

Action Plan for Freshwater System Conservation in the Highlands of Dominican Republic¹

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- 1. Introductory Statement: A Rapid Ecological Assessment of the Aquatic System in the highlands of Dominican Republic determined that, although a pristine environment, the water quality in some rivers contained a large number of microorganisms associated with water pollution.**

A monitoring program is needed to analyze the sources of contamination and the effect that suppression or reduction of each potential source of pollution may have on the freshwater system. Particularly, if we consider that more than 60% of Dominicans use this water system in one or multiple ways.

- 2. Goal: Establish a monitoring program to evaluate the health of the freshwater system in the highlands of Dominican Republic.**

2.1 Barriers

- 2.1.1 Adequate funding to support the monitoring program**
- 2.1.2 Availability of personnel**
- 2.1.3 Laboratory and equipment facilities**

2.2 Benefits

- 2.2.1 Community users will have timely advise on the safety of the water they consume**
- 2.2.2 Potential water quality degradation will be detected in advance**
- 2.2.3 Threat to freshwater biodiversity may be avoided before important species are harmed**

- 3. Action Plan**

3.1 Activities

- 3.1.1 Define, which are the best parameters to be used in a monitoring program**
- 3.1.2 Measurement of chemicals, physical and biological characteristics of the rivers**
- 3.1.3 Determine the range of variation in the aquatic parameters that guarantee ecosystem functionality and population stability**
- 3.1.4 Evaluate the impact of potential threats to the freshwater system**
- 3.1.5 Prepare a plan to reduce or suppress the impact of any threat to the aquatic system**

3.2 Indicators of success

- 3.2.1 Water quality is within the health range**
- 3.2.2 Population size of key species are stables**
- 3.2.3 The monitoring program allows a respond before water quality degradation reaches a critical level**

¹ Note to editor: File is in floppy disk PAM E with the name "Francisco's Action Plan".

3.3 Resources needed

- 3.3.1 Scientific personnel for taxonomic studies, chemistries and hydrologists**
- 3.3.2 Laboratory and equipment facilities**
- 3.3.3 Stable founding source**
- 3.3.4 Operational capabilities: computers, vehicle 4x4, traveling expenses, field equipment and guides**

4. Key Stakeholders

4.1 Who benefits positively and how?

- 4.1.1 Communities, direct users of rivers' water, will know in advance if the water is good for human consumption. These communities take the water directly from the rivers without any processing to eliminates microorganisms.**
- 4.1.2 Users of irrigation systems. Although agriculture irrigation does not have a great requirement for water quality, it is important to know which minerals are present in the water and their concentrations because it may positively impact the different crops they are cultivating.**
- 4.1.3 Cities with reservoirs using the water from the highland rivers. The quality of the waters entering a city reservoir is very important because the treatments to and costs may varied according to the minerals present in the water. A monitoring program will provide useful information needed for reservoir management.**
- 4.1.4 Environmental groups will be advise on time of potential human cause impact on the water system. In mountainous rivers, species are highly susceptible to water pollution, therefore, environmental groups will found valuable information in the monitoring program to advocate for biodiversity health of the freshwater system.**

4.2 Who is negatively impacted

- 4.2.1 Inorganic agrochemical producers and users will be negatively impacted, either there is a Government Policy for land use change to forest or incentives to use organic fertilizers.**
- 4.2.2 Pesticides companies and users. Government policies for land management may band the use of pesticides in order to protect the health of the water system. In addition, farmers may receive incentives to use natural pesticides.**
- 4.2.3 Intensive land use farmers. In order to avoid erosion and a high input of pollutant substances, the Government may change land use from agriculture to forest or may require best management agricultural practices that will increase crop production costs.**
- 4.2.4 Cattle ranchers will face the same Government regulations that farmers with intensive agriculture. Cattle will be banded to enter rivers bank and cattle waste must be treated to avoid water contamination.**