STRENGTHENING THE ENVIRONMENTAL MANAGEMENT CAPACITY OF THE LOCALITY OF CHANCAY, PERU

Pan American Center for Sanitary Engineering and Environmental Sciences
Health and Environment Division • Pan American Health Organization
Pan American Sanitary Bureau • Regional Office of the World Health Organization

June 1997
PROJECT PROPOSED FOR WHO HV/HI, HEALTHY COMMUNITIES

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OF THE LOCALITY OF CHANCAY, PERU

1. BACKGROUND

The locality of Chancay is located in the coast, 65 km to the north of Lima, capital of Peru. According to the 1993 census it has 23,500 inhabitants.

Agriculture, livestock and seafood industry are the main economic activities. Its extensive beaches and their proximity to Lima render a high potential for tourism development.

Chancay has basic sanitation services, including drinking water supply, sewerage, waste collection, and power supply. The latter is the best service with 90 of coverage and installed capacity until the year 2001; limitations in the other services affect the level of environmental health in the locality. The drinking water service serves 85% of the population, but a high percentage of water is lost, among other causes, because micromeasurement is deficient. Sewerage covers only 50% of the population and raw wastewater is disposed of in two points directly to the sea; this discharge added to the fishing industry effluents, contaminate the seashore and pose epidemiological risks that may diminish the tourist potential of Chancay. Waste collection service serves the entire population but the final disposal is done in open dumps next to a beach creating risks for the ecosystem and the tourist potential. It is now in the process of recovery.

In addition, the health and well-being of the inhabitants of Chancay and its tourist potential are affected by other environmental health problems, such as air pollution by emissions from seafood industries and lack of sanitary control of the food. Inadequate industrial safety practices and poor working conditions in the fishmeal factories are also recognized as environmental health problems.
Local government authorities of Chancay are aware of these environmental health problems and, with the cooperation of the Pan American Health Organization and other agencies, have taken action to resolve them. Thus, they have created a Committee of Environmental Issues integrated by authorities, entrepreneurs, and key persons of the locality. Its purpose is to establish priorities and to coordinate the efforts that should be carried out. Also, a unit responsible for environmental health matters was created within the municipality and a program to improve the environmental health of the locality of Chancay has been prepared.

2. **JUSTIFICATION**

The efforts to solve environmental health problems in the locality of Chancay have not been continuous. There was a first impetus with the creation of the Committee and the Unit of Environmental Health in the Municipality, but it was interrupted upon changing the mayor. Later on, the new mayor restarted the process of environmental awareness and the Committee and the Unit are operating again. Some sanitary measures have been adopted, however, the risk of interruption of the process subsists.

The present Project is a proposal to consolidate the process of solving environmental health problems and to eliminate the risk of interrupting it.

3. **OBJECTIVES**

3.1 **General objective**

Consolidate the process of improving environmental health conditions in the locality of Chancay.

3.2 **Specific objectives**

3.2.1 Strengthen institutional mechanisms to improve environmental health conditions in the locality of Chancay.

3.2.2 Update the program to improve environmental health in the locality of Chancay.

3.2.3 Prepare projects of that program, including financing and execution.

3.2.4 Systematize and disseminate the experience to replicate it in other similar communities.
4. **STRATEGIES**

4.1 The Project will be carried out through institutional mechanisms that ensure community participation in the analysis of environmental health problems and in the proposal and implementation of the solutions. The existing institutional mechanisms will be enhanced to facilitate that participation.

4.2 The Project will demand actions during a period that will exceed the mandate of a major. The institutional mechanisms to be created should assure, basically through direct participation of the community, that the Project will not be interrupted once the mandate of the municipal authority is over.

4.3 The Project should promote solutions compatible with the level of development of the locality and the capacity of payment of the neighbors and of the beneficiaries of the decontamination.

4.4 There will be gradual solutions according to the level of development of the locality.

4.5 The solutions to be proposed will imply the use of the most adequate technologies according to the payment capability of the beneficiaries.

4.6 Every solution that is proposed will be examined with the beneficiaries, since they will assume the cost of the solutions.

4.7 The cooperation of governmental, international and national cooperation agencies will be sought, but special care should be taken to avoid costs that the population cannot afford.

4.8 The systematizing and reporting of the experience will be ensured to make it available to authorities and inhabitants of similar localities that may be willing to follow the example of Chancay.

5. **PROGRAMMING**

For the attainment of the proposed objectives the following activities will be developed:

5.1 To strengthen the institutional mechanisms for improving health environmental conditions in the locality of Chancay

a) Evaluation of existing mechanisms
   The way these mechanisms have been operating since its creation will be examined. How they have fulfilled or are fulfilling their purposes will be determined and the factors that have conditioned them favorably or unfavorably will be identified.
b) Proposal of measures to strengthen institutional mechanism
Measures will be studied and proposed to overcome the negative factors that hinder the adequate operation of existing institutional mechanisms, or new mechanisms will be established.

c) Implementation of measures
The most adequate way to implement the proposed changes in institutional mechanisms will be studied. The activities of that implementation will be programmed and carried out.

5.2 To update the program for improving environmental health conditions in the locality of Chancay

a) Set up of a working group
A working group will be set up to evaluate the program. The group will be designated by the Committee of Environmental Issues and will have the support of a specialist.

b) Evaluation
The evaluation will be planned so that the greatest possible participation of the population be available. Meetings with local groups and surveys will be used. An evaluation program of the activities will be prepared and will be followed accordingly.

c) Preparation of the proposal and updating of the program
In accordance with the conclusions of the evaluation and with the participation of the population, the proposal to update the program will be prepared. In that proposal the projects that are going to be continued and the new projects will be identified; criteria to rank them will be established and the ranking will be done. The costs of the projects and their financing alternatives will be estimated; maximum advantage of local resources will be sought.

d) Discussion of the proposal with the community
The program will contain proposals that will benefit the community and will also affect their resources and behavior. Hence, it should be widely discussed with them to ensure understanding and support.

e) Approval of the new version of the program
The approval should be given by the Committee of Environmental Issues.
5.3 To prepare projects for improving environmental health in Chancay, including financing and execution

a) Set up of working groups for the projects
A working group will be set up for every project. All sectors involved in the project will be part of the group. Technicians will be assigned to give support. The working groups will be set up at the beginning of every project, in accordance with the priority order established in the program.

b) Preparation of the projects
The projects will be prepared taking into account the strategies indicated in item 4 of this document. A program of the activities that should be carried out in every project will be included and the development of the program will be made in accordance to it. It is recommended that each project have the standardized format that PAHO/WHO recommends.

c) Financing
Each project will have a financing proposal compatible with the aforementioned strategies. For the additional resources that the community can not afford, governmental and cooperation agencies contribution will be requested. The proposed project will be the instrument to negotiate those arrangements.

d) Carry out of the projects
Once the financing of a project is defined, its execution will start.

5.4 To systematize and disseminate the Chancay experience for replication in similar communities

a) Evaluation of the results of the program
It will include the preparation of an evaluation methodology to help identify the principal variables that affected the development of the program and to assess its positive or negative effect on the results. As well, the methodology should allow the largest community participation. The evaluation report should indicate the advisable changes to be included in the program and the aspects that should be disseminated and in what form.

b) Systematization of the experience
The aspects of the program to be disseminated should be systematized, taking into account the audience and the expected impact on them.

c) Preparation of texts and videotapes to disseminate the experience
It will include the printing of texts and the reproduction of videotapes for disseminating the systematized experience.
d) Preparation of the program to disseminate the experience
   A program will be prepared for meetings and the distribution of texts and
   videotapes to disseminate the experience of Chancay and its advantages. The audience
   and impact will be identified as well as the costs and financing. The way of carrying out
   the program will be pointed out.

e) Carry out of the dissemination program
   Those responsible for the execution of the program will be designated to start its
   execution.

In Table 1 the timetable of these activities is presented.
<table>
<thead>
<tr>
<th>Activities</th>
<th>Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) To strengthen institutional mechanisms</td>
<td></td>
</tr>
<tr>
<td>1. To evaluate existing mechanisms</td>
<td>xxxx</td>
</tr>
<tr>
<td>2. To propose measures to strengthen them</td>
<td>xxxx</td>
</tr>
<tr>
<td>3. To implement those measures</td>
<td>xxxx</td>
</tr>
<tr>
<td>b) To update the program for improving environmental health</td>
<td>xxxx</td>
</tr>
<tr>
<td>1. To set up a working group to evaluate the situation of the program</td>
<td>xxxx</td>
</tr>
<tr>
<td>2. To carry out the evaluation</td>
<td>xxxx</td>
</tr>
<tr>
<td>3. To prepare a proposal to update the program</td>
<td>xxxx</td>
</tr>
<tr>
<td>4. To discuss the proposal with the community</td>
<td>xxxx</td>
</tr>
<tr>
<td>5. To approve the new version of the program</td>
<td>xxxx</td>
</tr>
<tr>
<td>Activities</td>
<td>Months</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>c) To develop the projects of the program</td>
<td></td>
</tr>
<tr>
<td>1. To set up working groups for the projects</td>
<td>xxxx</td>
</tr>
<tr>
<td>2. To prepare the projects</td>
<td>xxxx</td>
</tr>
<tr>
<td>3. To define its financing</td>
<td></td>
</tr>
<tr>
<td>4. To carry out the projects</td>
<td>xxxx</td>
</tr>
<tr>
<td>d) To systematize and to disseminate the experience</td>
<td></td>
</tr>
<tr>
<td>1. To evaluate the results of the program</td>
<td>xxxx</td>
</tr>
<tr>
<td>2. To systematize the experience</td>
<td>xxxx</td>
</tr>
<tr>
<td>3. To prepare texts and videotapes for disseminating the experience</td>
<td>xxxx</td>
</tr>
<tr>
<td>4. To prepare a program for disseminating the experience</td>
<td>xxxx</td>
</tr>
<tr>
<td>5. To carry out the program for dissemination</td>
<td>xxxx</td>
</tr>
</tbody>
</table>
6. ORGANIZATION

For the implementation of the Project an organization with three levels will be set up:

6.1 Council level

It will be comprised by the Committee of Environmental Issues, municipal authorities, local authorities, entrepreneurs, community representatives, and local key persons. It will be presided by the mayor. The council level will be responsible for the coordination and general management of the Project.

6.2 Supportive level

The Environmental Health Unit of the Municipality will act as the technical secretariat of the Committee of Environmental Issues and as advisor of the working groups. Professionals will be assigned to the unit by the Municipality and PAHO/WHO.

6.3 Executive level

It will be made up of the working groups which will carry out each project of the plan.

Every working group will have technicians and representatives of neighbor organizations who will share the implementation of the project. A coordinator, responsible for the programming and implementation of the project, will be assigned to every working group.

The staff of WHO and PAHO/WHO Headquarters, of its centers and other programs participating in the Project will work in the assigned organization. The same will occur to the personnel of the Central and Local Government participating in the Project.

In Table 2 a chart of this organization is presented.
Table No. 2

SIMPLIFIED ORGANIZATION CHART

COMMITTEE OF ENVIRONMENTAL ISSUES

MAJOR

SUPPORTING LEVEL

TECHNICAL SECRETARIAT

WORKING GROUP PROJECT 1
COORDINATOR

WORKING GROUP PROJECT 2
COORDINATOR

WORKING GROUP PROJECT n
COORDINATOR
7. **COSTS AND BUDGET**

The estimated costs of the Project is US$ 161,542, which correspond to:

- Strengthening institutional mechanisms **US$** 2,520
- Updating the program to local improve environmental health **US$** 2,540
- Carrying out the projects of the program **US$** 92,520
- Systematization and dissemination of the experience **US$** 38,570

| Subtotal | US$ 136,150 |
| Contingencies (5%) | US$ 6,808 |

| Subtotal | US$ 142,958 |
| Overhead (13%) | US$ 18,584 |

**TOTAL** **US$ 161,542**

These costs correspond to:

- Consultants **US$** 13,500
- Trips **US$** 4,650
- Printing and reproduction of videotapes **US$** 8,000
- Meetings for dissemination **US$** 20,000
- Support for the preparation of the project **US$** 30,000
- Support for the execution of the project **US$** 60,000

| Subtotal | US$ 136,150 |
| Contingencies (5%) | US$ 6,808 |

| Subtotal | US$ 142,958 |
| Overhead (13%) | US$ 18,584 |

**TOTAL** **US$ 161,542**

In Table 3 the analytical budget of the costs of the project is presented.
TABLE N° 3
BUDGET

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>TOTAL US$</th>
<th>SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
<td>II</td>
</tr>
<tr>
<td><strong>A) TO STRENGTHEN INSTITUTIONAL MECHANISMS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 To evaluate existing mechanisms</td>
<td>1,500</td>
<td>1,500</td>
</tr>
<tr>
<td>- 1 consultant x 1 month x $1,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 3 trips x 3 persons x 1 day x $30 + transportation 100$</td>
<td>370</td>
<td>370</td>
</tr>
<tr>
<td>2 To propose measures to strengthen them</td>
<td>280</td>
<td>280</td>
</tr>
<tr>
<td>- 2 trips x 3 persons x 1 day x $30 + transportation 100$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 To implement those measures</td>
<td>370</td>
<td>370</td>
</tr>
<tr>
<td>- 3 trips x 3 persons x 1 day x $30 + transportation 100$</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B) TO UPDATE THE PROGRAM FOR IMPROVING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL HEALTH</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 To set up a working group to evaluate the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>situation of the program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 1 consultant x 1 month x $1,500</td>
<td>1,500</td>
<td>1,500</td>
</tr>
<tr>
<td>- 1 trip x 3 persons x 1 day x $30 + transportation 100$</td>
<td>190</td>
<td>190</td>
</tr>
<tr>
<td>2 To carry out the evaluation</td>
<td>190</td>
<td>190</td>
</tr>
<tr>
<td>- 1 trip x 3 persons x 1 day x $30 + transportation 100$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 To prepare a proposal to update the program</td>
<td>190</td>
<td>190</td>
</tr>
<tr>
<td>- 1 trip x 3 persons x 1 day x $30 + transportation 100$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 To discuss the proposal with the community</td>
<td>280</td>
<td>280</td>
</tr>
<tr>
<td>- 2 trips x 3 persons x 1 day x $30 + transportation 100$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 To approve the new version of the program</td>
<td>190</td>
<td>190</td>
</tr>
<tr>
<td>- 1 trip x 3 persons x 1 day x $30 + transportation 100$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### C) TO DEVELOP THE PROJECTS OF THE PROGRAM

1. To set up working groups for the projects
   - 1 consultant x 1 month x $1,500
     - 1,500
   - 2 trips x 3 persons x 1 day x $30 + transportation 100$
     - 280

2. To prepare the projects
   - 3 consultants x 8 months x $2,500
     - 60,000
   - 3 trips x 3 persons x 1 day x $30 + transportation 100$
     - 370

3. To define its financing
   - 3 trips x 3 persons x 1 day x $30 + transportation 100$
     - 370

4. To carry out the projects
   - 3 trips x 3 persons x 1 day x $30 + transportation 100$
     - 370
   - contribution for the carrying out of the projects
     - 30,000

### D) TO SYSTEMATIZE AND TO DISSEMINATE THE EXPERIENCE

1. To evaluate the results of the program
   - 1 consultant x 1 month x $1,500
     - 1,500
   - 2 trips x 3 persons x 1 day x $30 + transportation 100$
     - 280

2. To systematize the experience
   - 3 consultants x 1 month x $1,500
     - 4,500
   - 3 trips x 3 persons x 1 day x $30 + transportation 100$
     - 370

3. To prepare texts and videotapes for disseminating the experience
   - printing of texts
     - 4,000
   - video production
     - 3,000
   - 4 trips x 3 persons x 1 day x $30 + transportation 100$
     - 460

4. To prepare a program for disseminating the experience

5. To carry out the program for dissemination
   - 1 consultant x 2 months x $1,500
     - 3,000
   - 4 spreading events x $5,000
     - 20,000
   - texts and video distribution
     - 1,000
   - 4 trips x 3 persons x 1 day x $30 + transportation 100$
     - 460

<table>
<thead>
<tr>
<th>Sub-Total</th>
<th>136,150</th>
<th>38,840</th>
<th>60,740</th>
<th>17,110</th>
<th>21,450</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contingencies 5%</td>
<td>6,808</td>
<td>1,842</td>
<td>3,037</td>
<td>856</td>
<td>1,073</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>142,958</td>
<td>38,682</td>
<td>63,777</td>
<td>17,966</td>
<td>22,533</td>
</tr>
<tr>
<td>Overhead 13%</td>
<td>18,584</td>
<td>5,029</td>
<td>8,291</td>
<td>2,358</td>
<td>2,937</td>
</tr>
<tr>
<td>Total</td>
<td>161,542</td>
<td>43,711</td>
<td>72,068</td>
<td>20,301</td>
<td>25,462</td>
</tr>
</tbody>
</table>
8. **EXPECTED BENEFITS**

The Project will:

* Consolidate the local institutional capacity of the existing environmental management in Chancay.

* Strengthen the ability of the community organizations of Chancay to face their problems.

* Improve the environmental and health conditions of the locality of Chancay and, consequently, the quality of life and productivity of the population.

* Contribute to the economic development of the locality of Chancay by creating better conditions for tourism; by establishing fair rules for industrial investment; and by using natural resources, including water and wastewater, in an environmentally sound way.

* Motivate other communities with similar problems to pursue the results obtained in Chancay.

Lima, 30 June 1997