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**THE IRC - PUBLIC STANDPOST WATER SUPPLY**  
**COOPERATION PROJECT IN INDONESIA**  
**- AN OVERVIEW**

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PROVISION OF CLEAN WATER IN URBAN AND RURAL AREAS WILL BE INTENSIFIED. MORE ATTENTION WILL BE GIVEN TO THE IMPROVEMENT OF WATER SERVICE MANAGEMENT THROUGH GUIDING ACTIVITIES IN ORDER TO SERVE BETTER THE PEOPLE'S NEED FOR PIPED WATER.

(captured from: Presidential Speech in the House of Representative when presenting the State Basic Policy for Development. (BJHN) - October 1983).

THE IRC - PSWS  
COOPERATION PROJECT IN INDONESIA  
A BRIEF OVERVIEW.

I. Water-supply in the Indonesian Development context.

As described both in the Basic State Policy of 1978 which became the directives of the third Five Year National Development Plan (1979-1983) as well as the Basic State Policy of 1983 which became the current foundation of the Fourth Five Year National Development Plan (1983 - 1988), Water Supply and Sanitation is an integrated part in the overall development of Health and Housing of the people.

The formal institutions responsible for water supply in Indonesia is presently the Ministry of Health with regards especially to rural water supply, and the Ministry of Public Works which do mainly the urban water supply. Since the start of the current Five Year National Development Plan, this Ministry is also concerned with rural water supply when its distribution system is using piping system.

A third body which is also much involved in the management of water supply both in urban and rural areas, is the Ministry of Internal Affairs through its delegated local administration system to Local Authorities.

These three government bodies, are the main actors in the implementation of national projects on water supply and sanitation, including the participation in the Water Supply and Sanitation Decade.

Complementary to these three Ministries there are also other Ministries which give great attention to the success of water supply and sanitation projects.

Table 1, shows the complete list. (page 2)

Table 1 Ministries Involved in Water Supply and Sanitation.

| No. | MINISTRY              | RESPONSIBILITIES  |
|-----|-----------------------|---|
| 1.  | Health                | Development of quality control of safe water supply and sanitation.             |
| 2.  | Public Works          | Technical development of safe water supply and sanitation<br>Technical guidance |
| 3.  | Internal Affairs      | General guidance<br>Mobilization of community participation                     |
| 4.  | Education and Culture | Guidance on education and training motivation                                   |
| 5.  | Industry              | Equipment and parts, industries related to sanitation                           |
| 6.  | Finance               | Financial funding assistance  |

In practice several of these ministries may form an agreement to plan and implement a project with one of the ministries playing the leading role. Planning of this project will then be guided by BAPPENAS (The National Planning Board), through its various stages, and which will work with those ministries (or the leading ministry) collaborating and the Finance Department and the Central Bank.

In figures for example, more than 30% of the rural population has access to clean water through government rural water supply projects.

The target set-up by the end of the current Five Year National Development Plan or by 1990 the last year of the water decade, is to provide at least 60% of rural population with clean water; and 75% of the urban population. Table 2, shows some figures on the urban and rural population.

Table 2 Total Urban and Rural Population  
(in million).

| POPULATION | CENSUS           |                   |                    |
|------------|------------------|-------------------|--------------------|
|            | 1961             | 1971              | 1980               |
| Urban      | 14.5<br>( 15% )  | 21.5<br>( 28% )   | 33.0<br>( 22,4% )  |
| Rural      | 82.6<br>( 85% )  | 97.7<br>( 82% )   | 114.5<br>( 77,6% ) |
| Indonesia  | 91.7<br>( 100% ) | 119.2<br>( 100% ) | 147.5<br>( 100% )  |

As stated before, in the Development project, water supply can be seen as an integrated part in the development of housing and health (sanitation). Table 3, shows achievements accomplished in the three "Repelitas". (Five Year National Development Plan).

Table 3 Physical Achievements

| No.                                | Programme  | Repelita I<br>1969-1974 | Repelita II<br>1974-1979 | Repelita III<br>1979-1984 |
|------------------------------------|--|-------------------------|--------------------------|---------------------------|
| <u>1. Housing</u>                  |  |                         |                          |                           |
| 1.1.                               | Housing by the National Housing & Urban Development Corporation (PERUMNAS) | pilot projects only     | 50,670 units             | 103,654 units             |
| 1.2.                               | Housing by others  | -                       | *                        | 70,572 units              |
| 1.3.                               | Kampung Improvement  | -                       | 7,000 Ha<br>(2 cities)   | 11,700 Ha<br>(227 cities) |
| 1.4.                               | Rural Housing  | -                       | 1,000 villa-<br>ges.     | 4,923 villages            |
| 1.5.                               | Urban Renewal  | -                       | -                        | 1,8 Ha (1 city)           |
| <u>2. Water Supply</u>             |  |                         |                          |                           |
| 2.1.                               | Production Capacity  | 6,222 lps               | 5,090 lps                | 16,071 lps                |
| 2.2.                               | Urban Coverage   | *                       | *                        | 39%                       |
| 2.3.                               | Rural Coverage   | *                       | *                        | 32%                       |
| <u>3. Environmental Sanitation</u> |  |                         |                          |                           |
| 3.1.                               | Solid Waste Disposal   | -                       | 4 cities                 | 15 cities                 |
| 3.2.                               | Drainage   | rehabilitation          | 2 cities                 | 25 cities                 |
| 3.3.                               | Sewerage   | -                       | -                        | 4 cities                  |

\* not available

In the current Five Year National Development Plan, the programme in housing and urban services in which water supply and sanitation is no less important, is to provide decent housing in a healthy environment to as many people as possible; keeping in view mainly the low-income groups. In fact, it must be pursued that in the current Repelita (IV), achievements should be the double of what have been accomplished during the last Repelita (III). In figures, the target set up for Repelita IV is listed in table 4, and with the following guidelines:

1. Priorities will be given to on-going and quicklyielding projects which support industrial development, tourism centres, harbours and other strategic sectors;
2. Projects will be implemented stagewise to ensure a certain measure of functioning at an early stage;
3. Proper usage and maintenance of urban facilities will be given appropriate attention;
4. Supervision and control of development projects including development of human resources will be intensified;
5. Administrative handling of foreign aid loans will be given more priority;
6. Housing and urban service programmes will be designed to be affordable by the low-income groups and to serve as many people as possible in urban and rural areas;
7. Water supply schemes will be extended to cover more district capitals (IKK) and to support industrial development. Provision of raw water in bulk will be implemented to ensure adequate supply of water.

Table 4. Housing; Water Supply and Sanitation development programme for Repelita IV (1984 - 1988).

| No. | Programme   | Target  |
|-----|---|---|
| 1.  | Housing<br>1.1. Perumnas<br>1.2. Non Perumnas<br>1.3. Kampung Improvement<br>1.4. Rural Housing<br>1.5. Others<br>1.6. New Town<br>1.7. Urban Renewal | 140,000 units<br>160,000 units<br>400 cities, 15,000 Ha<br>10,000 villages<br>25,000 units<br>6,000 Ha<br>50 Ha |
| 2.  | Water Supply<br>2.1. Urban Coverage<br>2.2. Rural Coverage<br>2.3. IKK (District Capital)   | 70% (bna)<br>55%<br>2,000 small towns   |
| 3.  | Environmental Sanitation<br>3.1. Solid waste disposal<br>3.2. Drainage<br>3.3. Sewerage   | 200 cities through<br>200 cities labour<br>intensive<br>10 cities   |



## II. International Co-operation

Being a developing country, Indonesia welcomes technical aids offered by international agencies such as UN-bodies or on bilateral bases with certain developed countries.

Some of the leading UN-agencies which co-operate intensively with the Government of Indonesian on Water Supply is for example UNICEF.

UNICEF current policy on co-operation in water and sanitation programmes follows the recommendation by Joint Committee on Health Policy (JCHP) between UNICEF and WHO.

On Water Supply, the recommendation is to provide clean water for drinking and general household use with emphasis on accessibility and a large enough quantity.

General objectives of the co-operation between the Government of Indonesia and UNICEF in the water-supply sector are to :

- a. Provide, at a close distance to the home, safe water in sufficient quantity to meet the normal daily needs of the family and thereby achieve an improvement in their overall standard of living.
- b. Reduce the incidence of water borne diseases, especially those affecting the young child population.

Specific objectives of the co-operation in the Water Supply Sector are to :

- a. Provide safe water to 35% of the population or 1,865,000 persons, in those kecamatans of the Selected Areas where work is taken up. In the selected rural areas this would cover 1,123,000 persons whereas in the Intensive Areas the proposed facilities are expected to serve a total of about 742,000 people (582,000 in Madura, 50,000 in Kendari and 110,000 in 4 urban areas).
- b. Develop systems of drinking water and sanitation facilities which could be duplicated in other areas of the country.
- c. Achieve delivery of improved drinking water supply and sanitation facilities in a co-ordinated way mutually reinforcing services of other development programmes.
- d. Strengthen the administrative and technical organization responsible for efficient planning, implementation, expansion and follow-up of water supply and sanitation projects.
- e. Promote the active participation of rural communities in the planning, implementation and maintenance of rural water supply and sanitation.

The co-operation in this programme is concentrated in selected rural and urban areas, a policy which was adopted during the end of Pelita II. The areas, selected by the Government, faced unusual problems of finding water due to difficult physical condition or poor Government infrastructures for implementation of projects.

By co-ordinating assistance for water supply with other improvements it was hoped that a pattern could be developed for addressing problems of "difficult" areas where high disease rates, difficult physical condition or weak implementation infrastructures required higher than normal levels of Government assistance.

The selected areas comprise of nine rural areas and kampungs in four cities. In the rural areas, there are 16 kabupaten in the nine provinces,

Regarding to urban water supply, the Government of Indonesian has linked many urban water supply projects with funds received from the World Bank, Asian Development Bank, or through IGGI, in which certain developed countries are members in sponsoring the project with soft loans or grant.

Besides through the formal Government channel, water supply projects are also sponsored by non-governmental organizations such as by CARE (USA); Foster Parent Plant (Netherland); Frederich Neumann Stiftung (Germany) etc.

In terms of production capacity of water supply, in Repelita III the target achievement is enough to serve 60% of the urban population with 60 liter percapita per day. The installed water production capacity, however, is as yet not fully utilised. It is estimated that only 40% of the urban population is served through the present network of house connections and public standpipes. It has therefore been realised that the relative backlog in the implementation of the distribution network is the main reason for present low coverage. Further water losses due to leakages and water unaccounted-for have become points of main concern to the water companies.

In Repelita IV emphasis will be put on expanding the distribution networks in order to reach the target of 70% urban coverage. Water services management of local water company needs to be improved through guidance and assistance from the Government. The provision of clean water will be intensified not only to cater household needs but also

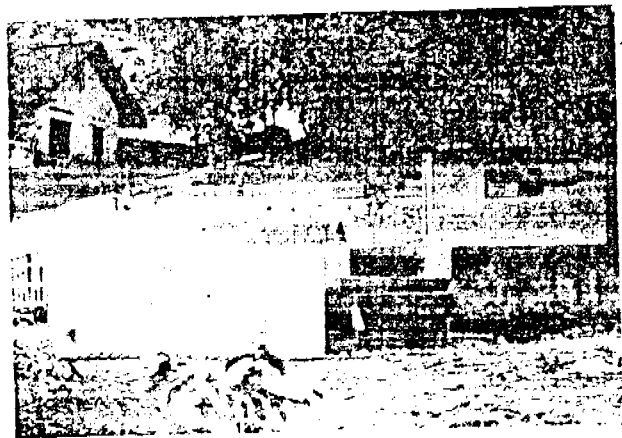
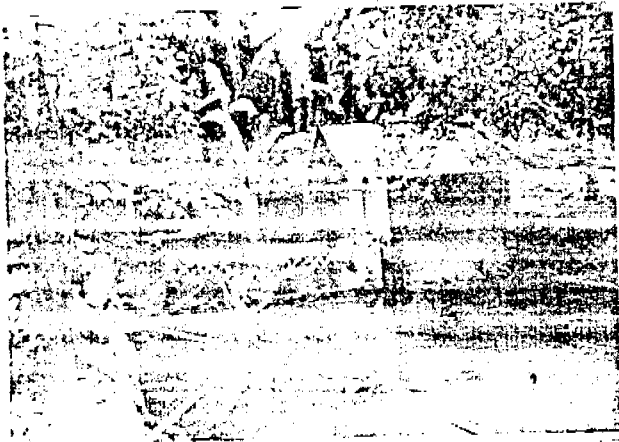
the need for clean water by industries, harbours, tourism, transmig-  
ration settlements, and new settlements. Clean water schemes will  
also be complemented with sanitation measures.

With a such background and perspective in Indonesia, a joint  
venture with IRC was envisaged and initiated in 1982.

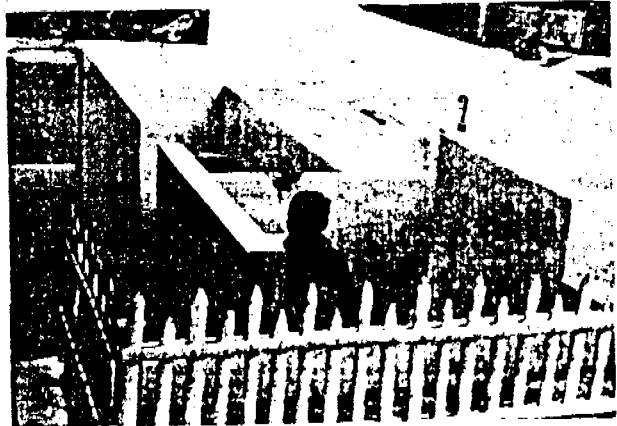
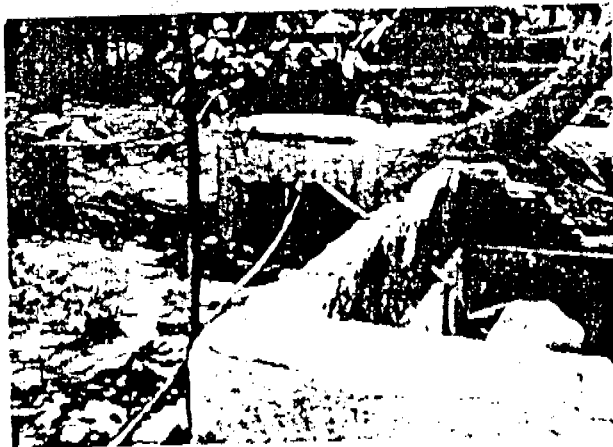
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THE FIRST DEMONSTRATION PWS-UNIT ACCOMPLISHED  
UNDER IRC, INDONESIA CO-OPERATION - PROJECT.

BEFORE

AFTER



VIEW OF THE SITE



THE TAP AND BATHING FACILITY

### III. The IRC - PSWS projects in Indonesia

#### (a) Project document

As formulated in the agreement signed by Mr Radinal Mochtar than the Director General of Cipta Karya and by Mr E.L.P. Hessing on behalf of RCC, the objectives of the cooperation project reads as follows:

"To develop appropriate strategies, methods and techniques for the planning, implementation and management of community water supply systems that include a considerable number of public standposts. The methodology of the programme allows for active participation by the population in all stages of the local projects and is directed to repetitive application of the generated knowledge.

The project aims at serving the poorer sections of the population in Indonesia.

The immediate objectives are :

1. to set up and to develop a number of demonstration projects on the application of public standposts in community water supply.
2. to conduct a series of studies and to prepare guidelines on particular organizational, economic, technological and socio-cultural aspects of public standposts water supply systems.
3. to record and evaluate the progress of the demonstration projects in order to further the strategy on the implementation of rationalized water supply system.
4. to disseminate the knowhow on planning design, operation, management and maintenance in the form of recommendations and manuals.
5. to promote the application on a large scale of the strategies, methods and techniques developed and to allocate funds for this, as a follow-up of the project.
6. to contribute to the international exchange of information on various aspects of public standpost water supply systems.

#### Major Subjects

In developing the demonstration projects, special attention will be given to :

- a. Operation and Maintenance
- b. Administration and Financial Management
- c. Institutional and Organizational Aspects
- d. Community Education and Participation
- e. Design and Construction
- f. Local Manufacture of Parts and Equipment
- g. Manpower Planning and Training of Local Staff

In relation to the further development of these items, reference is made to the IRC programme proposal (19800703) and to the publications: 'Public Standpost Water Supplies' (IRC/Technical Paper 13), and 'Public Standpost Water Supplies, a Design Manual' (IRC/Technical Paper 14). Special attention will be given to the interrelationships between these subjects.

#### Workplan

The project consists of two components :

- A. Local demonstration schemes (LDS; 3 or more), and
- B. Special subject studies (SSS)

In general terms the workplan covers four major items:

1. preparatory activities, including:
  - the set-up of the special subject studies (see below).
  - the preparation of the local demonstration projects, including materials for public information (penyuluhan) and basic sanitation education to the local population (posters, leaflets and audiovisual aids such as tapes, slides, film, etc.).
2. implementation of the demonstration projects, including
  - experimentation with the number of users per tap, the type of tap and other technical items (drainage).
  - experimentation with organizational and financial options.
3. monitoring and evaluating the demonstration projects and the results of the special subject studies. The results will be made available for use in national and international information exchange.
4. preparation of manuals and guidelines for use in large scale implementation projects such as IKK.

The selection of the demonstration sites will be decided upon by the Project Management Committee (PMC), in close consultation with IRC in order to safeguard that the respective projects fit in the overall programme.

The special subject studies (SSS) include :

1. Workshop on evaluation work done and activating the results of that for use in the project.
2. Study on appropriate design criteria, including investigation of the optimal number of users per standpost, the merits of connections shared by few families, the type of standpost, the type of tap, drainage and the type of reservoir.
3. Study on financial management (options).
4. Study on operation and maintenance (options).
5. Study on local manufacturing of parts (such as taps).

The items 3 - 5 above are optional and depend on the findings in the early stages of the project, to be decided upon by the PMC.

The workplan will be implemented in three phases : a preparatory-phase (9 months), an implementation phase (9months) and a demonstration phase (6 months). For a detailed description of these phases, reference is made to the IRC proposal (19800703). A barchart indicating the timing and division of the above activities over the three phases is attached as annex A.

(b) Preparatory work and activities by the Indonesian side.

1. Keeping in view the proposed joint-project, the Director General of Cipta Karya (Human Settlements) called an inter-ministrial meeting with the purpose of:
  - (a) establishing an interministerial Steering Committee
  - (b) forming a technical or working team for project implementation
  - (c) to recommend the technical team to conduct 'fact-finding survey' on 'PSWS' in the current national development project to which IRC proposed joint project can be linked.
  - (d) to present the report of the fact-finding mission in a national workshop on PSWS.

2. Following above mentioned special meeting, a Steering Committee was set up on the Directorate General level, headed by the Directorate General of Cipta Karya in-officio and with members of relevant Directors from the Ministry of Public Works, Ministry of Health and Ministry of Internal Affairs. The Executive Secretary of the Steering Committee is the Project Coordinator. A technical team was also formed consisting of members who are staff and officials from concern Ministries.

3. Four survey teams consisting of members of the technical team and invited experts from Universities and professional organizations are assigned to conduct a survey in 6 locations through out the country. The 6 locations were selected from incoming reports of PSWS successfull projects or those which have certain problems. The report of the team became one of the leading paper presented in a national workshop on PWS.

4. As planned, one of the first national wide activities in implementing the joint-project was to organize a national workshop on public standpost water supplies, (held in Jakarta in March 1983.) The workshop was attended by representatives of IRC, WHO, UNICEF and CARE.

(Note: From actual signing of the agreement in March 1982 to actual implementation of its Plan of Operation, it took a whole year to accomplish the administrative procedures.

It covered technical discussions in details by representatives from IRC visiting Indonesia as well as acquiring funds through the national budget by the Indonesian side).

The Workshop concluded with 8 points of recommendation listed as follows :

- a. The meeting acknowledged its appraisal to the cooperation established between above mentioned agencies on the demonstration project on public standpost water supply, and suggest that this opportunity be used to good advantage.

- b. Participation of a above mentioned inter-ministerial agencies assigned to join the demonstration project may also benefit opportunities two widen their professional knowledge offered by IRC in its cooperation project with Indonesia, as it will support further development of the demonstration project.
- c. To realized this cooperation firmly, the agencies represented in this Seminar have expressed their willingness to participate, each within the limit of its respective function and ability,
- d. The agencies recommended for participation in the development and demonstration project are :
- Ministry of Home Affairs:
    - 1) Local Government
    - 2) Directorate of Public Government and Regional Autonomy
    - 3) Directorate of Rural Development
  - Ministry of Health :
    - 1) Directorate of Sanitation and Hygiene
    - 2) Directorate of Community Information
    - 3) Research and Development Centre, Ministry of Health
  - Ministry of Public Works:
    - 1) Research and Development Centre, Ministry of Public Works
    - 2) Directorate General of Cipta Karya (Housing, Building, Planning and Urban Development)
    - 3) Directorate of Sanitary Engineering
    - 4) Directorate of Housing
    - 5) Directorate of Building Research.
  - National Institute for Sciences :
 

Research Centre for Physics.
  - University :
    - 1) Bandung Institute Technology
    - 2) University of Indonesia, Jakarta.
  - Association :
 

PERPAMSI (Association of Indonesian Water Supply Utilities).
- e. Division of the respective task will be arranged alter based on further consensus and will be formalized through the existing administrative procedure.



f. It is proposed that in determining the location, the pilot project be considered on the bases of work efficiency and effectivity and and adjusted to the available fund.

For convenience of research and observation in the field, it is suggested that the locations be in the Province of West Java with the following possibility :

One (1) fisherman village and one (1) coast town.

One (1) village in the mountains and one (1) mountain-side town.

This is to ensure that the 2 types of water supply system as launched respectively by the Ministry of Health and by the Ministry of Public Works will be covered for investigation and further development.

g. The target of the development and demonstration work concerns the management aspects (operation and maintenance, payment for the use of water), aspects of community education and participation as well as socio-cultural impact, and training of local staff.

If deemed necessary other aspects which are relevant to the research on said pilot project will also be on target.

h. The areas that will be incorporated in the joint activity are :

8.1. Education, development/training of community utilizing potable water.

8.2. Training/courses to local caretakers for public taps concerned.

Organization of the education and courses above, is jointly done in cooperation with experienced parties and will be based on the manual and plan of education/courses jointly prepared.

i. Preparation of manual of which the contents are prepared together and furnished to the public taps local caretakers and administrative officers concerned.

- To back up the IRC joint project with national funds, the Institute of Human Settlement through the Directorate General of Cipta Karya submitted a request in budget year 1982 - 1983 to the Central Government and was approved. Also for the year 1983-1984 similar procedure was done and received an increased allocation. In the current budget year (1984 - 1985) Rupiah-counterpart for IRC joint project is still available.

(c) Actions taken in the implementation of IRC-RWS project.

1. Subsequent to the national workshop and to information received from the survey teams, it was decided to concentrate the location of the demonstration projects in Regencies situated in the Eastern part of West Java Province, which are from the point of view of communication and accessibility most convenient. A most important criteria is of course that these Regencies have an on going water supply projects and which community potentialities are positive.  
The selected Regencies are the Municipality of Cirebon, the Regency of Cirebon and the Regency of Majalengka, all of which are neighbours to each other. Each Regency nominated the District and the village where the demonstration project is to be located. The community decided the location where the project should be built.
2. When the proposal from the local authorities is received, the technical team of the IRC-RWS project took it into consideration including consultation with concern village chief and the community, for eventual making a counter proposal which from the point of view of design and funds, may be more rational.
3. In the mean time approaches were made to officials on the Provincial level, and followed up by a meeting called by the Governor in which representative from all the Regencies, concern Districts, Village officials, Community leaders were all met. In such 'high-level' local meeting, the technical team introduced the project comprehensively.
4. A local team was then established which would act also as initiator to make the ball rolling and become the liaison for the team at IHS.

5. By this way working mechanism to organize local training, actual project construction, its operation and maintenance came into function.

By experience however, in two cases where the IRC joint project are currently carried out the local authorities established their own way in dealing with the project.

The Gumulung Tonggoh case ( Regency Cirebon), the village chief is given a free hand to handle directly with the community and with the technical team, while in the case of Jagatsari ( Regency Majalengka), an advisory team at the Regency level was formed and will have its extension body in the District level to collaborate with the village level. ( the LKMD = Village Community Development Body).

6. In the process of actualization of IRC-PSWS project in Indonesia there was a good opportunity to also introduce the project in a regional Seminar on Public Standpost Water Supplies as Infrastructure in Housing for Low-income Communities, held in Cirebon in March 1984. The Regional Seminar was a joint activity of the Institute of Human Settlements with IRC, UNESCO and FIT. Recommendation of the Regional Seminar is included in this paper as an annex.

#### IV. Conclusion

The IRC-PSWS joint project in Indonesia is a timely project in which innovative approach to existing procedures in dealing with water supply may be indeed considered.

As an 'independent' project from the regular and ordinary water supply projects financed through the State development programme, the IRC-PSWS joint project has introduced new possibilities in meeting community needs which otherwise from the formal procedure may not be listed as a priority. Stimulated by modest funds and institutional approach, potentialities in the community can be indeed optimised. Alternative solution can be sought and accomplished.

Recommendation for Regional Seminar on Public Standpost Water Supplies  
As Infrastructure In Housing For Low-Income Communities.

1. A regional research programme should be undertaken in the field of bamboo reinforced concrete for water tanks and extended it to research for building construction.  
Sponsorship should be sought for national and regional cooperation, from International and UN Agencies such as UNDP and UNESCO.
2. A regional research programme in treatment of brackish or saline water should be established among interested research institutes and other interested parties in promoting appropriate technology.
3. Opportunity to exchange experiences and findings in Public Standpost Water Supply project as promoted by IRC in Sri Lanka and Indonesia, should be provided for the benefit of interested countries in the region with possible sponsorship from International and UN Agencies or other interested donating countries.
4. FIT should continue to develop the manual, while incorporating suggestion of The Seminar Commission two, to better suit local condition / situation.  
The appeal of the delegate from Papua New Guinea in requesting to develop a manual for PNG should be taken into consideration. A workshop to strengthen the skills in manual design and development of field testing should be explored.
5. The strategies and methods developed by the public standpost water supply demonstration project as presently being executed in Indonesia and Sri Lanka should be further developed, monitored and evaluated to allow repetitive application.
6. Methods and techniques regarding public communication and education need to be developed with possible sponsorship from International and UN Agencies and other donating countries.