochemical and microbial determination in drinking water and foods.

#### Lab equipment:

Ultra Low Temperature Freezers -20°C Laboratory Refrigerator

Laboratory blender

Analytical balance

Fume chamber

pH meter

Magnetic stirrer

Conductivity Meter

Drying oven

Muffle furnace

**CEM Microwave** 

Hot plate

Nitrogen evaporator

Vacuum filtration system

Vacuum pumps

Agilent 6890N Gas Chromatograph

Agilent 7890A Gas Chromatography

High Performance Liquid Chromatography

Atomic absorption spectroscopy (AAS)

#### Other departments of LNR

Health Surveillance Lab Health and Environmental Lab Administration and IT

#### STAKEHOLDERS LOCATED IN BAJO LEMPA

# About Bajo Lempa Region and Ciudad Romero

The Bajo Lempa is a region located in the western coastal plain of El Salvador, in the south side of the departments of Usulután and San Vicente (Figure 1). This region expands along Lempa River delta plain, between the Salvadoran Pacific Coastline and the Littoral highway. The Lempa River is the longest in Central America and its basin extends throughout Salvadoran territory but also drains parts of Honduras and Guatemala. Most of the area of the Lempa River basin is







agricultural land and this basin drains the waters from the most important populated areas of El Salvador and several industrial areas. The Bajo Lempa region is one of the most important agricultural areas of El Salvador; this area presents high fertility soils due to the nutrients brought by frequent floods. This region is characterized by high poverty rate. The social vulnerability of the population is incremented because they have been affected by several disastrous floods during the last 20 years. In the East side of Lempa river there are 29 organized communities that owns to Jiquilisco Municipality.

The coastal area comprises a bay-land area populated by the country's principal mangrove swamps and other saline plant types. This constitutes the largest extension of brackish water and saltwater forest in El Salvador; these swamps are critical by stabilizing the soil and preventing erosion and constitute the habitat designated as a Ramsar Site in 2005 and in 2007 as a Biosphere Reserve by UNESCO. The mangrove swamps is an important area as nesting site of coastal water birds and many other species of animals. A portion of the river's left bank (797.3 Ha) is occupied by the Nancuchiname forest. This is one the few areas of lowland tropical woodland protected in the country, it is an important area for the protection of many species in danger of extinction (for example *Ateles geoffroyi*, *Leopardos pardalis*, *Odocoileus virginianus*) and for protecting the region against flood events.

All the identified stakeholders are located in Ciudad Romero community or in its surroundings. Ciudad Romero is one of the biggest communities in Bajo Lempa, it has heavily affected by the CKD, it was the main community where Nefrolempa study was carried out, presents proactive and collaborative population and several facilities that can be used for living lab. Closer communities to Ciudad Romero, as Nueva Esperanza or Zamorano also can be considered.

### • Dispensary "Oscar Arnulfo Romero" (USCF-E the Spanish acronym)

USCF-E "Oscar Arnulfo Romero" is a small clinic of Ministry of Health of El Salvador created within the framework of Nefrolempa project 2009. Its main objective is give integral attention to Chronic Kidney Disease patients and additionally gives basics health service to the Bajo Lempa population.\

It offers the following services: Nephrology, OB GYN, Pediatrics, Internal Medicine, Nutrition, Physiotherapy, Psychology and Dentistry, Prenatal Care. It also has diagnostic support services: clinical laboratory, ultrasound and electrocardiogram. The health center has physicians, nurses, nursing assistants, health promoters, ordinance, statistician, health educator.

# • Association of communities united to economic and social development of Bajo Lempa region (ACUDESBAL the Spanish acronym)

Association of communities united to promote the economic and social development in the Bajo Lempa region. It works with government organism as Ministry of Health, Environment, Agriculture, Education, Center for Development of Fisheries and







Aquaculture (CENDEPESCA the Spanish acronym) and nongovernmental as Spanish Agency for International Development Cooperation (AECID), Andalusian Agency for International Cooperation, Swiss Red Cross, Germany NGOs.

Web: http://acudesbal.blogspot.com/

# • Fish farmers cooperative (June 29 Cooperative and December 31 Cooperative)

There are 2 cooperatives engaged in shrimp production for nationally marketing. It has 2 pools, with water from Jiquilisco Bay

# • Ranger Ministry of Environment and Natural Resources

It is a unit of rangers of Ministry of Environment and Natural resources who are responsible for protecting the forest "Nancuchiname", with a total of 797.305 hectares of forest, a natural protected area located in Zamorano and Canoa communities, Jiquilisco municipality, Usulután.

### • Church support to communities in Bajo Lempa

They have the support of the Catholic Church through the priest Angel Arnaiz Quintana (Author of some books like "Cartas desde la esperanza. Testimonio de una comunidad salvadoreña" y "Tierras pagadas a precio de sangre" about Bajo Lempa history and society), who since the beginning of population settlement in this area, has supported the development of communities, seeking international support for local development. This is an essential support in the education and culture of the region.

### • Nuevo Modelo de Esperanza Cooperative

Cooperative formed by members of Nueva Esperanza community in Bajo Lempa region. This cooperative is responsible for developing of sugarcane, basic grains (maize and beans), and fruit trees that are sold and used to keep the citizens of the community. The process is carried out through the minimal use of pesticides as well as the implementation of organic agriculture.

#### Salvadoran women's movement

It is an organization of women working for gender equality, equity and social justice. This movement work together with other international nongovernmental organism.

Website: http://www.mujeresmsm.org/inicio.html

### Schools in Bajo Lempa

Bajo Lempa schools provide basic education to children and young people 5-15 years old. They are public schools ruled by Ministry of Education.







# • "Nueva Esperanza" National High School

Provide general education and vocational technical high schools to young 15 to 18 years old. It is a public high school ruled by Ministry of Education.

## Child development center

They are centers for interdisciplinary child development 0-6 years. These are a local organization funded by several international cooperation organizations.

## • Mangle association

It is a local association, that work for improvement of life conditions from organized communities in the Jiquilisco bay and Bajo Lempa region. The main programs carried out are: Organizational Strengthening, Diversified production, Environment and Risk Management and Community Infrastructure.

Website: http://manglebajolempa.org/

### National Police (PNC Spanish acronym)

There is a small police station in Ciudad Romero.

# • Junta de Agua (Water's management office)

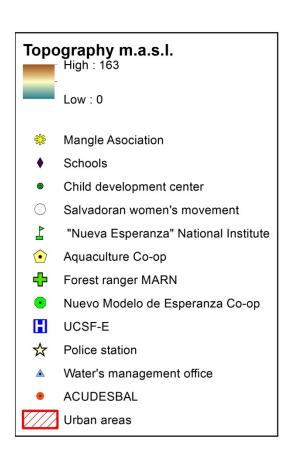
It is the office responsible for managing the drinking water in the Bajo Lempa region. This water system was formed from a project promoted by international cooperation and it not belongs to the national water network (ANDA). They have serious problems to maintain this network.







Figure 1. Study area of Bajo Lempa region



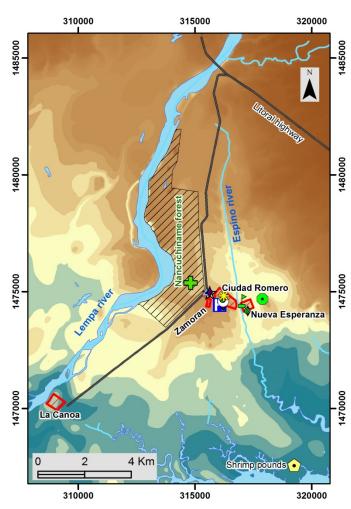
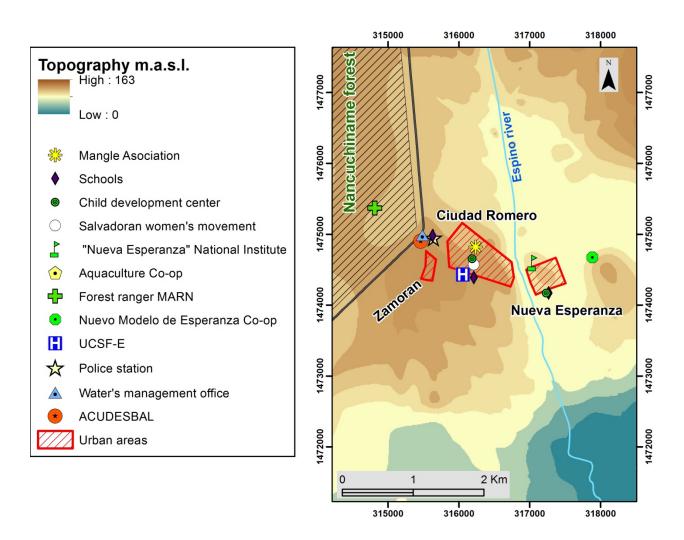








Figure 2. Ciudad Romero Community









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