(3) Programme Receiving Device in Regional RRI Stations

In order to eliminate the interference from hum noise and crosstalk between regional PERUMTEL earth station and regional RRI station and considering the difficulty of the establishment of FM stereophonic transmission lines between regional PERUMTEL earth station and regional RRI station, an SRO (Sound receiving Only) device which receives the signals directly from Palapa satellite will be introduced.

(4) Transponder

For the transmission of four programmes by way of the Palapa satellite, a transponder of the Palapa satellite can be exclusively used for 24 hours.

A full transponder will not be required, but 3MHz bandwidth of a transponder will be required.

5-2 TV Programme Transmission Network

5-2-1 Present Status of TV Programme Transmission Network

At present, the TVN-I programmes produced at the TVRI National Jakarta Station are delivered nationwide by various means, such as via the self-managed microwave link (Jawa and part of Sumatera) and via PERUMTEL's communication line, especially via the Palapa satellite that are unaffected by topographic or oceanic elements. The downstream programme transmission network for TVN-I originating from Jakarta can be considered as being well established. (Refer to Fig. 5-2-1)

Meanwhile, at the 9 regional stations which are equipped with programme production facilities are currently broadcasting locally-produced programmes for about two hours a day. However, only a limited number of provinces have a regional broadcasting network.

5-2-2 Existing Long-term Plan (1984)

Following items were recommended to improve in the existing long-term plan (1984).

(1) As a countermeasure for the local time difference, one more transmission line will be added to that of the TVN-I programme system.

(2) In order to transmit locally produced TV programmes or programme materials originated in the regional TV station which has programme production facilities (local TV studio and MPU or EFP facilities) to the central station, arrangement for the head-end equipment of the Palapa relay line or the terrestrial microwave line will be conducted to make up transmission line constructed on demand or regularly.

(3) One programme transmission line should be prepared for the distribution of the TV-II programmes.

(4) In the future, an arrangement for the programme transmission network will be promoted systematically in order to make regional broadcasting possible.

(5) One or two sets of the MPU which has earth station equipment should be arranged in order to transmit locally produced news programmes and special programmes to Jakarta from any region throughout the nation.

Judging from the current state of TV broadcasting service and the progress in the development of PERUMTEL, however, these plans will not be materialized until the financial situation improves and they will continue to be subjects for consideration in the 21st century.

The following factors should be noted;

1) Programme Transmission Line as a measure for local time difference

No measure has been taken to deal with the local time difference, causing serious inconvenience especially for the people in the

eastern part (Irian Jaya, Maluku etc.) through the two hours of time difference.

The establishment of another transmission line to cope with this problem would mean leasing another transponder of Palapa satellite for exclusive use and the leasing fee for this would be tremendous.

(The annual lease for a transponder is 750,000 US$)

Adjustments in the production system or methods of directing programmes can contribute, to some extent, to the improvement of the problem of local time difference.

The addition of a new transmission line for this purpose, therefore, need not be considered during the period of this plan.

2) TVN-II programme transmission line

One transponder of Palapa was to be used exclusively for TVN-II in the existing long-term plan (1984).

But during the period of this plan, TVN-II are to be broadcast when TVN-I programmes are not being aired, which means the TVN-I transmission line can be used as the transmission line for TVN-II.

No new transmission line for TVN-II, therefore, need to be established.

3) Establishment of Regional Network

In order to establish a regional network, the use will be made of either the terrestrial microwave link or the Palapa satellite. In either case, it will be appropriate to carry on the work in this long-term plan for the following reasons:

- In the case where the terrestrial microwave network is used, those stations for which a regional network has not yet been established are the stations incapable of conducting off-air relays.

  Hence, for such stations, there is the need of newly constructing a microwave line network. In order to construct a self-managed microwave link, a large amount of investment will be necessary in view of the present conditions. So, the logical

conclusion would be to use the existing microwave network of PERUMTEL, but it appears hardly possible for the PERUMTEL network to be completed by the end of this long-term plan.

- In the case where the Palapa satellite is to be used, the amount of lease would be substantial, since, in view of the programming schedule, it would be necessary to lease several transponders for exclusive use.
  Moreover, among the earth stations of PERUMTEL today, those equipped with up-link facilities for TV transmission are only the stations in Jakarta and Surabaya. So, there is the need of newly equipping the other stations with up-link facilities for TV transmission.

5-2-3 Reviewed Long-term Plan

As mentioned above, the down-stream line from Jakarta have been completed to serve the present purpose. However, at present, the news materials covered in the regional stations, for example, are sent to Jakarta in recorded tapes, taking 2-3 days to reach Jakarta.

This would not enable TV news to give full play to its required feature of instantaneity. Besides, transmission on real time of events of national importance held in regions are not being conducted despite the people's interest in such events.

For lack of up-stream lines toward Jakarta, there is only unilateral transmission of programmes from Jakarta, which is a serious disadvantage for broadcasting service as an immediate information transmission medium, failing to satisfy the entire nation.

This plan considers the establishment of an economically efficient up-stream programme line from regional stations to Jakarta central station and its facilities with the goal of enhancing the quality of TVN-I programmes by incorporating locally produced programmes into the TVN-I programs for nationwide broadcasting.

(1) TV Up-Link Facilities

In order to achieve a breakthrough, it is proposed that up-link facilities should be introduced during the period of this long-term plan at the 9 stations equipped with programme production facilities.

This up-link facilities shall be of mobile type so that it may respond effectively to requirements for studio productions and outside productions.

(2) Network concept

1) Sending of programme materials
Programme materials will be sent via the satellite to Jakarta using the transponder in current use during the hours while the transponder is not being used for broadcast.

2) Transmissions on Real Time
Transmission on real time is conducted on such an occasion as an event of national importance including a speech given by the President of Indonesia in one or the other of the regions. When this sort of transmission takes places, it could be carried out by leasing another transponder than the one in current use, transmitting the programmes first to Jakarta and then to the whole nation.

This structure helps eliminate the need for leasing a new transponder for exclusive use, and enables TVRI to lease a transponder only at the time of real-time transmission.

5-3 Engineering Communication Network

5-3-1 Present Status of Engineering Communication Network

In carrying on radio and TV broadcasting services, it is essential to improve an engineering communication network between the broadcasting stations for such uses as maintenance work, broadcast operations,

communications about broadcasting schedules, news coverage and sending of news-scripts.

At present, both the radio and TV stations are using the self-managed SSB telecommunications as the main communication link, together with the ordinary subscriber telephone and telegraph lines.

But any of these means is not functioning satisfactorily as an engineering communication line under the circumstances explained below.

(1) Self-managed SSB telecommunications

Three frequencies are in use between the stations. Some of them are within the shortwave broadcasting band and are often subject to interference by signals from abroad. The reception condition is not stable due to other interference such as fading, and it is often impossible to hold communication between stations when necessary. SSB telecommunications, therefore, should be regarded as a communication means at the time of emergency.

(2) Ordinary subscriber telephone and telegraph

The PERUMTEL network which provides a public communication service in Indonesia has been in use. Indonesia, however, has not yet fully improved the telephone network. In fact, contact with each station by telephone was very hard during the survey period for this study.

5-3-2 Existing Long-term Plan (1984)

The existing long-term plan recommended that the engineering communication network will be improved among the following locations by employing a certain number of telephone lines of PERUMTEL exclusively.

(1) RRI
- DEPPEN RTF Headquarters
- RRI National Station
- Cimanggis broadcasting station
- Kebayoran 〃

(The above in Jakarta)

- Nusantara station (5 stations)
- Reginal-I station (26 stations)
- Reginal-II station (17 stations)

(2) TVRI
- DEPPEN RTF Headquarters
- TVRI Headquarters (Senayan)
- Regional TV stations provided with TV studios
- Regional TV stations provided with MPU
- Principal TV stations in major cities of each region

Currently, however, there is no exclusive network established between these stations.

5-3-3 Reviewed Long-term Plan

The reason for the failure to carry out the existing long-term plan is not only the insufficiency of the RERUMTEL network but also the enormous amount of money needed for leasing an exclusive line.

Successful radio and TV broadcasting depends on smooth operation of programme transmission and production, and daily routine of maintenance for effective use of broadcasting facilities.

A plan for the improvement of the engineering communication network, therefore, is more necessary than anything else.

Considering the current situation in the operation of radio and TV stations, however, it seems impossible to carry out the plan unless the line leasing fee is held to the minimum.

This plan is intended to do just that so as to make a practical exclusive engineering communication network.

(1) Network structure

What is most urgently needed is the engineering communication line between Jakarta and each regional station. The network, therefore, should be of such a structure as to enable quick communication between the Jakarta and each regional station. For this purpose, a multiplex system should be introduced on the previously mentioned radio programme transmission line from Jakarta.

The engineering communication lines are required to possess the following functions:

1) The lines should ensure stable communication and should be free from crosstalk from other lines.

2) Instant call can be made even between stations located far apart.

3) The lines should enable a station of upper level to call up the selected lower-level stations all at once and to send an order down simultaneously to all these stations.

4) The lines should enable sending of facsimiles.

5) The lines should enable one to directly call up the other stations or persons.

6) The lines should satisfy the specifications with a telephone-class level so that they may be used as a temporary programmes transmission line.

(2) Number of lines

Despite the multiplexing of communication lines with the radio programme transmission lines, the leasing fee may increase, if the bandwidth for an exclusive use of a transponder become wider.

In order to hold down the leasing fee as minimum as possible, four both-way lines (2 lines for TVRI and 2 lines for RRI) should be adopted jointly by each station.

(3) Terminal device for communication lines

A terminal device for the above-mentioned lines should be installed at each station. It must be able to make direct access to the satellite.

The terminal device will be installed in the followling stations during the period of this plan.

1) RRI: Jakarta
All the 48 regional stations

2) TVRI: Jakarta
A total of 100 stations including regional stations

Currently the SSB system is used for the sending of news scripts and other coverage stories, which the typists hear and type into scripts for broadcasting. This is very inefficient and inaccurate. To solve this problem, a facsimile should be installed.

Table 5-1-1 Type of Earth Station and Programme Line from Jakarta

Station	SBB	SBS	SBK	Terrestrial	Programme Line from JAKARTA
MEDAN	●				●
BANDA ACEH	●				●
BUKITTINGGI		●			●
PEKANBARU	●				●
JAMBI	●				●
PADANG	●				●
BENGKULU		●			●
TANJUNG KARANG		●			●
SIBOLGA		●			●
TANJUNG PINANG		●			●
YOGYAKARTA	●				●
BANDUNG	●				●
SEMARANG	●				●
SOLO		●			●
SURABAYA	●				●
DENPASAR	●				●
MATARAM		●			●
BOGOR				●	●
CIREBON				●	●
PURWOKERTO				●	●
MADIUM				●	●
JEMBER				●	●
MALANG				●	●
SUMENEP				●	×
SINGARAJA				●	●
BANJARMASIN	●				●
PONTIANAK	●				●
PALANGKARAYA		●			●
SAMARINDA	●				●
UJUNG PANDANG	●				●
MANADO	●				●
KENDARI		●			●
PALU		●			●
KUPANG		●			●
DILI		●			×
GORONTALO		●			×
JAYAPURA	●				●
SORONG		●			●
BIAK		●			●
MERAUKE		●			●
AMBON	●				●
FAK-FAK		●			×
MANOKWARI		●			×
NABIRE			●		×
SERUI			●		×
WAMENA			●		×
TERNATE		●			●
PALEMBANG	●				●

Table 5-1-2 Performance Characteristics of 10 kHz-Type Sound Programme Circuits (CCITT Rec. J22)

1. Nominal Bandwidth

   10 kHz Circuit : 0.05 ~ 10 kHz

2. Insert Gain (1 kHz at -12 dBmOs)

   Initial Adjustment : 0 ± 0.5 dB

   Variation during 24 hours not to exceed : ± 0.5 dB

3. Input Maximum Programme Level

   +9 dBmOs

4. Gain/Frequency Response (Referred to 1 kHz)

   50 ..... < 100 Hz +1.7 to -4.3 dB

   100 .... < 200 Hz +1.7 to -2.6 dB

   200 .... < 6000 Hz +1.7 dB

   6000 ... < 8000 Hz +1.7 to -2.6 dB

   8000 ... < 10000 Hz +1.7 to -4.3 dB

5. Group Delay Variation

   Difference between the value of group delay at the following frequencies and the minimum value

   50 : Hz less than 80 ms

   100 : Hz less than 20 ms

   10 : kHz less than 8 ms

6. Maximum Weighted Noise Level

   -39 dBqOps

7. Non-Linear Distortion

   0.05 ..... < 0.1 kHz : less than 3% (-21 dBO)

   0.1 ..... 10 kHz : less than 2% (-25 dBO)

Table 5-1-3 Performance Characteristics of Narrow-Bandwidth Sound-Programme Circuits (CCITT Rec. J23)

1. Nominal Bandwidth

   5 kHz Circuit : 0.07 ~ 5 kHz

2. Insertion Gain (1 kHz at -12 dBm0)

   Adjustment error Less than ± 0.5 dB

   Daily variation Less than ± 0.5 dB

3. Input Maximum Programme Level

   9 dBmOs

4. Gain/Frequency Response (Referred to 1 kHz)

   0.07 ..... < 0.2 kHz +1 to -3 dB

   0.2 ..... < 4 kHz ± 1 dB

   4 ..... < 5 kHz +1 to -3 dB

5. Group Delay Variation

   Difference between the value of group delay at the following frequencies and the minimum value

   0.07 kHz : less than 60 ms

   5 kHz : less than 15 ms

6. Maximum Weighted Noise Level

   -32 dBq0ps

7. Non-Linear Distortion

   below 0.1 kHz : less than 2%

   above 0.1 kHz : less than 1.4%

8. Crosstalk Ratio

   Crosstalk ratio between two sound-programme circuits or between a telephone circuit

   0.5 kHz ~ 3.2 kHz : less than 74 dB

   Near or far-end : less than 65 dB

Table 5-1-4 Performance Characteristics of FM Radio Programme Transmission Circuits (CCITT Rec. J21)

1. Nominal Bandwidth
   15 kHz Circuits : 0.04 ~ 15 kHz

2. Insertion Gain at 1 kHz
   (1) Adjustment error : less than 0.5 dB
   (2) Daily variation : less than 0.5 dB

3. Gain/Frequency Response referred to 1 kHz
   0.04 ~ 0.125 kHz : +0.5 ~ -2.0 dB
   0.125 ~ 10 kHz : 0.5 dB
   10 ~ 14 kHz : +0.5 ~ -2.0 dB
   14 ~ 15 kHz : +0.5 ~ -3.0 dB

4. Difference of Group Delay at Given Frequency
   0.04 kHz : less than 55 ms
   0.075 kHz : less than 24 ms
   14 kHz : less than 8 ms
   15 kHz : less than 12 ms

5. Maximum Weighted Noise Level
   -42 dBqOps

6. Non-Linear Distortion
   0.04 ~ 0.125 kHz : less than 1%
   0.125 ~ 7.5 kHz : less than 0.5%

7. Cross Talk between Telephone Circuit
   0.04 kHz : less than -50 dB
   0.5 ~ 5 kHz : less than -74 dB
   15 kHz : less than -60 dB
   0.04 ~ 0.5 kHz : Oblique straight-line segment on linear-decibel
   5 ~ 15 kHz : and logarithmical-frequency scales
   Near or Far-End : less than -65 dB

8. Difference in Gain between A and B Channels

0.4 ~ 0.125 kHz	:	less than 1.5 dB
0.125 kHz ~ 10 kHz	:	less than 0.8 dB
10 ~ 14 kHz	:	less than 1.5 dB
14 ~ 15 kHz	:	less than 3.0 dB

9. Phase Difference between the A and B Channels

0.04 kHz	:	30 Degree
0.2 ~4 kHz	:	15 Degree
14 kHz	:	30 Degree
15 kHz	:	40 Degree
0.04 ~0.2 kHz	:	Oblique straight-line segment on linear-degree
4 ~14 kHz	:	and logarithmical-frequency scales

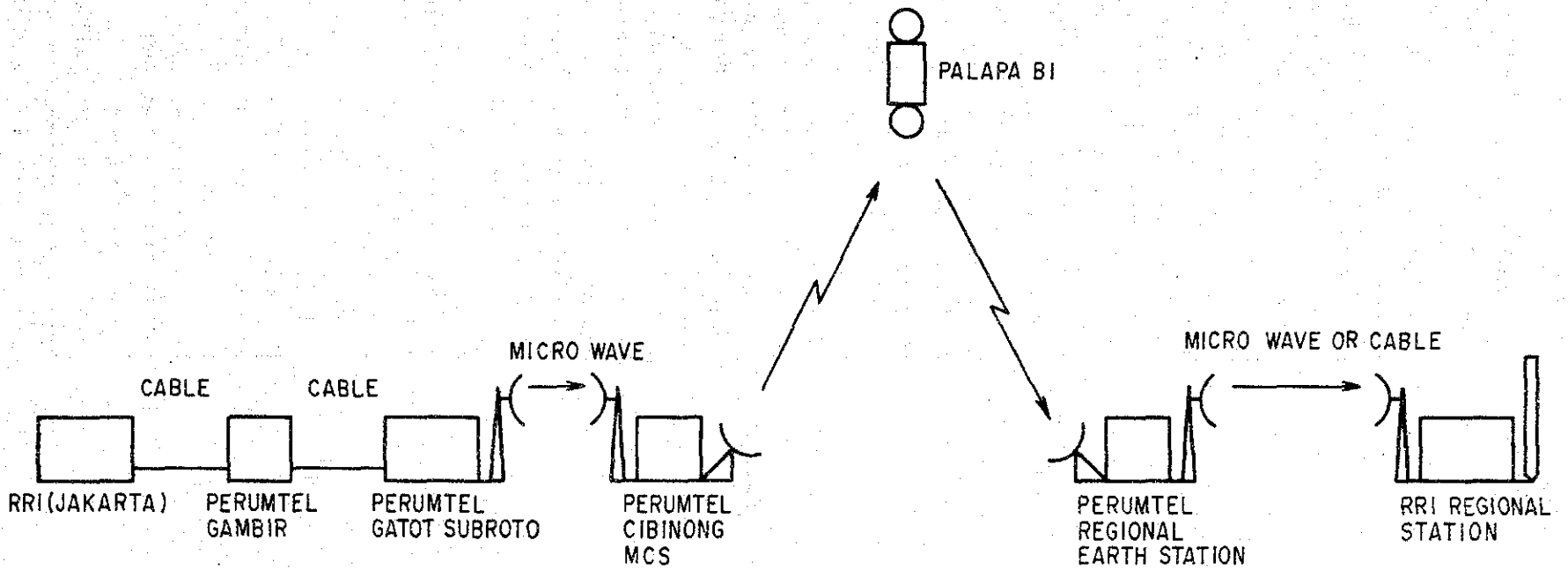

Fig. 5-1-1 Radio Programme Transmission line from JAKARTA to each Regional Station

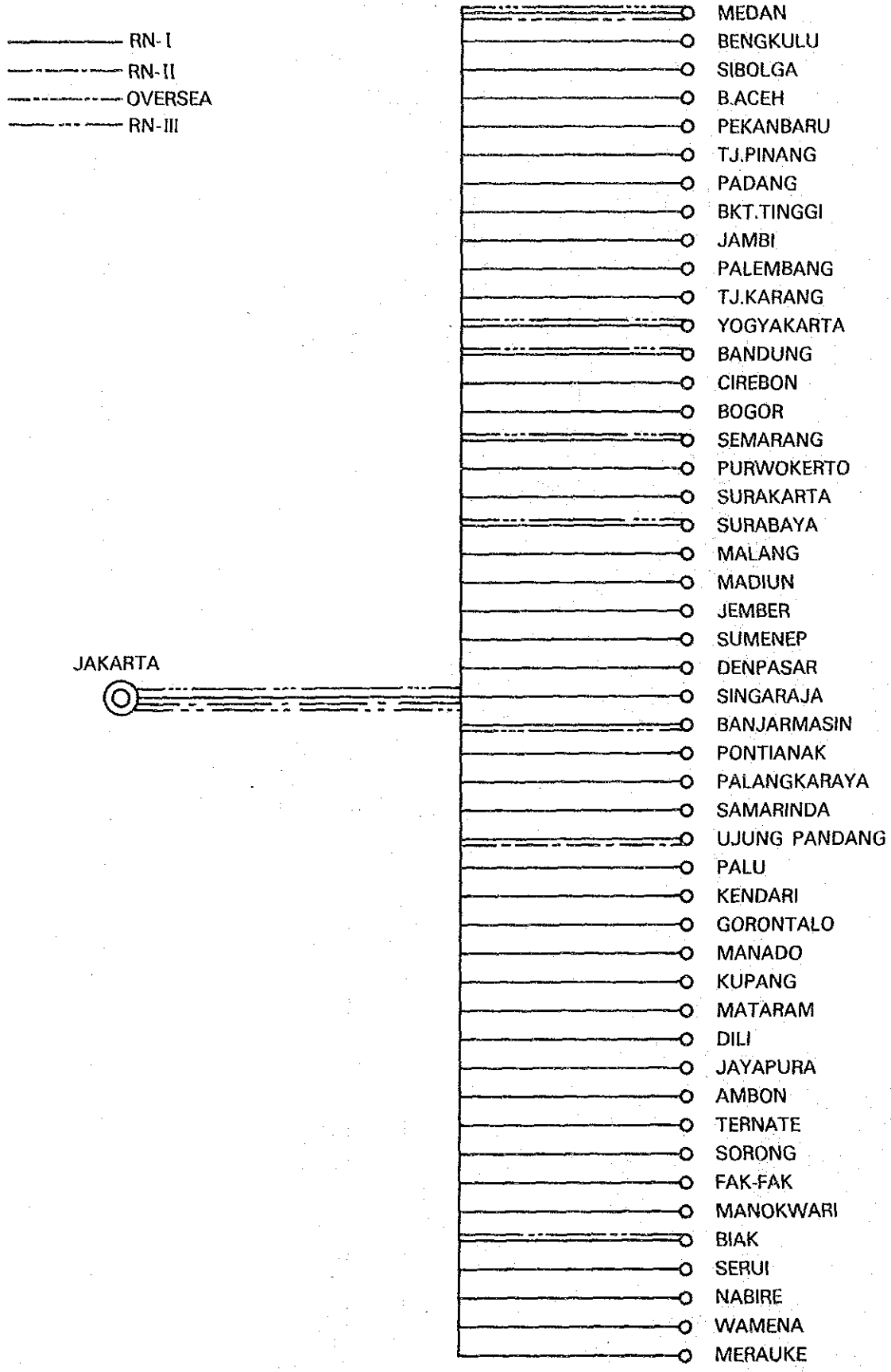

Fig.5-1-2 DISTRIBUTION NETWORK OF RADIO PROGRAMMES

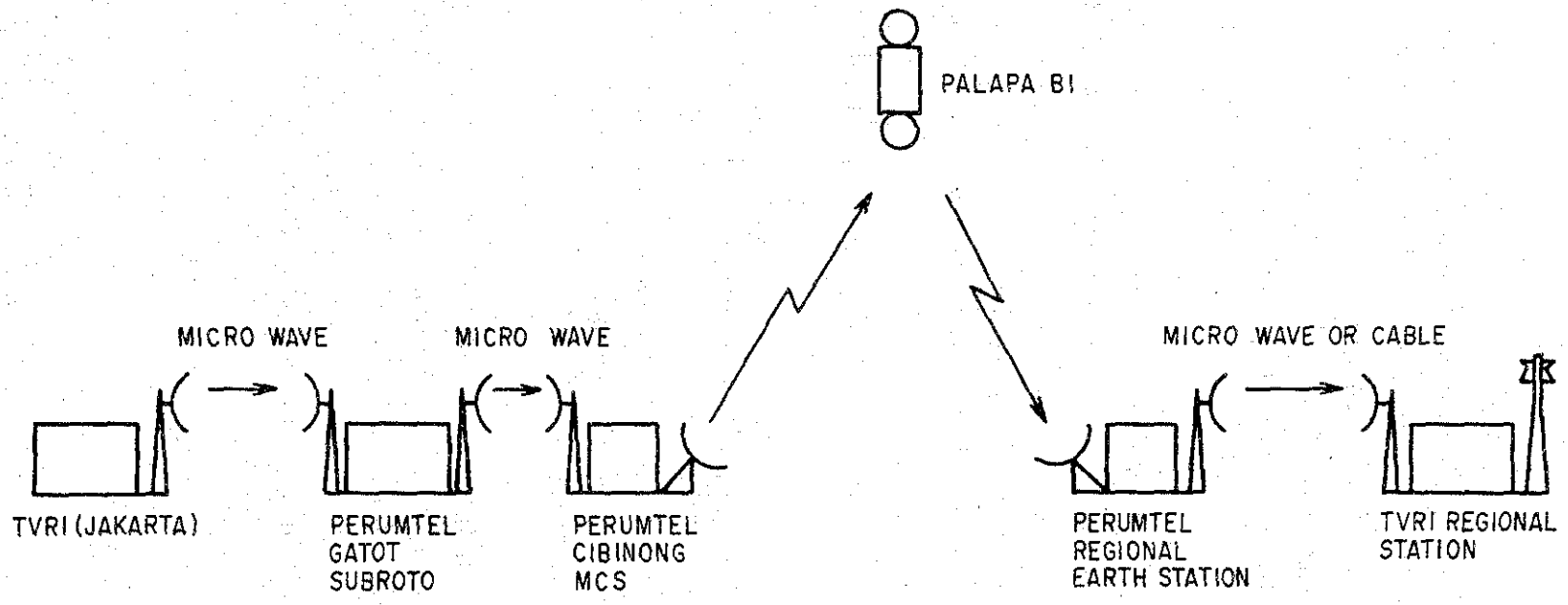

Fig. 5-2-1 TV Programme transmission line from JAKARTA to each Regional station

CHAPTER 6 Maintenance Plan

6-1 Background of Maintenance Plan

The establishment of an overall maintenance system was proposed already in the Study Report on the 1984 long-term plan. Furthermore, even a detailed implementation plan was drawn up in the Study Report on the Government's short-term 5-year plan. However, the results of this study show that scarcely any changes have been brought about in the conditions since 1984. The only notable development since made it the progress achieved in the structuring of the Engineering Centre; practically no improvement has since been made in the maintenance work.
At the individual stations, they each have a maintenance group that takes charge of the maintenance work but what is mainly done is the repairing of breakdowns. And because of lack of supply of spare parts, the phenomenon of "cannibalism" involving the stand-by equipment is seen taking place frequently. As a result, some of the stand-by equipment are out of order, having lost their functions.

This trend is still continuing and there is no sign of improvement in sight.

Under these circumstances, a radical planning is hereby proposed to be made toward improvement and expansion of the present facility maintenance system. This proposal also includes the planning for a change in the technical operation systems of the broadcasting stations both at the centre and the regions of Indonesia.

Regarding the facility maintenance planning, it is proposed that the uplevelling of the systems should be done in stages toward the establishment of the ultimate form of organization, since the maintenance planning is closely related with the plans for all the aspects of the RTF, including its organizational setup, finance, development and the planning of station establishment.

6-2 Present Status of Broadcasting Facilities and Maintenance Work

(1) Present Status of Broadcasting Facilities

Contents of facilities are diversified and uniformity is lacking.

1) The broadcasting facilities and equipment currently in use in Indonesia, including peripheral equipment, are the products of nearly 100 different manufacturers.

2) The years of construction or manufacture of facilities also extend over as long as 40 years, from the 1940s to the 1980s. Each of the figures given below shows the percentage of the equipment manufactured during the period named as against the total number of equipment in current use in Indonesia:

1940s	1950s	1960s	1970s	1980s
2%	15%	15%	58%	10%

The facilities and equipment constructed in large quantities in the 1970s, too, have already passed the manufacturers' deadlines set for the supply of spare parts.

In fact, the reasonable limit of life is already past for most of those facilities and equipment.

(2) Present Status of On-site Maintenance System.

At most of the stations surveyed this time, the maintenance system was found to be inadequate.

1) Measuring instruments, which are indispensable for maintenance work, are not allocated sufficiently.
And some of the measuring instruments owned by the stations are unusable because of inadequate functions or their being out of order.

2) There are only a few on-site maintenance staff members. And, on the whole, the technical level of the engineering staff actually engaged in operation is rather low.

3) No checkup patrol has ever been conducted by engineers of high caliber. Supporting concerning maintenance from the headquarters is scarcely observed.

(3) Present Status of Overall Maintenance System.

1) No systematic maintenance administration is conducted from the headquarters to regional stations.

2) No systematization has been attempted of measures to maintain the functions, or to prolong the life, of equipment.

3) There is none of the planned stocks of spare parts for standby or repair use. The problem is that, at the headquarters, no consideration is given to such spare parts required by regional stations.

4) There is no planned budgeting done for maintenance.

6-3 Proposal on the Establishment of a New Maintenance System

Based on the idea of the maintenance planning proposed in 1984, a maintenance plan is hereby proposed under a renewed idea, taking into consideration the results of this study and the progress made in the meantime in equipment and technology.

(1) Correction of Concept of "Maintenance of Equipment"

Heretofore, the concept of "maintenance of equipment" has placed emphasis primarily on the repairing, within the organization, of breakdowns of equipment. This concept did exist in the background of the plan proposed last time for the Maintenance Centre. This time, however, as the maintenance policy to be followed from now on, it is proposed that

emphasis should be placed primarily on prevention of failures and breakdowns by means of such measures as periodic checkup and maintenance (including overhaul) and planned procurement of spare parts and on the prolongation of the life of each equipment.

In particular, with the increased use of ICs and with digitalization, the broadcasting equipment manufactured recently have not only become smaller and lighter but also have been improved greatly in performance and reliability. Yet, on the other hand, once an IC printed board for example, goes out of order, it cannot be repaired within the station; complete repair cannot be expected unless the unit is taken to the manufacturer's factory. This is a problem common to all the countries including Japan. For that reason, the most important steps to be taken is to establish close communication with manufacturers as well as a maintenance system. However, the actual condition existing in Indonesia is that, because of such reasons as the complexity of communication routes with the manufacturers, there still remain a great deal of problems to be solved, such as the time and expense required in the repairing of broken-down equipment. Such conditions have been making it difficult to arrange for some of the maintenance work to be entrusted to the manufacturers. It is here in which some improvements need to be made. It is proposed that the maintenance work should be developed along the following lines:

(2) Basic Policy for Maintenance Work

1) With regard to certain units of equipment, overhauling should be conducted strictly as planned.

2) Regarding the equipment containing deteriorated parts, routine checkup should be conducted and, for those which have already passed the useful life, exchanging of parts should be done.

3) Planned procurement and storage of spare parts shall be done to replace the old ones which deteriorate in quality as a result of use. This is closely related with the useful life of each equipment.

4) Regarding the equipment using ICs, standby modules will be kept in full supply.

5) Measures for establishment of a communication system will be taken to quicken the offering of maintenance services by equipment manufacturers so that serious breakdowns may be attended to without delay.

6) As hitherto, simple types of technical failures will be taken care of by each of the stations.

7) A budget for maintenance, including amounts in foreign currencies, will be secured.

8) Maintenance engineers possessing sophisticated technical knowledge and skills will be educated and trained.

(3) Preconditions for the Establishment of a Maintenance System

As a precondition to be fulfilled prior to establishing the maintenance planning, there is the need of clarifying the character of the Engineering Centre as a "technical management department" and the position within the organization of RTF as mentioned next paragraph. And as a section in that organization, a Maintenance Division shall be newly established to take charge of the management of maintenance work for the entire radio and TV broadcasting facilities. Following this idea, it is proposed that the name of "Maintenance Center" proposed in 1984 should not be used and that, among the various kinds of work planned earlier to be handled by the "Maintenance Center," those that have been recognized as the work belonging to other sections in the Engineering Centre should be placed in the charge of such sections.

6-4 Changes Suggested to be made in the Organization and Operation toward Establishing a Maintenance System

(1) Composition and Work of Engineering Centre

The position of the Engineering Centre shall be clarified as an organization under the direct supervision of the RTF and as an overall management department for the technical facilities, it coordinates the planning, construction, maintenance and all other work relating to broadcasting facilities of both RRI and TVRI. The organic and effective use of the functions of each division of the Engineering Centre will contribute not only to the establishment of the maintenance planning but also to the future developmental plans of broadcasting engineering.

The scope of work of each of the divisions constituting the Engineering Centre will be listed below. The name of each division, however, shall be tentative.

Planning Division

- Coordination of works of the entire Engineering Centre
- Planning of construction and improvement works
- Setting up of technical standards
- Survey and research works
- Gathering and storage of materials and data on technical facilities
- Technological research and development
- Others

Transmission Facility Division

- Construction and improvement of installations for transmitting facilities and programme transmission system for each medium of broadcasting
- Preparation of standard specifications for equipment, based on technical standards
- Selection and adoption of various types of equipment
- Designing of equipment, installations and construction

- Carrying out of construction and improvement work
- Others

Studio Facility Division

- Construction and improvement of studio facilities
- Preparation of standard specifications for equipment, based on the technical standards
- Selection and adoption of the various types of equipment
- Designing of equipment, installations and construction
- Others

Infrastructure Division

- Works relating to electric power
- Procurement and distribution of measuring instruments
- Designing of transmitting stations, studios and other related buildings
- Works relating to other broadcasting facilities
- Others

Maintenance Division

- Management of maintenance of broadcasting facilities which are currently owned by RRI and TVRI
- Planning and execution of regular checking of equipment
- Procurement and storage of parts for repair and standby use
- Taking of measures to cope with failures occurring to equipment
- Gathering of data on various types of equipment
- Improvement of programme transmission network and keeping of its characteristics(including work relating to PERUMTEL)
- Improvement and repair of equipment at the Central Workshop
- Others

Administration Division

- Overall administration of budget relating to technical facilities
- Administration of personnel within the Engineering Centre

- Planning for training of staff members
- External relations
- Secretarial work
- General affairs
- Work not handled by other Sections

Regarding the work that belongs to the scope of work of each of the Divisions of Engineering Centre as listed above, part of it is currently handled by the engineering departments at the headquarters of RRI and TVRI, the departments which are performing similar functions. So, it is proposed that those portions of work, including personnel as well, should be absorbed into the Engineering Centre.

(2) Regional Engineering Centres

1) Neccessity of Regional Engineering Centres

RRI and TVRI are presently operating a large number of stations of the country. Therefore, the quantity of work for technical management and maintenance is very massive. Then it is very difficult for Jakarta Headquarters to carry out their duty sufficiently. By reason of the above circumstances, Regional Engineering Centre shall be established in several regional key stations. They conduct work on behalf of various sections of the Engineering Centres at the headquarters. At the same time, such a Regional Engineering Centre shall be given the functions to operate as the regional maintenance base and shall be equipped with high-precision measuring instruments, substitute units of equipment, storage facilities for spare parts and workshops, etc. Each of these Regional Engineering Centres shall support and assist the RRI and TVRI stations within the region in their maintenance work.

Allocation of the Regional Engineering Centre is arranged with reason of various conditions, such as number of stations included in every territory, convenience of transportation and others.

Thus, 6 Regional Engineering Centres will be established as follows:

Medan, Ujung Pandang, Surabaya, Banjarmasin, Jayapura and Palembang.

Their respective areas in charge and the number of stations included in every area are shown in Fig. 6-4-1 and Table 6-4-1.

Incidentally, taking into account the various conditions, exchange from Banjarmasin into Samarinda will be considered.

2) Establishment of Maintenance Bases

Maintenance Bases are established in every Regional Engineering Centre. Staff who are employed in the Engineering Centre shall be required sophisticated technical faculty. However, under the present condition, it seems difficult to gather neccesarry number of staff, then it is feared that sufficient operation of every Maintenance Base can not be expected, if all Bases are constructed at the same time.

As mentioned above, for the present, as the first step, 2 Bases (Medan, Ujung Pandan) will be constructed in consideration of a scale of the station, convenience of transportation and others. They shall support the maintenance work of radio and TV stations allocated in the territory. This work is carried out together with Jakarta Headquarter. Their territory are shown in Fig. 6-4-2 and Table 6-4-1.

Other 4 Bases will be constructed when various conditions are satisfied.

(3) Relations between the Operation of the Engineering Centre and the Maintenance Work

In order to ensure continuation of good broadcasting services, it is necessary for the divisions in charge of planning and construction at the Engineering Centre to keep in close communication with the divisions in charge of maintenance and administration, taking into account the facility plans and construction plans. For the purpose of ensuring smooth running of maintenance work at present and in the future, it is desirable that such policies as outlined below are adopted:

1) With a view to enhancing the efficiency of the service areas of radio broadcasting, inefficient equipment, especially those types of equipment which are already old and whose spare parts are hard

to obtain, should be discarded (those falling under this category are the ones manufactured between 1940 and 1970).

2) The useful life should be set for each type of equipment so that the Maintenance Division may draw up its maintenance plans by taking such measures, in cooperation with the Planning Division, as classifying the equipment into those that require maintenance and those do not.

3) Regarding the newly installed or the improved equipment, the potential needs of supply of spare parts should be fully taken into consideration.

4) The division in charge of planning and facilities should follow the policy of restricting the range of manufacturers in the producing countries concerning the procurement of equipment of the same category, so as to ensure smooth running of future maintenance work.

Fig. 6-4-1

TERRITORY OF REGIONAL ENGINEERING CENTRE

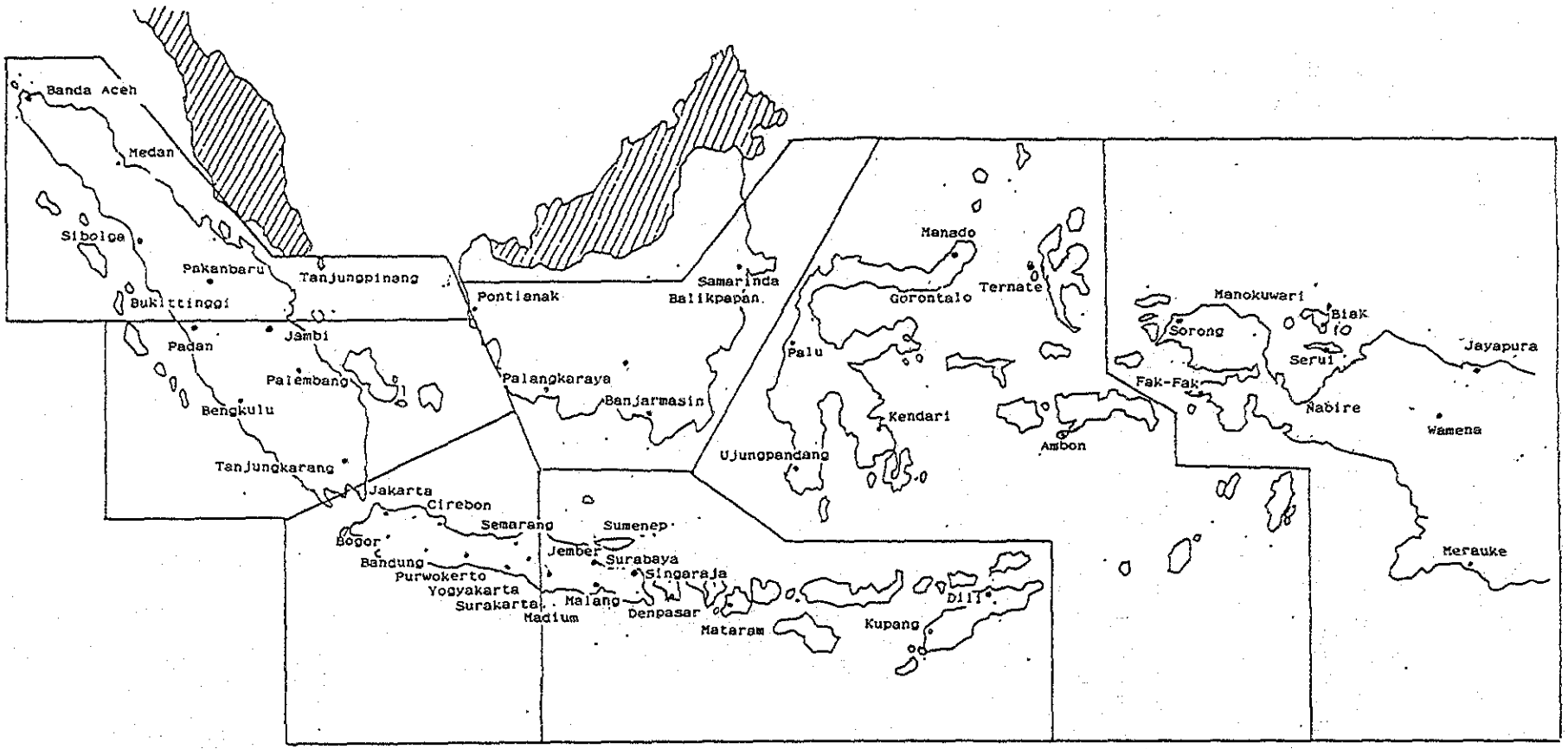

Fig. 6-4-2

TERRITORY OF REGIONAL ENGINEERING CENTRE

1st STAGE

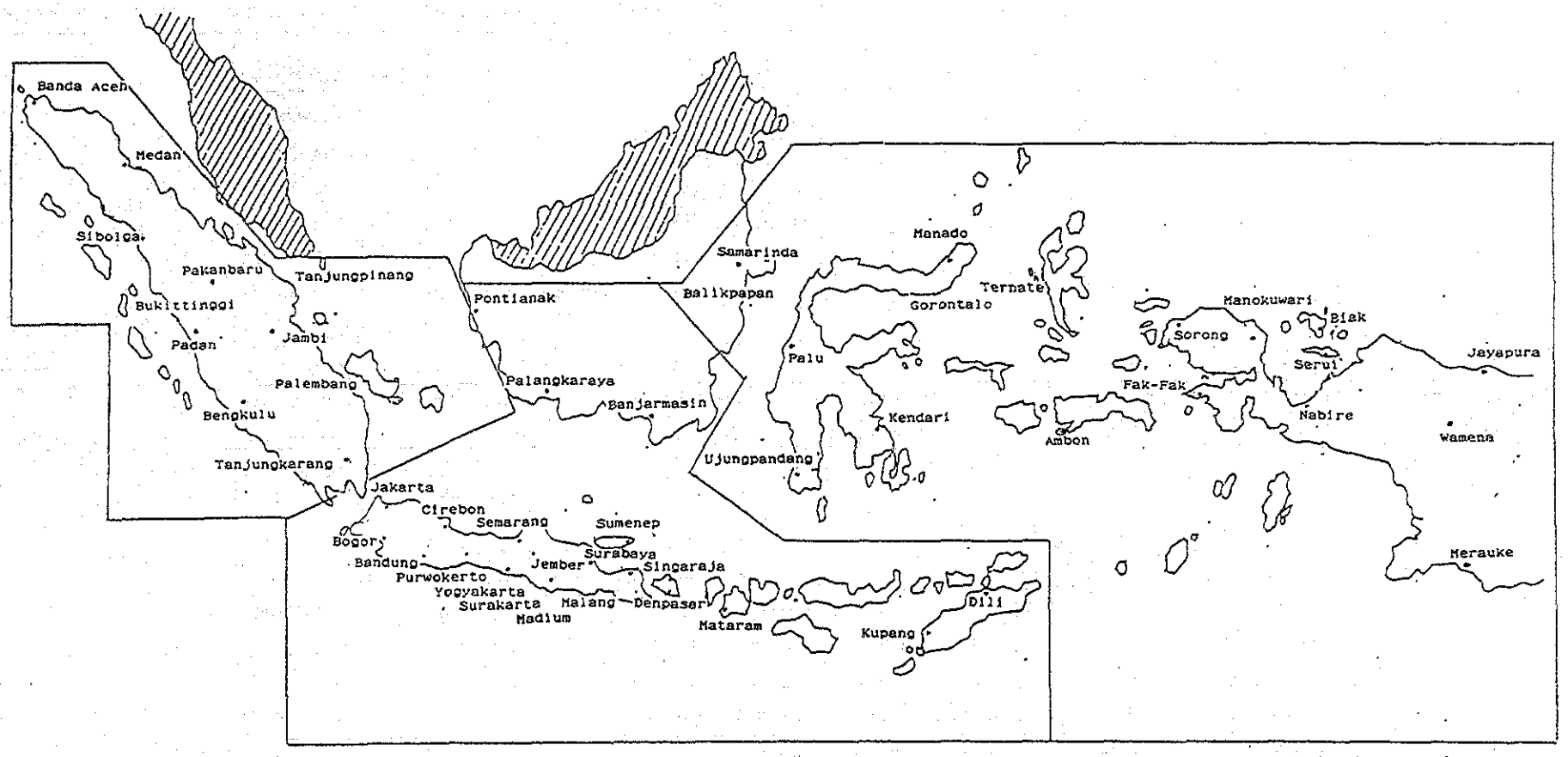

Table 6-4-1 Territory of Engineering Centre

The Location of each Engineering Centre / ITEM	JAKARTA Headquarters	Regional Engineering Centre					
		MEDAN	UJUNG PANDANG	PALEMBANG	SURABAYA	BANJARMASIN	JAYAPURA
territory	(1) All Stations of RRI TVRI (2) Territory of Direct Control D. K. I. JAKARTA JAWA BARAT JAWA TENGAH D. I. YOGYAKARTA	D.I. ACEH SUMATERA UTARA SUMATERA BARAT RIAU	SULAWESI SELATAN SULAWESI UTARA SULAWESI TENGGARA SULAWESI TENGAH MALUKU	SUMATERA SELATAN BENGKULU LAMPUNG JAMBI	JAWA TIMUR BALI N.T.B. N.T.T. TIMOR-TOMUR	KALIMANTAN SELATAN KALIMANTAN TENGAH KALIMANTAN BARAT KALIMANTAN TIMUR	IRIAN JAYA
Number of R. TV Stations in each territory	R. 8 Stations TV. 29 Stations	R. 7 Stations TV. 49 Stations	R. 6 Stations TV. 44 Stations	R. 5 Stations TV. 27 Stations	R. 10 Stations TV. 50 Stations	R. 4 Stations TV. 32 Stations	R. 9 Stations TV. 13 Stations
territory (at 1st step)	(1) All Stations of RRI, TVRI (2) Territory of Direct control Whole of JAWA BALI N.T.B. N.T.T. TIMOR-TIMUR KALIMANTAN (except KALIMANTAN TIMUR)	Whole of SUMATERA	Whole of SULAWESI MALUKU KALIMANTAN TIMUR IRIAN JAYA				
Number of R. TV Station in each territory	R. 21 Stations TV. 100 Stations	R. 12 Stations TV. 76 Stations	R. 16 Stations TV. 68 Stations				

6-5 Work of the Maintenance Division

The Maintenance Division has the function as a support organization of the headquarters, to assist in the on-site maintenance work carried on at each of the regional stations, by taking charge of the management of the maintenance work of the stations across the country. Specifically, the Maintenance Division conducts such works as maintenance planning, management of maintenance budgets and the planned procurement of spare parts and measuring instruments, as well as the work to cope with serious impediments. Details of work will be described as follows:

(1) Registration of Data of Technical Facilities

For use as reference material in drawing up maintenance plans, the Maintenance Division shall collect such data as the names of manufacturers, dates of manufacture, conditions of deterioration, and maintenance records concerning all the equipment and facilities at the broadcasting stations across the country. In order to ensure smooth running of the maintenance work, it is desirable that the registration work is conducted as quickly as possible using computers.

(2) Drawing up and Implementation of Maintenance Plans

1) Regarding the equipment that require overhauling, a long-term implementation plan should be drawn up so that the overhauling may be done one by one according to the plan.

2) Based on the data concerning facilities, an annual maintenance and improvement plan shall be drawn up.

3) Regarding the routine maintenance work, it shall be conducted by the manufacturers, the Engineering Department of the headquarters or the local station, depending on the level of maintenance required.

(3) Integration of Working Records

Efforts shall be made to unify the form of the Table of Records of Engineering Work so as to facilitate totalization.

(4) Procurement and Management of Spare Parts

1) The Maintenance Division shall keep in close communication with other Divisions so that the procurement plan for spare parts may be drawn up for each fiscal year for inclusion in the annual budget.

2) The spare parts purchased shall be stored either at the headquarters or at the Regional Engineering Centres, according to the maintenance plan. As the maintenance base, the Regional Engineering Centre shall substitute for the Maintenance Division of the Engineering Centre and supply spare parts to the stations in the territory according to their respective needs.

(5) Work to Cope with Breakdowns

1) The repairing of breakdowns of equipment will, in principle, be attended to by the maintenance staff of each station concerned.

2) In the case of a serious breakdown which cannot be repaired at the station concerned, a maintenance staff member will be urgently sent either from the headquarters or the nearest maintenance base to cope with the problem, depending on the level of seriousness of the breakdown. In the case where the breakdown requires an arrangement for repair by the manufacturers concerned, such an arrangement shall be made by the headquarters.

(6) Improvement of Programme Transmission Networks and Keeping of its Characteristics

This shall mainly be the work to be handled by PERUMTEL. At each of the regional stations, the work shall be conducted by staff members in charge of technical control.

(7) Measuring Equipment and Substitutive Facilities

1) The Maintenance Division shall draw up an allocation plan concerning the measuring equipment for use in routine maintenance work and submit this plan to the section in charge for approval.
2) High-precision measuring equipment shall be allocated to the Regional Engineering Centre as maintenance bases, so that a maintenance staff members may be sent from time to time to those stations for measuring work using those equipment. Those measuring equipment, however, shall be the property of the Maintenance Division. The substitutive facilities for use at the time of regular checkups or of repairing of serious breakdowns shall also be the property of the Maintenance Division.

(8) Establishment of Workshops

A workshop shall be set up at the headquarters to handle such work as the repairing or adjustment of unit substituted and other parts. At each the regional Engineering Centre, a workshop shall be set up at the maintenance base to handle such work as simple checkups, adjustments and repairs.

(9) Reinforcement of Inter-communication Facilities

Especially at the smaller regional stations, the inter-communication facilities will be reinforced.

(10) Installations at the Maintenance Division

1) Testing facilities for broadcasting equipment

2) Various types of measuring equipment and substitutive facilities (some of which are entrusted to Regional Engineering Centre)

3) Installations for storage and management of spare parts

4) Computerized management system

6-6 Procedures to Implement the Maintenance Plans

(1) Reorganization of the Engineering Centre and establishment of jurisdiction for each division.

(2) Transfer of some portions of work and staff members from RRI and TVRI to the Engineering Centre.

(3) The carrying out, by the each division of the Engineering Centre, of preparatory work, including the study of work system and work methods, allocation of personnel and estimation of the budget.

(4) Establishment of the regional Engineering Centres.

(5) Starting, one by one, the work mentioned in 6-5 above.

(6) The schedule for the establishment of the maintenance system shall be drawn up in detail in such a way as to match the plans of other departments.

6-7 Budget

(1) Budget for Engineering Centre

The budget for the operation of the Engineering Centre will be calculated separately from the operational budgets for RRI and TVRI, and the calculation needs to be done directly either by the RTF or by the DEPPEN headquarters. Furthermore, it is essential that a certain portion of this budget is reserved in foreign currency.

(2) Budget Control for the Engineering Centre

The budget for each Division of the Engineering Centre will be coordinated by the Administration Division which collects the working budget from each Division and submit them to either RTF or DEPPEN for approval.

(3) Budget Items

The budget items for the Engineering Centre will be categorized into two parts; the Construction Expenses and the Operational Expenses. Within the entire framework of the budget, no distinction will be made between the amounts for Radio and those for TV.

(4) Calculation of the Budget

The calculation of the budget will be done for each fiscal year. In the case of the budget for a long-term construction project which extends over two fiscal years, the grand total of the budget will be estimated at the time of planning and the working budget will be calculated for each fiscal year.

(5) Allocation and Distribution of the Budget

After the budget is approved, the Administration Division will distribute the budget to each Division, according to the previously planned allocation schedule. Here, the contents of the budget for the Maintenance Division will be stated in some detail.

(6) Contents of the Budget for Maintenance

1) Construction Expenses (Long-term budget)

(a) Maintenance facilities (measuring equipment, substitutive facilities, etc.) for the headquarters and for the Regional maintenance bases

(b) Fulfillment of the needs of regional stations for equipment for routine maintenance use
(measuring equipment, meters, etc.)

(c) Construction of workshops (including installations at the headquarters and regional maintenance bases)

(d) Supplementary construction of information and communication facilities

(e) Construction of warehouses for materials and equipment (at the headquarters and the regional maintenance bases)

(f) Construction of a computer system

2) Operational Expenses (Annual budget)

(a) Expenses for a routine maintenance (incl. overhauls)
(Travel expenses, transportation costs and costs of ordering from outside)

(b) Expenses for the planned procurement of spare parts and overhaul parts and those for distribution of such parts to regional Maintenance Bases (Expenses for procurement and transportation of parts)

(c) Expenses for measures against serious breakdowns
(Travel expenses, transportation costs and costs of ordering from outside)

(d) Expenses for maintenance work at regional stations (Regarding the budget for allocation to regional stations, a part of the budget will be pooled at the headquarters for distribution later to the stations concerned as needs arise)

(e) Operational expenses for the computer system

(f) General operational expenses required within the Maintenance Division

(g) Contingencies

(7) Execution of the Budget

When executing the budget, the spending should be done under the proper heading as specified; never should any spending be done arbitrarily under a wrong heading. When spending in excess of the budget is being made with regard to expenses for measures against breakdowns, the type of expenses which is the most variable in amount, the budget for contingency will be used in principle.

CHAPTER 7 Measures concerning Broadcast-audience Servicing

7-1 Present Status and Necessity of Measures concerning Broadcast-audience Servicing

Regarding the measures concerning the servicing of audiences of radio and television, a plan to improve service offered to listeners/viewers in their reception of radio or TV broadcasts was proposed in the 1984 Long-term Plan. During the years that followed, a considerable progress has been made in the aspect of programmes as a result of the programming, for example, activities of listeners/viewers groups at some of the local stations. However, yet it appears that such activities have been confined to a local level; none of such group activities have as yet been organized into a nationally coordinated activity in the field of broadcasting. As to the aspect of improvements in broadcast-reception techniques, it appears that neither RRI nor TVRI, as an organization, has taken measures to cope with the problems relating to reception of broadcasts by individual households.

As regards the work relating to the collection of license fees from TV viewers, the work is in the charge of Pos dan Giro. The rate of fee collection at present is about 55%. As far as this fee-collection work is concerned, TVRI at present has nothing whatever to do with it. Still, it is considered necessary for TVRI to take initiative in establishing measures to achieve a substantial increase in the revenue from the TV license fee in cooperation with associated organizaitons.

Meanwhile, speaking of commercial broadcasting stations, a large number of non-RRI stations have been quite active in producing and broadcasting unique types of programmes. As a result, a number of fixed audiences have started to emerge, even though on a small scale, for some of such commercial radio stations. In the case of television, too, a commercial station have gone into operation in Jakarta and the number is expected to increase further from now on in the regions. Moreover, a gradual increase is seen in the number of TV viewers installing a set of equipment to receive satellite broadcasts on their home TV, since in Indonesia, anyone with such an installation including a parabolic antenna can receive foreign TV broadcasts through the Palapa satellite.

Thus the need arises for both RRI and TVRI to establish measures to offer positive services to the listeners/viewers to help them improve their reception of broadcasts. To that end, it is proposed that both RRI and TVRI should take necessary measures, such as, surveying and analyzing the audience's requests and desire about programmes, etc., through PR activities and organizing of listeners/viewers groups; making sure that the results of such surveys are reflected in the contents of programmes and in programme scheduling, getting an adequate grasp of how their broadcasts are actually received by the audience, and, if the receiving facilities were found to be inadequate, helping the listeners/viewers improve the reception conditions by offering them suggestions and advice on how to improve reception of broadcasts.

The important thing, after all, is to enhance the audience's feelings of intimacy toward the broadcasting stations by making positive approach to the listeners/viewers through day-to-day servicing as mentioned above. It is, in fact, the outcome of such concrete measures taken toward the audiences that leads to the rise in audience ratings and eventually to the increase in the collection rate of license fee.

7-2 Public-relations Activities and the Organizing of Audience Groups

7-2-1 Surveying Audience's Desire

The broadcasting stations should always pay full attention to what the audience desire about programmes and about other aspects of broadcasting. At the same time, the broadcasters should do their best to produce programmes in such a way that their intentions also are understood and accepted by the audience.

For that purpose, there is the need of absorbing the audience's desire adequately so as to satisfy the listening-viewing wishes of the audience. At the same time, it is necessary for the broadcasting stations to make efforts to constantly conduct PR activities to ensure that their intentions of programme production are fully conveyed to the audience. Thus, it becomes essential for the broadcasting stations to first of all know what the audience really want to hear or see on radio or TV. In

order to do so, the stations should not only wait to receive letters and phone-calls from the audience but also should regularly conduct questionnaire surveys and analyze their results so as to get the right grasp of what the audience are actually thinking about programmes and other aspects of broadcasting services offered them. Such measures as described above are already been taken by some of the broadcasting stations on local levels and, in fact, the outcome has been contributing to the improvement of production of local programmes. It is, however, desirable that such individual efforts be made on a nationwide level with the Jakarta headquarters playing the central role.

7-2-2 Public Relations to Audience

As to the publicity of programmes, the TV programming schedules and a part of brief introduction of individual TV programmes are published through the print media such as the nationally-circulated papers and weekly TV guides. However, no such publicity is given to radio programmes. So, the radio programmes, too, should be given more publicity through the print media, just like the TV programmes are.

In order to conduct the PR activities more effectively, it is desirable that the organizing of audience groups on a nationwide level be done as mentioned earlier. At present, in the provinces, there are as many as 60,755 audience groups called "KELOMPENCAPIA," organized for the purpose of promoting residents' education and other objectives including agricultural development. And the number of these groups is increasing steadily. These groups maintain close relations with the regional RRI and TVRI stations and have been contributing to the stations' activities in programme produciton.

By further helping develop these audience-group activities into a nationwide movement with the Jakarta headquarters at the centre and by absorbing the audience's intentions and informing the audience of the broadcasting station's ideas of programme production through such events as "audience meetings," RRI and TVRI would be able to ensure that the desire and intentions of the nationwide listeners and viewers will be reflected in the nationally-broadcast programmes. Furthermore, as a part

of PR activities, consideration should be given to the possibility of establishing a "broadcasting museum" at the Jakarta Central Station.

7-3 Having a Grasp of, and Improving, Reception Conditions

Each broadcasting station ought to possess the relevant data and to have a sufficient grasp of the reception conditions in its service area, such as, electric-field distribution and interferences, with regard to each medium within the area in which its broadcasts are received. Still, there actually are cases where the broadcasts cannot be received in a satisfactory condition owing to various reasons; for example, poor reception because of some local condition of radiowave propagation, inadequacy of receiving equipment of individual listeners/viewers, some failure at the power source, or the existence of a source of noise nearby.

The broadcasting stations, on their part, should positively give guidance and advice to the listeners/viewers concerning the inadequacy of their receiving equipment and, at the same time, make necessary recommendations on how to improve reception of broadcasts to the parties causing interferences, from the standpoint of receivers of broadcasts. And by doing so, the broadcasting stations themselves should continue their efforts to improve reception conditions of their broadcasts.

Furthermore, it is also important to endeavor to spread the knowledge about broadcast-reception techniques by means of programmes and pamphlets, through their PR sections as mentioned earlier.

7-4 License Fee

In the case of radio, the listeners are not directly requested to pay a license fee. So, here, the subject relates only to television. At present, the collection of TV license fee is taken charge of by Pos dan Giro, which transfers the collected money to the Yayasan TV, through which TVRI receives the sum. Thus, TVRI itself is not directly concerned with this work of fee collection. But in order to ensure increase in its

revenue, TVRI should naturally do its best to help enhance the collection rate in close cooperation with Pos dan Giro.

7-5 Organizing of the Division in Charge of Audience Servicing

In order to carry out the work explained above, RTF needs a division to handle the work. However, at present, depending on the contents of the work to be undertaken, it sometimes is more effective and efficient to commission an existing organization to handle the work. Besides, there are types of work that can be carried out only in cooperation with other departments. So, for the time being, the division to be established will be a committee-type section of a small scale. It is, however, desirable that this small division will gradually absorb the various types of work as mentioned above and will eventually be developed into a specialized organization including the three sections, viz., Public Relations, Broadcast-reception Engineering and Contracts & License Fee.

As to the regional stations, too, there is the need of setting up a similar type of organization, depending on the scale of each station.

7-6 Work Concerning Audience Servicing

Here is a list of work to be handled by the division mentioned above:

7-6-1 Public Relations

(1) PR of information about programmes (to newspapers, periodicals, weekly magazines, etc.)
(2) Conducting questionnaire surveys on listeners/viewers and analyzing the results of the surveys.
(3) Classifying the letters from listeners/viewers, analyzing them and answering them.
(4) Setting up a consultation counter.
(5) Holding audience's meetings.
(6) Publication and distribution of PR pamphlets, picture postcards and other PR materials.

(7) Planning and production of PR programmes.
(8) Participating in the PR activities of the local DEPPEN office.
(9) Other activities

Since the PR department of the DEPPEN headquarters is also handling similar types of work, it is necessary to establish a cooperative system with them.

7-6-2 Work Relating to Broadcast-reception Engineering

With regard to the work relating to the technical aspect of broadcast reception, there is no specialist engineer or technician available among the staff members of RRI or TVRI. So, for the time being, there is no alernative but to have some of radio and TV engineers carry out this work concurrently.

For the present, it is desirable that an initial system of reception servicing be set up in the following manner:

(1) To have the engineer go around the service area of his station and offer suggestions and guidance if any inadequacy in receiving equipment is detected.
(2) If some outside interferences were found, the engineer should investigate and make recommendations on the solution to the problem.
(3) To take steps to organize a local servicing system comprising electric-appliance shops.
(4) Other work.

7-6-3 Work Relating to TV License Fee

(1) Newly establishing a section in charge of cooperation with Pos dan Giro.
(2) Distribution of a "Broadcast-receiver's Seal" to each household which has paid TV License Fee.
(3) Planning and implementing campaigns to promote the payment of TV Licence Fee.
(4) Other work.

As regards the work mentioned in (1) above, such kinds of work as the promotion of the payment of TV License Fee through investigation and persuasion of those who have not yet paid and the enhancing of fee-collection rates will be actively carried out.

CHAPTER 8 Staff Plan

8-1 Redeployment of Personnel for the Integration of RRI and TVRI

8-1-1 Present Status of the Personnel

(1) RTF

13,459 personnel are working for RTF as listed in Tables 1-3-1 and 1-3-2, and frequently explained of in "1-4-2 (8)" of CHAPTER 1, PART IV as well as the Supporting Report.

(2) Directorate of Radio/RRI

RRI has 8,355 personnel excluding Honorer (temporary employees), out of the 13,459 RTF personnel, as shown on Tables 1-3-3, in "1-4-2 (8)" of CHAPTER 1, PART IV and in the Supporting Report.

(3) Directorate of Television/TVRI

TVRI keeps 5,124 persons as its employees including Honorer (temporary employees), out of the 13,459 RTF personnel, as shown on Table 1-3-1, in "1-4-2 (8)" of CHAPTER 1, PART IV and in the Supporting Report as well, while 5,384 persons are listed on Table 1-3-4, though, because a number of TVRI personnel are found to be various by data as summarized for example on Table 8-1-1.

Table 8-1-1 EXAMPLE OF DIFFERENT STAFF NUMBERS BY DATA

Unit: Person

No.	DESCRIPTION	Annual Report 1987-1988 (1)	Data (2)	RTF Data & Facts Pelita III-IV (page 75) (3)	Another Classification RTF Data & Facts Pelita III-IV (page 75) (4)
I.	STAFF DISTRIBUTION:				
1.	Directorate TV	1,465	849	809	1. Broadcasting 1,094
2.	TVRI Central Jakarta Station	1,144	1,203	1,217	
3.	TVRI Yogyakarta Station	265	298	294	2. Technic 2,333
4.	TVRI Medan Station	433	436	439	
5.	TVRI Ujung Pandang Station	292	300	298	3. News 536
6.	TVRI Palembang Station	191	235	199	
7.	TVRI Balikpapan Station	187	192	197	4. Administration 1,421
8.	TVRI Manado Station	177	192	192	
9.	TVRI Surabaya Station	423	432	427	
10.	TVRI Denpasar Station	200	220	221	
11.	TVRI Bandung Station	172	171	181	
12.	TVRI Banda Aceh MPU	28	28		
13.	TVRI Padang MPU	26	27		
14.	TVRI Semarang MPU	25	28		
15.	TVRI Pontianak MPU	28	29	173	
16.	TVRI Banjarmasin MPU	21	20		
17.	TVRI Ambon MPU	22	22		
18.	TVRI Kupang MPU	22	22		
19.	TVRI Transmissi	640	676	718	
	TOTAL	5,761	5,380 (a)	5,365	5,384
II.	SUPPORTING STAFF:				(b)
1.	TV-TC	114	113	–	
2.	MMTC	18	19	–	
3.	EC	44	43	–	
	TOTAL	176	175	–	
	GRAND TOTAL	5,937	5,555	–	

Remarks: (a) 5,380 persons including temporary employees (Honorer)
(b) No number is tabulated on the data

8-1-2 Forecast of Personnel Number in the Future

(1) Increase in the past Ten Years

10 Years	1980 to 1989
RRI	3,786 Persons
TVRI	2,536 Persons
Total	6,322 Persons

Source: Data obtained from RRI and TVRI in October, 1989

1) RRI

(a) Record of RRI personnel recruitment

The record describes only the number of personnel recruits as shown on Table 8-1-2.

(b) Replacing personnel

By the record, it is unknown how many persons have been replaced for the persons who stopped working and retired before the age limit, and whether those persons were comprised in those numbers on the record.

2) TVRI

(a) Table 8-1-3 Transit of Personnel Number

Year	Number of Persons
1980	2,851
1981	3,097
1982	4,286
1983	4,370
1984	4,617
1985	4,934
1986	5,076
1987	5,124
1988	5,164
1989	5,387

(b) Number of retired personnel and Honorer

It cannot be checked in the obtained data how many persons have been replaced in the same manner as that of RRI and have

retired per year, and whether Honorer was included in the data.

(2) Forecast of Increase in Number of Personnel toward 2000

1) Assumption from the Past Record

(a) Simple addition

It can simply be presumed that an absolutely increasing number of personnel will be around 6,000 until the year 2000 in light of the past ten-year record.

(b) Total number of personnel of RTRI in 2000

Thus, 13,500 approximately (present) + 6,000 = 19,500

2) Number of Personnel to be Retired

(a) About 1,200 persons are expected to reach their age limit until the year 2000 as analized in PART IV, Chapter 1, 1-4-2 (8)-2).

(b) Natural decrease in number and others

In addition to the abovementioned, some number of personnel will be reduced by passing away, retireing before the age limit without any replacement if possible and/or others.

Thus, the number will be assumed to be around 600 unitl the year 2000.

3) Moderation in New Recruitment

(a) Negotiation with DTK through DEPPEN and RTF

Every effort should be paid to moderate new recruits, if possible an annually increasing number of recruits had better be controlled to be less than half a number in the past on the average, in consultation with DTK by dint of DEPPEN and RTF as well as suggested in PART IV, Chapter 1, 1-4-2 (6)-3)-(b).

(b) Absolute number of increase by recruit

Should it be half as suggested above, it will be around 3,000 and if not a half, it will be assumed to be not more than 4,000.

4) Conclusion in Assumption

Total number of RTRI is forecast to be a number between 14,700 persons and 15,700 persons in the year 2000.

Table 8-1-2 RECORD OF RRI PERSONNEL RECRUITMENT BY YEAR (1979 - 1989)

PERSONNEL BY FORMAL EDUCATION

NO.	YEAR	PRELIMINARY SCHOOL	JUNIOR HIGH SCHOOL	SENIOR HIGH SCHOOL	BACHELOR OF ARTS	UNIVERSITY GRADUATE	TOTAL
1.	1979	38	29	327	23	19	436
2.	1980	5	4	106	5	2	122
3.	1981	38	38	194	14	6	290
4.	1982	48	54	480	24	11	617
5.	1983	90	101	722	30	27	970
6.	1984	17	20	205	25	13	280
7.	1985	21	25	326	11	5	388
8.	1986	36	65	521	34	24	680
9.	1987	21	13	183	10	15	242
10.	1988	10	27	99	11	10	157
11.	1989	1	3	30	0	6	40
TOTAL		325	379	3,193	187	138	4,222

PERSONNEL BY WORKING UNIT

NO.	YEAR	ADMINI-STRATION	NEWS	BROAD-CASTING	TECHNIC	TOTAL
1.	1979	109	110	110	107	436
2.	1980	27	22	37	36	122
3.	1981	61	67	92	70	290
4.	1982	178	105	177	157	617
5.	1983	267	176	320	207	970
6.	1984	63	59	94	64	280
7.	1985	109	56	133	90	388
8.	1986	143	184	198	155	680
9.	1987	81	32	81	48	242
10.	1988	40	30	40	47	157
11.	1989	8	8	18	6	40
TOTAL		1,086	849	1,300	987	4,222

8-1-3 Transfer of RRI and TVRI Personnel for the Integration

(1) Integration of RRI and TVRI

The integration is mapped out to materialize step by step on 5 stages as explicated in PART IV, CHAPTER 1, 1-6, although a formation of an integrated entity of RTRI is recommended to be an organization of the Fourth Stage for the application of RTRI to the Authorities concerned as elucidated in PART II CHAPTER 1 for the Feasibility Study Report.

(2) Shift of Employees

1) Surplus Personnel

In the process of preparation for the integration and/or the integration itself, a certain number of excess personnel should be generated since it is reportedly reiterated that RRI and TVRI have been overstaffed respectively.

It can not be predicted by anyone else except the responsible officer(s) in charge how many persons will be supernumeraries but it is recommended at least that the execution of the personnel reshuffle and cut should resolutely be done as described in PART II 1-1 for the Feasibility Study Report.

2) New Jobs

The superfluous personnel including some capable employees selected for key persons in respective new jobs had better boldly be shifted to the new jobs such as: ——

(a) Maintenence Bace: Refer to PART IV CHAPTER 6
(b) Audience-Service Working Units: Refer to PART IV CHAPTER 7
(c) Others

(3) Recommendation on utilization of the increased personnel

In obedience to the national policy, it is inevitable to see an absolute increment in number of employees. Thus, there is no way but realizing a substantial streamlining under the circumstances that the organization itself will be compelled to be corpulent

8-2 Estimation of Number of Staff/Personnel

It is necessary to secure the required number of operational staff/personnel to execute the new projects, details of which have been already described in the PART Ⅲ, CHAPTER 3. The planned number of staff/personnel and the possible personnel transference or should-be increase for each Repelita by those projects are estimated based on the result of the study through materials and discussions with officials concerned in the respective organs.

The result of the estimation by each project is summarized on Table 8-2-1. Details of breakdown are shown in the Supporting Report.

8-2-1 Preconditions of the estimation

The preconditions of the estimation for each item are as follows.

(1) For rehabilitation projects to merely replace old equipment with new one, a transference/increase of personnel is not considered as a subject of study in this table.

(2) Personnel/staff required for new projects, such as extension of the facilities and expansion of broadcasting programmes, are estimated based on the existing operational situation practiced in the RRI and TVRI stations.

(3) For the personnel transference, existing staff/personnel who are already engaged in operation are taken into consideration to shift according to characteristics of the project, whether it is of new expansion or of further expansion including existing operation.

(4) For enhancement of the production studio at Banda Aceh, Samarinda, Ambon, Samarinda studio is planned to shift from the existing Balikpapan studio.

The standard allocation of the staff/personnel for TV stations having production facilities is considered as follows based on the existing data at the other TVRI stations:

News/Programme	75
Technic	75
Administration	50

In this table the existing staff/personnel allocated to MPU at Banda Aceh and Ambon will be shifted into the above numbers.

For extension of TV Studio at Bandung, the same standard is applied.

(5) For both expansion of RN-II and overseas broadcasting by shortwave high power transmitter network, the required number of staff/personnel of programme production is taken into account to upgrade educational and overseas programme production, respectively.

8-2-2 Result of the estimation

The result of the estimation is summarized by each project on Table 8-2-1. Details of the breakdown and detailed conditions are given in the Supporting Report.

According to the result of the estimation, it will require a total of 1,866 persons for the project planned during Repelita V and VI, and among them, 596 persons will be possible to shift from existing jobs and 1,270 persons shall be newly recruited.

Those persons to be newly recruited include both technical and news/programme persons who require highly professional skill and knowledge for broadcasting operation, and special arrangement to recruit proper persons having basic capability should be made for recruiting.

8-2-3 Training Plans

In order to ensure development of the broadcasting services in response to the demand of the times and to the trust placed by the nationwide radio and TV audiences, it is most essential for each of the staff members engaged in the broadcasting to continue his or her efforts to enhance the abilities to discharge the duties assigned to each. It is,

in fact, for that purpose that the training of personnel is regarded as being absolutely indispensable.

(1) Classification and Methods of Training

Training is normally classified as follows, according to their levels and objectives:

- Training for new employees to provide them with basic knowledge required in carrying out their jobs at their respective workplaces.
- Training for middle and upper-class personnel, who have reached a certain professional level, to help them acquire higher level of knowledge.
- Professional training to provide the personnel with higher skills and techniques in specific fields of broadcasting activities.
- Training of administrators to be conducted for those who have been newly promoted from among the general staff members.

1) Training for New Employees

The MMTC was established for the purpose of offering training courses for the new employees. At present, two types of courses are conducted regularly; the Diploma I Course (120 persons; 1-year course) and the Enrichment Course (a specialized course; in 1988, a total of 13 courses were conducted for 267 persons). While these two types of courses can be considered quite sufficient as training courses for new employees as far as the contents of the curriculums and the length of training period are concerned, either of the two conversely falls much too short of meeting the training demands from RRI and TVRI.

In order to cope with the steadily growing number of mass-hiring of new employees by RRI and TVRI from now on, it is considered necessary to organize, in parallel with the courses at MMTC, short-term orientation courses at each of RRI-TC and TVRI-TC, or on a regional basis.

As for the curriculums, it is necessary to take the following into account as the fundamental factors:

(a) General matters concerning the State, society, morals, etc.

(b) Basic knowledge required in carrying out the duties assigned to personnel in the respective fields of broadcasting.

2) Professional Training for Personnel of Middle and Upper Classes

This is the training aimed at providing the personnel with professional knowledge required in enhancing the quality of staff members in their respective fields of work, such as programme production, technical operation and administration.

In conducting this professional training, it is desirable to use the facilities of RRI-TC, TVRI-TC or the MMTC.

As for the curriculums, they shall be compiled with the aim of providing the trainees with a broad range of knowledge and abilities. For that purpose, the curriculums shall be so compiled to include the provisions of:

(a) General knowledge concerning the state, society, morals, etc.

(b) Basic knowledge required in carrying out the duties assigned to personnel in the respective fields of broadcasting.

3) Specialized Training for Personnel in Specific Fields

This is specialized training conducted to enable the personnel to carry out their respective specialized work effectively in each field of broadcasting.

This specialized training should be conducted extensively, not only by using the facilities at RRI-TC, TVRI-TC and MMTC but also seizing various opportunities, such as the routine work meetings, discussions, conferences and the work of installing technical facilities, depending on the content and nature of the training course concerned.

The curriculums for this specialized training course shall be determined in such a way as to suit the objectives of the course, using the points raised in following (2) as reference material.

4) Special Training for the Newly Promoted Administrators

This is the training conducted for those administrators who have newly come to have subordinates working under them in their respective fields of broadcasting work, so as to help them gain self confidence and broader perspectives as well as to acquire knowledge on the methods of administration.

It is desirable that those eligible for this training are, according to needs, gathered together at a central or a local station so that the training course may be conducted in appropriate forms, such as, lectures, meetings or debates.

(2) Training Curriculums

In carrying out the various training courses on different levels as outlined above, it is necessary to set up the curriculums in such a way as to ensure maximum effects, taking into consideration, within the framework of the restricted amount of budget and limited time schedules, such factors as the objectives of each training course, the levels of trainees, the lecturers whose services can be expected and the types of facilities available.

The following are some of the general types of curriculums suggested for each training course. In the case of training courses aimed at training of personnel in specialized work, it is necessary to establish curriculums that are more fractionized.

1) Matters Common to All the Courses

(a) General matters concerning the State, the society, the morals, etc.

a) Very important matters related to the Nation and its Society

- Practice and realization of the spirit of PANCASILA and observance of the 1945 Constitution
- Recognition of socially heavy responsibilities of broadcasting in the framework of Nusantara Outlook (Archipelago Conception), aiming at the completion of BHINNEKA TUGGAL IKA (Unity in Diversity)

b) Discipline in Society

Basic Examples:

- Consideration for others and the organization to which one belongs
  - Punctuality in time
  - Fulfillment of a promise
  - Others
- Solicitude for things/affairs
  - Caution about fire itself and relating to electricity
  - Upsurge in sensitivity of cleanliness and practice of neatness
  - Consideration about arrangement/alignment of things/affairs
  - Others

(b) Matters concerning the objectives, the present condition and the future outlook of broadcasting in Indonesia

2) Matters concerning specialized knowledge and skills in different fields of broadcasting

(a) News/Programmes

a) Programme compilation planning
b) Radio programme production
c) TV programme production
d) News and current affairs reporting
e) Announcing, interviewing and on-the-spot sports coverage
f) TV drama production
g) Education programme production

(b) Broadcasting Techniques

a) Studio and master control techniques and operation
b) Radio programme production techniques
c) TV programme production techniques
d) VTR and editing techniques
e) Outside broadcasting techniques
f) Transmission techniques and transmitter operation
g) Reception techniques and receivers

h) Electronics and digital techniques
i) Computer and programming
j) Microwave techniques
k) New-media technology
l) Maintenance techniques

(c) Administration
a) General affairs management
b) Accounting management
c) Laws/regulations and rules/procedures
d) License-fee collection

(d) Special Training for the Newly Promoted Administrators
a) Management of a broadcasting station
b) Management of subordinates
c) Laws/regulations and rules/procedures
d) World situation of broadcasting business

(3) The Conducting of On-the-job Training Courses and Seminars/Workshops

(1) On-the-job Training

OJT is to enhance one's ability to discharge his or her own duties through engagement in day-to-day work conducted at one's own workplace. Hence, there is the need of conducting systematic OJT activities in all fields of broadcasting and on all levels.

Especially in order to enhance the professional ability of personnel in the younger generation, appropriate guidance given by senior staff members is most essential.

For that purpose, it is necessary to ensure that each broadcasting station will take direct charge of the following matters and that the central training organ should give necessary guidance to each station, distribute teaching materials, dispatch lecturers and allocate budgets:

- Appointment of senior leaders
- Decision on the themes, method and period of the training course
- Acquisition of teaching materials
- Measuring of effects of the OJT

2) The Holding of Seminars/Workshops

By organizing a seminar/workshop in which mainly the front-line staff participate to discuss subjects common to all stations and having them take part in attending lectures given by selected instructors, hearing reports given on improvements actually made at each station and discussing questions of common concern, it is possible not only to enhance the staff members' will and ability to carry out their duties but also to help improve the quality and efficiency of work conducted at each station.

In the holding and conducting of a seminar/workshop, it is desirable that efforts are made to enhance the effect of the seminar/workshop through various devices, such as, selecting themes that are closely related with work -- for example, exchanging of reports on technical improvements made and of those on improvements made in programming or, as a future problem, the exchanging of reports on improvements made in the collection of TV license fees -- and offering prizes to those who have given excellent reports.

Hence, it is desirable that such a seminar/workshop be organized by the central training organ or jointly by RRI and TVRI and that, if possible, be held regularly every year at an appropriate location in Indonesia, such as, in Jakarta or at a regional center.

Table 8-2-1 Distribution of Staff/Personnel by Item of Projects & Classification of Shift/Increase No. 1

(Unit: Person)

Item	News/Programme					Technic					Administration				
	Plan	Shift		Increase		Plan	Shift		Increase		Plan	Shift		Increase	
		V	VI	V	VI		V	VI	V	VI		V	VI	V	VI
(1) Enhancement Phase 1 Programme production facilities a) OB Van 3 sets (Jakarta, Yogya, Denpasar) Total (TV)	(3)	(3)				(27)	(24)		(3)						
b) ENG system 23 sets (at 9 stations) Total (TV)	(23)	(19)		(4)		(46)	(46)								
(2) Enhancement Phase 2 Programme production facilities a) ENG system 8 sets (at 8 stations) Total (TV)	(8)	(8)				(16)	(16)								
b) Production Studio at 3 stations (B. Aceh, Samarinda, Ambon) (Existing function of Balikpapan studio shall be shifted to Samarinda) Total (TV)	(150)	(4)		(146)		(150)	(24)		(126)		(100)	(14)		(86)	
(3) TV studio extension at Bandung Total (TV)	(75)	(36)		(39)		(75)	(33)		(42)		(50)	(17)		(33)	
(4) Production studio extension (No. 5 & No. 6 studio at Jakarta) Total (TV)	(20)	(20)				(36)	(36)								

Item	News/Programme					Technic					Administration				
	Plan	Shift		Increase		Plan	Shift		Increase		Plan	Shift		Increase	
		V	VI	V	VI		V	VI	V	VI		V	VI	V	VI
(5) Maintenance Base in EC a) Jakarta Total (EC)						(96)	(51)		(45)		(20)	(15)	(5)		
b) Local Maintenance Base Medan, U. Pandang (Repelita V) Palembang, Surabaya, Banjarmasin, Jayapura (Repebita VI) Total (EC)						(90)	(16)	(29)	(14)	(31)	(12)	(4)	(8)		
(6) Broadcasting network expansion (Radio) a) RN-I 10 relay stations b) RN-II SW high power transmitting station - Jakarta - Ujung Pandang c) Overseas broadcasting SW high power transmitting station - Jakarta - Medan - Biak Total (Radio)	(55)	(10)	(10)	(15)	(20)	(160)	(11)	(13)	(16)	(120)	(30)		(30)		
(7) Broadcasting network expansion (TV) 100 relay stations Total (TV)						(300)			(150)	(150)	(200)			(100)	(100)

Item		News/Programme					Technic					Administration				
		Plan	Shift		Increase		Plan	Shift		Increase		Plan	Shift		Increase	
			V	VI	V	VI		V	VI	V	VI		V	VI	V	VI
(8) Expansion of TV Programme Morning show, Afternoon show, Education programme, news, Children/women, Family Total (TV)		(60)		(30)		(30)	(54)		(54)			(10)		(10)		
Total	RRI	55	10	10	15	20	160	11	13	16	120	30	0	30	0	0
	TVRI	339	90	30	189	30	704	179	54	321	150	360	31	10	219	100
	EC	0	0	0	0	0	186	67	29	59	31	32	19	13	0	0
Grand Total-1		394	100	40	204	50	1050	257	96	396	301	422	50	53	219	100
Grand Total-2		394	140		254		1050	353		697		422	103		319	

Grand Total

	Plan	shift		Increase	
		V	V	V	V
Total	1,866	407	189	819	451
	1.866	596		1,270	
Total of RRI	245	21	53	31	140
	245	74		171	
Total of TBRI	1.403	300	94	729	280
	1,403	394		1,009	
Total of EC	218	86	42	59	31
	218	128		90	

CHAPTER 9 Implementation Schedule

Table 9-1 shows the Master Schedule of Project Implementation.

Table 9-2 shows the Implementation Schedule of Proposed Project for this study.

Table 9-3 shows the Budgetary Schedule of Proposed Projectfor this study.

Table 9-1 Master Schedule of Project Implementation

PROJECT	Creditor	Proposed Cost F.C. (Mil.)	Proposed Cost R.P. (Bil.)	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
				REPELITA V						REPELITA VI					
A. On-going															
1) TV: Bandung	U.K.	$ 20		10		6									
2) Enhancement (Phase-Ⅰ)	Japan	¥ 6,939		5			12								
3) RRI: 5 stations	Austria	Sch 134.8		10			9								
4) RRI: Spareparts	U.S.A.	$ 4.0			4	3									
5) TV: Dubbing System	Japan	¥ 5.02			4	3									
6) RRI: Jakarta	U.K.	PS 6.3			11		12								
B. Committed															
1) Enhancement (Phase-Ⅱ)	Japan	¥ 8,640			11				12						
2) TV: Jakarta	W.G.	DM 25				9	10								
C. Planning															
1) SW (Overseas)	France	$ 95				8			3						
2) SW (Domestic)	France	$ 66							7			12			
D. Proposed															
1) Short-Term			107.5					4			3				
2) Long-TERM			167.1					4							3
3) TVN-I Netwook	Indonesia		24.8		4				3		4				3

Table 9-2 Implementation Schedule of Proposed Project

STAGE & PROJECT	REPELITA V					REPELITA VI					
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
THIS STUDY											
INTERNAL & EXTERNAL ARRANGEMENT											
1) REHABILITATION OF 8 HP RADIO STATIONS				4			3				
2) REHABILITATION OF 5 TV STATIONS				4			3				
3) MAINTENANCE BASES				4							3
4) ENGINEERING COMMUNICATION				4							3
5) TV UP-LINKS				4							3
6) RADIO PROGRAMME LINE				4			3				
7) MW TX TO SW-ONLY STATIONS				4							3
8) REHABILITATION OF RADIO STUDIOS				4							3
9) EXPANSION OF RN-I NETWORK							4				3

Table 9-3 Budgetary Schedule of Proposed Project

(F.C. Th. ¥ / L.C. Th. Rp)

	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99
1) Rehabilitation of HP Stations	Jakarta F.C. 438,000 L.C. 18,000 Semarang F.C. 172,000 L.C. 18,000	Medan F.C. 202,000 L.C. 18,000 Surabaya F.C. 203,000 L.C. 18,000 U. Pandang F.C. 203,000 L.C. 18,000	Pakan baru F.C. 192,000 L.C. 18,000 Palembang F.C. 193,000 L.C. 18,000 Banjarmasin F.C. 192,000 L.C. 18,000	—	—	—	—
2) Rehabilitation of TV Transmitting Stations	Medan F.C. 63,000 L.C. 18,000	U. Pandang F.C. 48,000 L.C. 18,000	Gn. Mengkol F.C. 80,000 L.C. 18,000 Gn. Tajam F.C. 57,000 L.C. 19,000 Gn. Muncung F.C. 82,000 L.C. 18,000	—	—	—	—
3) Establishment of Maintenance System	Jakarta F.C. 921,000 L.C. 1,060,000	Medan F.C. 180,000 L.C. 190,000 U. Pandang F.C. 180,000 L.C. 45,000	RRI 18 stations F.C. 98,000 L.C. 0 TVRI 17 stations F.C. 273,000 L.C. 0 TVRI 9 stations F.C. 29,000 L.C. 0	1 station F.C. 180,000 L.C. 234,750	1 station F.C. 180,000 L.C. 234,750	1 station F.C. 180,000 L.C. 234,750	1 station F.C. 180,000 L.C. 234,750
4) Improvement of Engineering Communication Network	50 Stations F.C. 169,000 L.C. 96,000	—	—	15 stations F.C. 51,000 L.C. 30,000	15 stations F.C. 51,000 L.C. 30,000	10 stations F.C. 34,000 L.C. 20,000	10 stations F.C. 34,000 L.C. 20,000
5) Introduction of TV Up-Links	—	Medan F.C. 182,300 L.C. 2,000	Surabaya F.C. 182,300 L.C. 2,000	2 stations F.C. 364,600 L.C. 4,000	2 stations F.C. 364,600 L.C. 4,000	2 stations F.C. 364,600 L.C. 4,000	1 station F.C. 182,300 L.C. 2,000
6) Improvement of Programme Transmission Line	One set F.C. 666,800 L.C. 192,000	—	—	—	—	—	—
7) Additional Construction of MW Facilities at SW-only Stations	Palangkaraya F.C. 396,000 L.C. 1,137,000	Bukittinggi F.C. 383,000 L.C. 1,236,000 Ternate F.C. 396,000 L.C. 600,000	Fak-Fak F.C. 420,000 L.C. 1,319,000 Sorong F.C. 419,000 L.C. 1,211,000	2 stations F.C. 660,000 L.C. 1,400,000	1 station F.C. 330,000 L.C. 700,000	1 station F.C. 330,000 L.C. 700,000	1 station F.C. 330,000 L.C. 700,000
8) Rehabilitation of Studios at Regional Radio Stations	—	Bukittinggi F.C. 157,000 L.C. 118,000 Ternate F.C. 157,000 L.C. 118,000	Fak-Fak F.C. 138,000 L.C. 118,000 Ternate F.C. 163,000 L.C. 118,000	5 stations F.C. 768,750 L.C. 590,000	5 stations F.C. 768,750 L.C. 590,000	4 stations F.C. 615,000 L.C. 472,000	4 stations F.C. 615,000 L.C. 472,000
9) Improvement of RN-I Network	—	—	—	3 stations F.C. 990,000 L.C. 2,100,000	3 stations F.C. 990,000 L.C. 2,100,000	2 stations F.C. 660,000 L.C. 1,400,000	2 stations F.C. 660,000 L.C. 1,400,000
10) Sub-Total	F.C. 2,825,800 L.C. 2,539,000	F.C. 2,291,300 L.C. 2,381,000	F.C. 2,518,300 L.C. 2,877,000	F.C. 3,014,350 L.C. 4,358,750	F.C. 2,684,350 L.C. 3,658,750	F.C. 2,183,600 L.C. 2,830,750	F.C. 2,001,300 L.C. 2,828,750
11) Consul Fee	F.C. 141,000	F.C. 94,000	F.C. 172,000	F.C. 147,000	F.C. 132,300	F.C. 112,700	F.C. 98,000
12) 10) + 11)	F.C. 2,966,800 L.C. 2,539,000 (Rp) 39,327,320	F.C. 2,385,300 L.C. 2,381,000 (Rp) 31,958,720	F.C. 2,690,300 L.C. 2,877,000 (Rp) 36,236,720	F.C. 3,161,350 L.C. 4,358,750 (Rp) 43,559,490	F.C. 2,816,650 L.C. 3,658,750 (Rp) 38,585,210	F.C. 2,296,300 L.C. 2,830,750 (Rp) 31,304,870	F.C. 2,099,300 L.C. 2,828,750 (Rp) 28,860,070
13) Expansion of TVN-I Network (Indonesia Side)	—	—	—	15 stations L.C. 7,440,000	15 stations L.C. 7,440,000	10 stations L.C. 4,960,000	10 stations L.C. 4,960,000
14) 12) + 13) (Thousand Rp)	39,327,320	31,958,720	36,236,720	50,999,490	46,025,210	36,264,870	33,820,070
Cost for each Period (Thousand Rp)	107,522,760			167,109,640			
Grand Total (Thousand Rp)	274,632,000						

CHAPTER 10 Financial and Economic Analysis

10-1 Economic Situation

Since RRI and TVRI are run by the national budget (especially RRI), it is also necessary to learn of development of the financing position of the Republic of Indonesia by analyzing (1) growth of GDP, (2) inflation, (3) national budget and (4) ordinary budget.

(1) Growth of GDP

Table 10-1-1 gives the growth of GDP from Pelita I through Pelita IV. The estimated economic growth rate for Repelita V which started this April is 5%, a bit higher than the 4.2% during Pelita IV.

(2) Inflation rate

Inflation rates in Indonesia during Pelita II, III and IV were 13.7%, 10.6% and 6.8% respectively, about 10% on average as shown in Table 10-1-1. The inflation rate during Repelita V is estimated at about 7%.

(3) National budget

The national budget of the Republic of Indonesia mainly consists of the (1) ordinary budget and (2) development budget. The development of these budgets after the beginning of Pelita I is shown in Table 10-1-2. The amounts are shown in nominal values. The growth rate of the ordinary budget was 35.8%, the even highest during Pelita I and has gradually declined since then to 19.2% in Pelita IV.

The growth rate of the ordinary budget was zero even in nominal terms in 1983 when the rupiah was devalued by 38% in March that year.

The development budget has been growing steadily at the average rate of 29.4%. However, mainly because of repeated oil price drops, even the nominal amount of the budget reduced in Pelita IV.

(4) National routine budget

The trend of the national routine budget is shown in Table 10-1-2.

The routine budget has been growing along with GDP.

The budget of wages accounts for about 70 to 80% of the routine budget excluding the foreign debt and local subsidy and the rest is the goods and operation cost.

The debt service ratio which accounted for about 30% of the total routine budget exceeded 50% after 1986 and amounts to about 65% in 1988/1989, squeezing the national budget. The government is trying to reduce the debt service ratio against the total export amount from about 35% to 25% at the end of Repelita V.

[TABLE: 10-1-1] PAST TREND OF ECONOMIC GROWTH AND OTHER DATA

		GDP(CONSTANT) (BILLION RP.) (AMOUNT)	(%)	GDP(NOMINAL) (BILLION RP.) (AMOUNT)	(%)	EXCHANGE RATE(US$) (RP.)	INFLATION RATE (%)	GNP (US$)	POPULATION (PERSONS) (000)	(PERSONS) (%)	DEBITS (MILLION US$)	INSTALLMENT & INTEREST (MILLION US$)
PELITA I	1969	4,820		2,718							82	12
	1970	5,182	7.5	3,340	22.9	363		78	117,880		101	27
	1971	5,144	-0.7	3,672	9.9						124	42
	1972	6,607	28.4	4,564	24.3						166	36
	1973	6,753	2.2	6,753	48.0						218	72
(AVERAGE)			9.4		26.3							
PELITA II	1974	7,269	7.6	10,768	59.5	415		225	135,670		208	62
	1975	7,631	5.0	12,643	17.4	415	14.2	269	138,790	2.3	394	87
	1976	8,156	6.9	15,467	22.3	415	11.8	330	136,630	-1.6	742	102
	1977	8,882	8.9	19,011	22.9	442	6.7	363	139,800	2.3	760	231
	1978	9,566	7.7	22,458	18.1	623	21.8	359	143,040	2.3	930	345
(AVERAGE)			7.2		28.0							
PELITA III	1979	10,164	6.3	31,023	38.1	627	16.0	495	146,360	2.3	1,260	669
	1980	11,169	9.9	45,446	46.5	632	7.1	571	149,700	2.3	1,219	761
	1981	12,054	7.9	54,027	18.9	661	9.7	589	153,040	2.2	2,021	919
	1982	12,325	2.2	59,633	10.4	909	11.5	518	156,450	2.2	1,958	845
	1983	73,698	498.0	73,698	23.6	1,026	8.8	531	159,890	2.2	2,463	1842
(AVERAGE)			104.9		27.5							
PELITA IV	1984	78,144	6.0	87,055	18.1	1,111	4.3	521	163,390	2.2	2,335	3610
	1985	80,120	2.5	94,721	8.8	1,283	8.8	451	166,940	2.2	3,871	1782
	1986	83,318	4.0	95,823	1.2	1,644	8.9	409	170,180	1.9	4,613	4083
	1987	86,317	3.6	114,519	19.5	1,687	5.5		175,000	2.8		
	1988		4.4									
(AVERAGE)			4.1		11.9							
PELITA I-IV (AVERAGE)			31.4		23.4		10.4			2.0		

Note :
GDP before 1983 used the constant price of 1973
GDP after 1983, the basic year is 1983

[TABLE : 10 - 1 - 2] TREND OF NATIONAL BUDGET AND TREND OF NATIONAL ROUTINE BUGET

(UNIT: BILLION RUPIAH)

		ROUTINE BUDGET		DEVELOPBUDGET		TOTAL		SALARY		PURCCHARS		DEBIT PAYMYMENT		LOCAL SUBSBSIDY		OTHERS		TOTAL	
	YEAR	(AMOUNT)	(%)	(AMOUNT)	(%)	(AMOUNT)	(%)	(AMOUNT)	(%)	(AMOUNT)	(%)	(AMOUNT)	(%)	(AMOUNT)	(%)	(AMOUNT)	(%)	(AMOUNT)	(%)
PELITA I	1969/1970	216		118		334		104		50		14		44		4		216	
	1970/1971	289	33.8	170	44.1	459	37.4	131	26.0	63	26.0	26	85.7	56	27.4	12	217.9	289	33.6
	1971/1972	349	20.8	196	15.3	545	18.7	163	24.4	67	6.3	47	80.8	67	18.9	5	-58.1	349	20.9
	1972/1973	437	25.2	298	52.0	735	34.9	200	22.7	95	41.8	53	12.8	84	25.6	5	-3.8	437	25.2
	1973/1974	714	63.4	451	51.3	1,165	58.5	269	34.5	110	15.8	71	34.0	109	29.4	155	3000.0	714	63.3
PELITA II	1974/1975	1,016	42.3	962	113.3	1,978	69.8	420	56.1	175	59.1	74	4.2	202	85.9	145	-6.5	1,016	42.4
	1975/1976	1,333	31.2	1,398	45.3	2,731	38.1	594	41.4	305	74.3	79	6.8	285	40.9	71	-51.2	1,333	31.2
	1976/1977	1,631	22.4	2,054	46.9	3,685	34.9	637	7.2	340	11.5	190	140.5	313	10.0	151	113.1	1,631	22.3
	1977/1978	2,149	31.8	2,157	5.0	4,306	16.9	893	40.2	377	10.9	228	20.0	478	52.8	172	14.1	2,149	31.7
	1978/1979	2,745	27.7	2,556	18.5	5,301	23.1	1,002	12.2	420	11.4	535	134.6	522	9.2	266	54.4	2,745	27.8
PELITA III	1979/1980	4,062	48.0	4,014	57.0	8,076	52.3	1,420	41.7	569	35.5	684	27.9	670	28.3	719	170.5	4,062	48.0
	1980/1981	5,800	42.8	5,916	47.4	11,716	45.1	2,023	42.5	671	17.9	785	14.8	976	45.7	1,345	87.1	5,800	42.8
	1981/1982	6,978	20.3	6,940	17.3	13,918	18.8	2,277	12.6	923	37.6	931	18.6	1,209	23.9	1,638	21.7	6,978	20.3
	1982/1983	6,997	0.3	7,360	6.1	14,357	3.2	2,418	6.2	1,041	12.8	1,225	31.6	1,315	8.8	997	-39.1	6,997	0.3
	1983/1984	8,412	20.2	9,899	34.5	18,311	27.5	2,757	14.0	1,057	1.5	2,103	71.7	1,547	17.6	948	-4.9	8,412	20.2
PELITA IV	1984/1985	9,430	12.1	9,952	0.5	19,382	5.8	3,047	10.5	1,183	11.9	2,777	32.0	1,883	21.7	540	-43.1	9,430	12.1
	1985/1986	11,951	26.7	10,873	9.3	22,824	17.8	4,018	31.9	1,367	15.6	3,323	19.7	2,489	32.2	754	39.7	11,951	26.7
	1986/1987	13,560	13.5	8,332	-23.4	21,892	-4.1	4,311	7.3	1,367	0.0	5,058	52.2	2,650	6.5	174	-76.9	13,560	13.5
	1987/1988	17,482	28.9	9,477	13.7	26,959	23.1	4,617	7.1	1,329	-2.8	8,205	62.2	2,816	6.3	515	195.4	17,482	28.9
	1988/1989	20,066	14.8	8,898	-6.1	28,964	7.4	4,816	4.3	1,333	0.3	10,648	29.8	2,893	2.7	376	-27.1	20,066	14.8
PELITA V	1989/1990	23,445	16.8	13,130	47.6	36,575	26.3												
PELITA I			35.8		40.7		37.4		26.9		22.5		53.3		25.3		789.0		35.8
PELITA II			31.1		45.8		36.5		31.4		33.4		61.2		39.8		24.8		38.0
PELITA III			26.3		32.5		29.4		23.4		21.1		32.9		24.8		734.6		40.5
PELITA IV			19.2		-1.2		10.0		23.4		25.0		39.2		13.9		763.9		39.8
PELITA I-IV			28.1		29.4		28.3		26.3		25.5		46.7		26.0		17.4		31.9

10-2 Past Trend of RRI and TVRI Budgets

The budgets for RRI and TVRI under RTF are also divided into the ① routine and ② development budgets like the national budget.

The past trend of the budgets for these organizations are as follows:

(1) Trend of the development budget

Alike the national development budget, the development budgets for RRI and TVRI are paid both in the domestic currency (DIP) and in foreign currencies (FAL).

1) RRI development budget

Table 10-2-1 shows the development of the RRI and TVRI development budgets. The whole budget for Pelita I was financed in DIP and the two thirds of Pelita II investment relied on foreign aid. The investment for Pelita III was mostly paid in DIP owing to the increasing oil revenue.

In Pelita IV, the budget was sharply cut and only a small scale investment was implemented in DIP.

2) TVRI development budget

As clear in Table 10-2-1 about the development of the TVRI development budget, the large part of the budgets of after Pelita II have been financed by FAL.

During Pelita IV, no large size investments were carried out except small scale projects which were implemented in FAL toward the end of Pelita IV (1988/1989).

As given in Table 10-2-1, TVRI spent about two thirds of the RTF development budget during Pelita III and the fact shows that the TVRI facility rehabilitation was given priority during Pelita III.

(2) Trend of the routine budget

The following is the trend of the RRI and TVRI operation costs, the largest part of which is taken by the personnel expenses.

1) RRI operation cost

The past trend of RRI operation costs is shown in Table 10-2-2 and 10-2-4.

The whole amount of the RRI operation cost is financed from the national budget and the amount has gone up and down along with the national budget development. As the national budget shrinked in Pelita IV, so did the RRI operation budget.

About 60% of the RRI operation budget is composed of the personnel expenses, and the telephone, water and utility costs (15%), operation cost (13%) and maintenance cost (about 10%) are main items to compose the rest of the budget.

If we see budget distribution between Jakarta (national station) and local stations, about ten percent of the whole budget is spent by Jakarta and 90% by local stations (48 stations). Table 10-2-2 shows the operation costs of local stations (as a result of sampling research). Although this does not make a general rule, Nusantara (5 stations), Regional I (26 stations) and Regional II (17 stations) are ranked in this order in terms of the number of personnel and the sizes of the operation budgets are also determined in this order. Further, the share of the personnel expenses in the operation budgets is higher with the regional stations (30% to 70%) than with TVRI (30% to 45%).

2) TVRI operation cost

Table 10-2-3 and 10-2-5 show the trend of TVRI operation costs. With RRI (8,335 employees) the personnel expenses accounts for about 60% of the entire budget, while with TVRI (5,381 employees), the ratio is much low (about 23%) and rather the program production expenses has the largest share (about 24%) and the maintenance expenses (11%) follow except depreciation cost.

Personnel cost per head (1988) for RRI is Rp.1,356,000.- per year against Rp.2,830,000.- for TVRI which is 2 times larger than the former.

TVRI has ten local stations (1988/89), 205 transmitting stations and 7 SPK stations, 222 stations in total. As Table 10-2-5 shows, the size of the Jayapura station is very small, and even stations in Palembang and Ujung Pandang use only 1 to 2% of the entire budget. Therefore it is assumed that the budgets for 10 local

stations are less than 20% and those for 205 transmitting stations are less than 15% of the entire budget. This means that the Jakarta central station is spending about 60% of the entire budget.

[TABLE :10-2-1] TREND OF DEVELOPMENT BUDGET AND FOREIGN AID BUDGET
DIRECTORATE RADIO AND DIRECTORATE TELEVISION
PELITA I-IV (UNIT:MILLLLION RUPIAH)

	DIRECTORATE OF RADIO				DIRECTORATE OF TELEVISION			
	DIP (AMOUNT)	(%)	FAB (AMOUNT)	(%)	DIP (AMOUNT)	(%)	FAB (AMOUNT)	(%)
PELITA I	2300		0		1300		0	
PELITA II	11000	378.26	29700		15400	1084.62	30500	
PELITA III 1979/1980	2600		0		1900		6872	
1980/1981	3300	26.92	2317		6050	218.42	14680	113.62
1981/1982	8000	142.42	3476	150.02	6050		22019	49.99
1982/1983	9400	17.50	0		6050		8483	-61.47
1983/1984	5800	-38.30	0		6050		5655	-33.34
SUB-TOTAL	29100	164.55	5793	-80.49	26100	69.48	57709	89.21
PELITA IV 1984/1985	7834		0		3282		0	
1985/1986	7783	-0.65	235		6216	89.40	0	
1986/1987	5261	-32.40	938	299.15	5146	-17.21	0	
1987/1988	722	-86.28	0		5088	-1.13	0	
1988/1989	1408	95.01	4320		800	-84.28	1049	
SUB-TOTAL	23008	-20.93	5493	-5.18	20532	-21.33	1049	-98.18
TOTAL	65408		40986		63332		89258	

[TABLE:10-2-2]

ANNUAL AMOUNT OF ROUTINE EXPENDITURE
PELITA III
(1979/1980 - 1983/1984)

UNIT;MILION RUPIAH

DESCRIPTION	1979/80	1980/81	1981/82	1982/83	1983/84	Total
EXPENSES						
EMPLOYEE EXPENSES	1,861	3,239	4,727	4,934	5,115	19,876
EQUIPMENT EXPENSES	1,767	2,682	3,897	4,062	4,411	16,819
MAINTENANCE EXPENSES	722	1,002	1,430	1,464	1,479	6,097
Total	4,350	6,923	10,054	10,460	11,005	42,792

INCREASING/DECREASING % OF ROUTINE EXPENDITURE
FOR RRI IN PELITA III

(1979/1980 - 1983/1984)

UNIT:%

DESCRIPTION	1980/81	1981/82	1982/83	1983/84	AVERAG
EXPENSES					
EMPLOYEE EXPENSES	74	46	4	4	32
EQUIPMENT EXPENSES	52	45	4	9	27
MAINTENANCE EXPENSES	39	43	2	1	21
Total	59	45	4	5	28

COMPOSITION OF EXPENDITURE
FOR RRI IN PELITA III

(1979/1980 - 1983/1984)

UNIT:%

DESCRIPTION	1979/80	1980/81	1981/82	1982/83	1983/84	AVERAG
EXPENSES						
EMPLOYEE EXPENSES	43	47	47	47	46	46
EQUIPMENT EXPENSES	41	39	39	39	40	39
MAINTENANCE EXPENSES	17	14	14	14	13	15
Total	100	100	100	100	100	100

ANNUAL AMOUNT OF ROUTINE EXPENDITURE
IN PELITA IV
FOR RRI

(1984/1985 - 1988/1989) (UNIT:000,000 RUPIAH)

DESCRIPTION	1984/85	1985/86	1986/87	1987/88	1988/89	Total	AVERAGE
Employee expense	5,661	7,256	9,658	10,340	11,303	44,218	8,844
Office expenses	331	342	348	277	350	1,648	330
ELECTRICITY/WATER/TELL.	1,154	1,675	3,728	3,205	2,205	11,967	2,393
OFFICE EQUIPMENT EXP.	130	125	123	62	87	527	105
TECHNICAL PARTS EXP.	1,172	1,190	1,187	1,190	1,195	5,934	1,187
OPERATION EXPENSES	1,980	2,420	2,004	2,462	2,034	10,900	2,180
MAINTENANCE EXPENSES	1,479	1,599	1,599	1,380	1,372	7,429	1,486
TRAVELING EXPENSES	114	142	142	102	138	638	128
Total	12,021	14,749	18,789	19,018	18,684	83,261	16,652

TREND OF INCLEASING ROUTINE EXPENSES
FOR RRI IN PELITA IV

(1984/1985 - 1988/1989) (UNIT %)

DESCRIPTION	1984/85	1985/86	1986/87	1987/88	1988/89	AVERAGE
Employee expense	11	28	33	7	9	18
Office expenses	3	3	2	-20	26	3
ELECTRICITY/WATER/TELL.	0	45	123	-14	-31	24
OFFICE EQUIPMENT EXP.	-7	-4	-2	-50	40	-4
TECHNICAL PARTS EXP.	1	2	-0	0	0	1
OPERATION EXPENSES	30	22	-17	23	-17	8
MAINTENANCE EXPENSES	0	8	0	-14	-1	-1
TRAVELING EXPENSES	0	25	0	-28	35	6
Total	9	23	27	1	-2	12

COMPARISON ON OF ROUTUTINE EXP PENSES
FOR RRI IN PELITA IV

(1984/1985 - 1988/1989) (UNIT : %)

DESCRIPTION	1984/85	1985/86	1986/87	1987/88	1988/89	AVERAGE
Employee expense	47	49	51	54	60	53
Office expenses	3	2	2	1	2	2
ELECTRICITY/WATER/TELL.	10	11	20	17	12	14
OFFICE EQUIPMENT EXP.	1	1	1	0	0	1
TECHNICAL PARTS EXP.	10	8	6	6	6	7
OPERATION EXPENSES	16	16	11	13	11	13
MAINTENANCE EXPENSES	12	11	9	7	7	9
TRAVELING EXPENSES	1	1	1	1	1	1
Total	100	100	100	100	100	100

[TABLE:10-2-3]

TVRI ROUTINE EXPENSES
PELITA III (1979/80 - 1983/84)
(UNIT:MILLON RP.)

DESCRIPTION	1979/80	1980/81	1981/82	1982/83	1983/84	TOTAL
PERSONAL EXPENSES	4429	5915	6170	6547	8366	31427
BROADCAST EXPENSES	6292	13022	16624	17530	16790	70258
OFFICE EXPENSES	1457	2153	2999	2487	3217	12313
MAINTENANCE EXPENSES	1107	3907	4515	2826	9311	21666
EQUIPMENT EXPENSES	4429	7610	11191	5103	19717	48050
TOTAL	17714	32607	41499	34493	57401	183714

TRED OF INCREASING ROUTINE EXPENSES OF TVRI
PELITA III (1979/80 - 1983/84)
(UNTIT:%)

DESCRIPTION	1980/81	1981/82	1982/83	1983/84	AVERAGE
PERSONAL EXPENSES	33.6	4.3	6.1	27.8	17.9
BROADCAST EXPENSES	107.0	27.7	5.6	-4.2	34.0
OFFICE EXPENSES	47.8	39.3	-17.1	29.4	24.8
MAINTENANCE EXPENSES	252.9	15.6	-37.4	229.5	115.1
EQUIPMENT EXPENSES	71.8	47.1	-54.4	286.4	87.7
TOTAL	84.1	27.3	-16.9	66.4	40.2

COMPARISION ROUTINE EXPENSES OF TVRI
PELITA III (1979/80 - 1983/84)
(UNIT:%)

DESCRIPTION	1979/80	1980/81	1981/82	1982/83	1983/84	AVERAGE
PERSONAL EXPENSES	25.0	18.1	14.9	19.0	14.6	18.3
BROADCAST EXPENSES	35.5	39.9	40.1	50.8	29.3	39.1
OFFICE EXPENSES	8.2	6.6	7.2	7.2	5.6	7.0
MAINTENANCE EXPENSES	6.2	12.0	10.9	8.2	16.2	10.7
EQUIPMENT EXPENSES	25.0	23.3	27.0	14.8	34.3	24.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

TVRI ROUTINE EXPENSES
PELITA IV (1984/85 - 1988/89) (UNIT: MILLION RP.)

DESCRIPTION	1984/85	1985/86	1986/87	1987/88	1988/89	TOTAL	AVERAGE
PERSONAL EXPENSES	9661	12535	13964	15006	15117	66283	13257
OFFICE EXPENSES	3199	3406	3611	4127	4320	18663	3733
EQIPMENT EXPENSES	734	725	4888	9470	8537	24354	4871
CARRIGE EXPENSES	954	1141	1110	1324	1103	5632	1126
MAINTENANCE EXPENSES	11439	7906	5493	4898	4647	34383	6877
DEPRECIATION EXPENS.	19293	16657	13257	11332	11378	71917	14383
BROADCAST EXPENS.	12266	13313	14449	16077	15670	71775	14355
GENERAL EXPENSES	2108	3192	1401	1607	1389	9697	1939
TV RILY/LINK EXPENS.	2046	3414	4661	3532	4352	18005	3601
OTHER EXPENSES	59	967	669	79	80	1854	371
TOTAL	61759	63256	63503	67452	66593	322563	64513

TREND OF INCREASING TVRI ROUTINE EXPENSES
PELITA IV (1984/85 - 1988/89) (UNIT: %)

DESCRIPTION	1984/85	1985/86	1986/87	1987/88	1988/89	AVERAGE
PERSONAL EXPENSES	15.5	29.7	11.4	7.5	0.7	13.0
OFFICE EXPENSES	-0.5	6.5	6.0	14.3	4.7	6.2
EQIPMENT EXPENSES	22.5	-1.2	574.2	93.7	-9.9	135.9
CARRIGE EXPENSES	-8.2	19.6	-2.7	19.3	-16.7	2.3
MAINTENANCE EXPENSES	22.9	-30.9	-30.5	-10.8	-5.1	-10.9
DEPRECIATION EXPENS.	0.9	-13.7	-20.4	-14.5	0.4	-9.5
BROADCAST EXPENS.	8.4	8.5	8.5	11.3	-2.5	6.8
GENERAL EXPENSES	-19.0	51.4	-56.1	14.7	-13.6	-4.5
TV RILY/LINK EXPENS.	11.7	66.9	36.5	-24.2	23.2	22.8
OTHER EXPENSES	-68.8	1539.0	-30.8	-88.2	1.3	270.5
TOTAL	7.2	2.4	0.4	6.2	-1.3	3.0

COPARISION OF TVRI ROUTINE ESPENSES
PELITA IV (1984/85 - 1988/89) (UNIT:%)

DESCRIPTION	1984/85	1985/86	1986/87	1987/88	1988/89	AVERAGE
PERSONAL EXPENSES	15.6	19.8	22.0	22.2	22.7	20.5
OFFICE EXPENSES	5.2	5.4	5.7	6.1	6.5	5.8
EQIPMENT EXPENSES	1.2	1.1	7.7	14.0	12.8	7.4
CARRIGE EXPENSES	1.5	1.8	1.7	2.0	1.7	1.7
MAINTENANCE EXPENSES	18.5	12.5	8.6	7.3	7.0	10.8
DEPRECIATION EXPENS.	31.2	26.3	20.9	16.8	17.1	22.5
BROADCAST EXPENS.	19.9	21.0	22.8	23.8	23.5	22.2
GENERAL EXPENSES	3.4	5.0	2.2	2.4	2.1	3.0
TV RILY/LINK EXPENS.	3.3	5.4	7.3	5.2	6.5	5.6
OTHER EXPENSES	0.1	1.5	1.1	0.1	0.1	0.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

[TABLE:10-2-4] PAST TREND OF ROUTINE EXPENSES FOR RRI REGIONAL STATION

(Rp mil)

Station	Expenses	1984/85	1985/86	1986/87	1987/88	1988/89	Total	Average(%)
1 Ujungpandang	Personnal	314	401	533	570	621	2439	66%
(Nusantara)	Operation	251	265	267	231	249	1263	34%
(Staff:314)	Total	565	666	800	801	870	3702	100%
2 Palembang	Personnal	143	171	187	192	213	906	57%
(Staff:161)	Operation	130	140	146	135	145	696	43%
	Total	273	311	333	327	358	1602	100%
3 Bandung	Personnal	163	214	273	298	304	1252	66%
(Regional-1)	Operation	112	130	131	116	148	637	34%
(Staff:245)	Total	275	344	404	414	452	1889	100%
4 Jayapura	Personnal	142	193	199	227	255	1016	57%
(Nusantara)	Operation	142	148	168	153	146	757	43%
(Staff: 49)	Total	284	341	367	380	401	1773	100%
5 Ambon	Personnal	87	112	149	159	173	680	59%
(Staff:166)	Operation	79	92	105	91	102	469	41%
	Total	166	204	254	250	275	1149	100%
6 Pekanbaru	Personnal	113	141	140	152	165	711	55%
(Staff:137)	Operation	108	112	121	122	120	583	45%
	Total	221	253	261	274	285	1294	100%

[TABLE:10-2-5] PAST TREND OF ROUTINE EXPENSES FOR TVRI REGIONAL STATION

(Rp mil)

Station	Expenses	1984/85	1985/86	1986/87	1987/88	1988/89	Total	Average(%)
1 Ujungpandang	Personnal	281	402	407	477	528	2095	40%
(Staff:295)	Operation	581	656	648	630	623	3138	60%
	Total	862	1058	1055	1107	1151	5233	100%
2 Palembang	Personnal	427	550	594	644	730	2945	50%
(Staff:207)	Operation	510	362	439	740	846	2897	50%
	Total	937	912	1033	1384	1576	5842	100%
3 Bandung	Personnal				254	343	597	38%
(Staff:138)	Operation				317	648	965	62%
	Total	0	0	0	571	991	1562	100%
4 Jayapura	Personnal					88	88	43%
(Staff: 49)	Operation					117	117	57%
	Total	0	0	0	0	205	205	100%
5 Ambon	Personnal	21	27	38	29	39	154	25%
(Staff: 22)	Operation	97	86	79	87	105	454	75%
	Total	118	113	117	116	144	608	100%
6 Pekanbaru	Personnal	8	10	11	12	15	56	26%
(Staff: 5)	Operation	22	34	34	34	34	158	74%
	Total	30	44	45	46	49	214	100%

10-3 Estimates of Investment Amount and Operation Cost

What we wish to do is to estimate the investment amount for rehabilitation of RRI and TVRI facilities and the required operation cost.

Assumption of estimates is set forth as follows.

① Inflation rate is 7% per annual.

② Increasing rate of salaries and wages is 10% taking account of inflation.

③ Inderesing rate of Expenditure is 7% per annual

(1) Estimated development investment amount

As described above, RTF is implementing five projects (except Grand Aid) centering on the phase I of the OECF project at present, and is scheduled to set about four more projects including the phase II of the OECF project in Repelita V.

Further, it has five more projects in mind apart from the above nine projects. After reviewing these new five projects the investment amount for on-going and scheduled projects was calculated and the total investment cost for improvement and extension plans until 1998 is estimated as follows:

Proposed Investment Cost (Ongoing Project)

(In Billion Rp.)

Repelita V			Repelita VI			Total		
RRI	TVRI	EC	RRI	TVRI	EC	RRI	TVRI	EC
271	154	0	132	41	0	403	195	0
425			173			598		

Proposed Investment Cost (New Proposed Project)

(In Billion Rp.)

Repelita V			Repelita VI			Total		
RRI	TVRI	EC	RRI	TVRI	EC	RRI	TVRI	EC
60	8	22	222	38	25	282	46	47
90			285			375		

Proposed Investment Cost (Ongoing & New Proposed Project)

(In Billion Rp.)

Repelita V			Repelita VI			Total		
RRI	TVRI	EC	RRI	TVRI	EC	RRI	TVRI	EC
331	162	22	354	79	25	685	241	47
515			458			973		

(2) Estimated operation cost

The operation cost is required for the existing facilities and new facilities planned in the above projects.

1) Operation cost for existing facilities

The operation cost for existing facilities is estimated as follows based on the performance in 1988/1989.

Operational Cost for Existing Facilities

(In Million Rp.)

Operational Cost	1993			1998		
	RRI	TVRI	EC	RRI	TVRI	EC
Personnel Expenses	18,204	24,346	89	54,479	39,210	305
		42,639			93,994	
Operational Expenses	10,352	56,240	84	14,520	78,879	118
		66,676			93,517	
Total Operational Expenses	28,556	80,586	173	68,999	118,089	423
		109,315			187,511	

2) Operation cost for new facilities

The additional amount for operation of the facilities extended or improved by the above mentioned development investment consists of ① personnel expenses, ② operation cost, ③ programme production cost, ④ programme transmission line leasing fee, ⑤ depreciation cost.

(a) Personnel expenses

According to the personnel plan, the incremental numbers of employees are expected as follows and the average unit cost in each year is multiplied by the number of employees to obtain the additional cost as follows:

Incremental Personnel Expenses (Ongoing & New Proposed Project)

(in million Rp.)

Personnel Expenses		1993			1998		
		RRI	TVRI	EC	RRI	TVRI	EC
Average Salary	(Amount)	4.5	4.5	4.5	7.3	7.3	7.3
Ongoing Project	(Number of Staff)	31	729	0	71	979	0
	(Amount)	140	3,287	0	516	7,110	0
			3,427			7,626	
New Proposed Project	(Number of Staff)	0	0	0	100	30	90
	(Amount)	0	0	0	726	218	654
			0			1,598	
Total	(Number of Staff)	31	729	0	171	1,009	90
	(Amount)	140	3,287	0	1,242	7,328	654
			3,427			9,224	

(b) Operation cost

The additional operation cost for new facilities such as TV studios and service centers which are to be constructed until 1998 is as follows:

Incremental Operational Expenses (Ongoing & New Proposed Project)

(In Million Rp.)

Operational Expenses	1993			1998		
	RRI	TVRI	EC	RRI	TVRI	EC
Ongoing Project	416	5,432	0	1,962	8,722	0
		5,848			10,684	
New Proposed Project	75	39	0	838	55	9,670
		114			10,563	
Total	491	5,471	0	2,800	8,777	9,670
		5,962			21,247	

(c) Depreciation cost

Depreciation cost is not included as an expenditure item in the cash flow chart, but is included as an expenditure item in the financial plan and the depreciation cost for new equipment and facilities is estimated as follows on the assumption that the service life is 15 years, the residual ratio is 10% of the original value and the manner of depreciation is fixed depriciation method:

Incremental Depreciation Expenses (Ongoing & New Proposed Project)

(In Million Rp.)

Depreciation Expenses	1993			1998		
	RRI	TVRI	EC	RRI	TVRI	EC
Ongoing Project	0	9,241	0	24,195	11,139	0
		9,241			35,334	
New Proposed Project	0	230	0	14,327	2,460	2,533
		230			19,320	
Total	0	9,471	0	38,522	13,599	2,533
		9,471			54,654	

(d) Principal and interest

At present, RRI and TVRI are as national bodies and the interest for debt is paid by the government. However, once they are going independent, such interest should be borne by them.

The conditions of loan interest is follows:

a) For foreign loan interest 10% per annual

b) For foreign loan interest 12% per annual

Incremental Loan Interest (Ongoing & New Proposed Project)

(In Million Rp.)

Loan Interest	1993			1998		
	RRI	TVRI	EC	RRI	TVRI	EC
Ongoing Project	0	0	0	40,600	16,327	0
		0			56,927	
New Proposed Project	0	0	0	29,499	4,621	4,321
		0			38,441	
Total	0	0	0	70,099	20,948	4,321
		0			95,368	

(e) Total Incremental Cost for Ongoing & New Proposed Project

Total incremental cost is included personnel expenses, operation & maintenance expenses and depreciation expenses for the facilities extended or improved by the ongoing & new proposed project, but not included principal and loan interest due to RRI, TVRI and EC are the national governmental body at present.

Total Incremental Cost for Ongoing Project

(In Million Rp.)

Incremental Cost	1993			1998		
	RRI	TVRI	EC	RRI	TVRI	EC
O & M Cost	556	8,719	0	2,478	15,832	0
		9,275			18,310	
Depreciation Cost	0	9,241	0	24,195	11,139	0
		9,241			35,334	
Total	556	17,960	0	26,673	26,971	0
		18,516			53,644	

Total Incremental Cost for New Proposed Project

(In Million Rp.)

Incremental Cost	1993			1998		
	RRI	TVRI	EC	RRI	TVRI	EC
O & M Cost	75	39	0	1,564	273	10,324
		114			12,161	
Depreciation Cost	0	230	0	14,327	2,460	2,533
		230			19,320	
Total	75	269	0	15,891	2,733	12,857
		344			31,481	

(f) Total Operational and Maintenance Cost for RTF

Total Operational and Maintenance Cost shall be estimated as a cost for the financial plan of RTF.

Total Operation and Maintenance Cost Statement of RTF

(In Million Rp.)

Total O & M Cost	1993			1998		
	RRI	TVRI	EC	RRI	TVRI	EC
Existing Facilities	28,556	80,586	173	68,999	118,089	423
		109,315			187,511	
Ongoing Project	556	17,960	0	26,673	26,971	0
		18,516			53,644	
New Proposed Project	75	269	0	15,891	2,733	12,857
		344			31,481	
Total O & M Cost of RTF	29,187	98,815	173	111,563	147,793	13,280
		128,175			272,636	

10-4 Present Income Source and Prospect of Income

In addition to the above examination of expenditures, the analysis of the current state and prospect of income sources are made as follows:

(1) Income source of TVRI

1) TV subscription

The current TV subscription fee program was established in 1981 and is divided into five categories according to monochrome or color and unit sizes:

Monochrome:	Up to 16 inches	Rp.500.-/unit
	17 inches and over	Rp.1,500.-/unit
Color:	14 to 16 inches	Rp.2,000.-/unit
	17 to 19 inches	Rp.2,500.-/unit
	20 inches and over	Rp.3,000.-/unit

2) TV subscription fee collection rate

At present Pos dan Giro under the Transportation, Telecommunications and Postal Department, which has a national network, is collecting the subscription fee on behalf of TVRI.

Pos dan Giro pays ten percent of the collected amount to the National Treasury as their trust money and 90% to YAYASAN-TV which composes about 70% of the income for TVRI.

The TV subscription fee collection rate is considerably low and veries depending on areas (40 to 80%) as shown in Table 10-4-1 - 10-4-3. The average collection rate for the past three years is about 50%.

Thus, TVRI is emphasizing its effort in raising the collection rate and is conducting compulsory collection about four times a year by making police officers and village chiefs visit subscribers as well as advertising the necessity of subscription fee payment through broadcasting.

(2) Prospect of TV subscription fee

Based on the above estimate, a several case study were made on how it is possible to cover the operation cost by raising the collection rate or revising the TV subscription fee.

TV subscription fee will be larger than current subscription fee by 2 times from year of 1991 and collection rate considerably goes up (63%-88%). The subscription fees which were established in 1981 are equivalent to about Rp.1860 for monochrome TV and about Rp.4640 for color TV on average if inflation rate since then is considered.

The present subscription fee plan should be simplified into two divisions as follows:

Monochrome: Rp.2000/month

Color: Rp.5000/month

It is a question if the above subscription fee level is accepted by people or not.

The above estimate is given in Table 10-4-4 based on the assumption as case -1.

(3) Estimated total income

Apart from the above, the ① TV news cover income and other TVRI income ② government subsidy are also expected as now and the entire income including all of these are sown in Table 10-4-5.

[TABLE: 10-4-1] TREND OF TV COLLECTED LICENSE FEE

(UNIT:MILLION RP.)

PROVINCE	FEE COLLECCTION AMOUUNT 1986 (000,000)	1987 (000,000)	1988 (000,000)	TOTAL (000,000)	AVERAGE (000,000)
D I A C E H	552	586	966	2104	701
NORTH SUMATERA	2493	2474	2597	7564	2521
WEST SUMATERA	914	897	1010	2821	940
R I A U	889	916	1089	2894	965
J A M B I	313	295	391	999	333
SOUTH SUMATERA	1479	1507	1731	4717	1572
BENGKULU	165	182	228	575	192
LAMPUNG	644	626	783	2053	684
OKI JAKARTA	7569	7612	9817	24998	8333
WEST JAVA	8062	7292	10141	25495	8498
CENTRAL JAVA	5484	5355	6034	16873	5624
DI JOGYAKARTA	898	877	1017	2792	931
EAST JAVA	6890	6758	7936	21584	7195
B A L I	776	846	905	2527	842
WEST NUSA TENGGARA	285	294	333	912	304
EAST NUSA TENGGARA	189	215	221	625	208
EAST TIMOR	10	15	34	59	16
WEST KALIMANTAN	575	537	654	1766	589
CENTRAL KALIMANTAN	161	185	217	563	188
SOUTH KALIMANTAN	587	573	777	1937	646
EAST KALIMANTAN	754	793	1096	2643	881
NORTH SULAWESI	420	399	591	1410	470
CENTRAL SULAWESI	154	162	220	536	179
SOUTH SULAWESI	948	822	1229	2999	1000
SOUTHEAST SULAWESI	127	143	151	421	140
M A L U K U	276	291	367	934	311
IRIAN JAYA	263	251	310	824	275
I N D O N E S I A	41877	40903	50845	133625	44538

Source :
Pos & Giro

[TABLE: 10-4-2] TREND OF TV LICENSE FEE COLLECTIN COVERAGE (BY %)

PROVINCE	COLLECTITION COVERAGGE 1986 (%)	1987 (%)	1988 (%)	AVERAGE (%)
D I A C E H	46.9	55.9	87.3	63.1
NORTH SUMATERA	42.7	44.8	49.0	45.4
WEST SUMATERA	60.7	55.6	65.9	60.6
R I A U	40.7	47.9	59.5	48.9
J A M B I	34.9	35.0	43.1	37.8
SOUTH SUMATERA	58.3	57.9	57.4	57.8
BENGKULU	44.9	40.1	40.6	41.7
LAMPUNG	35.6	50.6	51.2	44.9
DKI JAKARTA	37.0	36.1	42.1	38.5
WEST JAVA	53.8	50.1	63.9	56.1
CENTRAL JAVA	62.2	57.6	60.8	60.2
DI JOGYAKARTA	54.9	48.8	60.9	54.7
EAST JAVA	50.1	52.2	58.8	53.7
B A L I	54.8	55.6	58.8	56.4
WEST NUSA TENGGARA	53.9	47.8	55.1	52.1
EAST NUSA TENGGARA	63.6	56.1	53.8	57.2
EAST TIMOR	26.5	39.7	52.5	34.2
WEST KALIMANTAN	41.1	44.8	60.0	47.9
CENTRAL KALIMANTAN	32.8	36.4	50.2	39.4
SOUTH KALIMANTAN	40.7	36.5	39.9	39.1
EAST KALIMANTAN	38.6	43.6	60.8	47.4
NORTH SULAWESI	37.9	36.2	76.5	47.3
CENTRAL SULAWESI	35.6	41.1	78.3	48.5
SOUTH SULAWESI	34.4	30.5	45.5	36.8
SOUTHEAST SULAWESI	39.9	35.8	35.4	36.7
M A L U K U	50.6	48.5	52.3	50.5
IRIAN JAYA	44.3	41.1	65.2	49.1
I N D O N E S I A	46.9	46.3	54.5	49.3

[TABLE: 10-4-3] TREND OF NUMBER OF REGISTERED TV SETS

PROVINCE	B/W TV SETS NUMBER 1986 (000)	1987 (000)	1988 (000)	SUB-TOTAL (000)	AVERAGE (000)	COLOUR TV SETS NEMBER 1986 (000)	1987 (000)	1988 (000)	SUB-TOTAL (000)	AVERAGE (000)	TOTAL TV SETS TOTAL (000)	ETS NUMBER AVERAGE (000)
D I A C E H	59	47	45	151	50	20	20	23	63	21	214	71
NORTH SUMATERA	365	304	248	917	306	70	83	97	250	83	1167	389
WEST SUMATERA	97	97	82	276	92	17	21	24	62	21	338	113
R I A U	82	62	52	196	65	48	46	47	141	47	337	112
J A M B I	48	43	39	130	43	14	14	18	46	15	176	59
SOUTH SUMATERA	130	121	129	380	127	42	48	60	150	50	530	177
BENGKULU	24	27	32	83	28	4	6	8	18	6	101	34
LAMPUNG	110	77	89	276	92	23	15	21	59	20	335	112
DKI JAKARTA	752	722	673	2147	716	457	493	594	1544	515	3691	1230
WEST JAVA	836	734	709	2279	760	221	246	304	771	257	3050	1017
CENTRAL JAVA	584	574	546	1704	568	93	115	149	357	119	2061	687
DI JOGYAKARTA	104	109	77	290	97	19	23	31	73	24	363	121
EAST JAVA	810	712	658	2180	727	185	195	237	617	206	2797	932
B A L I	86	86	80	252	84	18	22	25	65	22	317	106
WEST NUSA TENGGARA	29	32	31	92	31	8	10	10	28	9	120	40
EAST NUSA TENGGARA	15	18	18	51	17	5	7	8	20	7	71	24
EAST TIMOR	1	1	1	3	1	1	1	2	4	1	7	2
WEST KALIMANTAN	72	51	36	159	53	23	24	26	73	24	232	77
CENTRAL KALIMANTAN	28	27	20	75	25	7	8	8	23	8	98	33
SOUTH KALIMANTAN	81	83	93	257	86	21	25	35	81	27	338	113
EAST KALIMANTAN	66	51	52	169	56	46	47	46	139	46	308	103
NORTH SULAWESI	75	72	29	176	59	11	12	17	40	13	216	72
CENTRAL SULAWESI	15	14	6	35	12	10	9	8	27	9	62	21
SOUTH SULAWESI	130	122	100	352	117	50	51	60	161	54	513	171
SOUTHEAST SULAWESI	17	22	22	61	20	5	6	7	18	6	79	26
M A L U K U	28	28	30	86	29	9	11	14	34	11	120	40
IRIAN JAYA	20	19	9	48	16	14	15	14	43	14	91	30
I N D O N E S I A	4664	4255	3906	12825	4275	1441	1573	1893	4907	1636	17732	5911

Source :
Pos & Giro

[TABLE:10-4-4] FORCAST TV LICENSE FEE REVENUE (CASE 1)

(UNIT:MILLION RP.)

PROVINCE	AMOUNT OF COLLECTED FEE AT 198	NUMBER OF B/W TV SETS AT 1988		NUMBER OF COLOUR TV SETS AT 1988		COLLECTION COVERAGE AT 1988	1989 60%	1990 70%	1991 70%	1992 70%	1993 70%	1994 73%	1995 83%	1996 88%	1997 88%	1998 88%	1999 88%	2000 88%
	(AMOUNT)						(AMOUNT)	(AMOUNT)	(AMOUNT)	(AMOUNT)	(AMOUNT)	(AMOUNT)	(AMOUNT)	(AMOUNT)	(AMOUNT)	(AMOUNT)	(AMOUNT)	(AMOUNT)
	(000,000)	(000)	(%)	(000)	(%)	(%)	(000,000)	(000,000)	(000,000)	(000,000)	(000,000)	(000,000)	(000,000)	(000,000)	(000,000)	(000,000)	(000,000)	(000,000)
D I A C E H	966	45	1.15%	23	1.22%	87.3%	1,004	1,048	2,197	2,313	2,444	2,591	2,758	2,969	3,180	3,414	3,676	3,966
NORTH SUMATERA	2,597	248	6.35%	97	5.12%	49.0%	3,274	3,953	8,216	8,577	8,991	9,870	11,857	13,333	14,189	15,149	16,223	17,420
WEST SUMATERA	1,010	82	2.10%	24	1.27%	65.9%	1,030	1,122	2,311	2,389	2,481	2,700	3,215	3,586	3,787	4,014	4,269	4,556
R I A U	1,089	52	1.33%	47	2.48%	59.5%	1,162	1,439	3,064	3,274	3,508	3,931	4,815	5,511	5,962	6,463	7,016	7,629
J A M B I	391	39	1.00%	18	0.95%	43.1%	564	684	1,430	1,501	1,581	1,744	2,104	2,376	2,539	2,721	2,923	3,149
SOUTH SUMATERA	1,731	129	3.30%	60	3.17%	57.4%	1,873	2,274	4,754	4,990	5,258	5,800	7,001	7,907	8,450	9,056	9,732	10,485
BENGKULU	228	32	0.82%	8	0.42%	40.6%	342	407	833	857	885	958	1,136	1,260	1,325	1,398	1,481	1,574
LAMPUNG	783	89	2.28%	21	1.11%	51.2%	929	1,103	2,254	2,314	2,386	2,577	3,049	3,378	3,545	3,734	3,949	4,192
DKI JAKARTA	9,817	673	17.23%	594	31.38%	42.1%	14,780	18,291	38,939	41,581	44,536	49,882	61,067	69,874	75,567	81,879	88,869	96,604
WEST JAVA	10,141	709	18.15%	304	16.06%	63.9%	10,475	11,911	24,833	25,998	27,330	30,080	36,230	40,835	43,555	46,599	49,997	53,783
CENTRAL JAVA	6,034	546	13.98%	149	7.87%	60.8%	6,142	7,226	14,842	15,311	15,865	17,221	20,467	22,778	24,005	25,395	26,963	28,725
DI JOGYAKARTA	1,017	77	1.97%	31	1.64%	60.9%	1,049	1,247	2,596	2,712	2,845	3,126	3,759	4,230	4,504	4,812	5,157	5,540
EAST JAVA	7,936	658	16.85%	237	12.52%	58.8%	8,324	10,022	20,776	21,630	22,616	24,764	29,681	33,300	35,365	37,684	40,281	43,183
B A L I	905	80	2.05%	25	1.32%	58.8%	944	1,131	2,334	2,419	2,517	2,744	3,276	3,660	3,872	4,111	4,380	4,681
WEST NUSA TENGGARA	333	31	0.79%	10	0.53%	55.1%	371	445	920	955	995	1,085	1,297	1,450	1,536	1,632	1,740	1,861
EAST NUSA TENGGARA	221	18	0.46%	8	0.42%	53.8%	255	309	645	676	711	783	944	1,065	1,137	1,2[illegible]	1,308	1,408
EAST TIMOR	34	1	0.03%	2	0.11%	52.5%	42	53	114	124	134	152	188	218	237	259	284	310
WEST KALIMANTAN	654	36	0.92%	26	1.37%	60.5%	693	846	1,792	1,905	2,031	2,265	2,762	3,150	3,395	3,668	3,971	4,306
CENTRAL KALIMANTAN	217	20	0.51%	8	0.42%	50.2%	267	323	672	702	736	808	972	1,093	1,164	1,244	1,332	1,431
SOUTH KALIMANTAN	777	93	2.38%	35	1.85%	39.9%	1,203	1,451	3,012	3,140	3,288	3,605	4,326	4,860	5,167	5,511	5,897	6,328
EAST KALIMANTAN	1,096	52	1.33%	46	2.43%	60.8%	1,158	1,416	3,014	3,219	3,447	3,861	4,727	5,410	5,850	6,339	6,881	7,480
NORTH SULAWESI	591	29	0.74%	17	0.90%	76.5%	617	592	1,245	1,316	1,396	1,549	1,881	2,135	2,293	2,469	2,664	2,881
CENTRAL SULAWESI	220	6	0.15%	8	0.42%	78.3%	235	235	504	543	586	634	687	745	810	882	961	1,049
SOUTH SULAWESI	1,229	100	2.56%	60	3.17%	45.5%	1,692	2,071	4,364	4,614	4,897	5,438	6,605	7,504	8,062	8,683	9,373	10,139
SOUTHEAST SULAWESI	151	22	0.56%	7	0.37%	35.4%	262	314	648	672	700	763	912	1,019	1,079	1,146	1,222	1,306
M A L U K U	367	30	0.77%	14	0.74%	52.3%	436	530	1,108	1,163	1,226	1,352	1,632	1,844	1,970	2,112	2,270	2,445
IRIAN JAYA	310	9	0.23%	14	0.74%	65.2%	332	383	825	891	964	1,090	1,346	1,551	1,689	1,841	2,010	2,195
I N D O N E S I A	50,845	3,906	100%	1,893	100%	54.5%	59,457	70,824	148,241	155,783	164,356	181,376	218,694	247,043	264,235	283,434	304,828	328,628
(LICENSE FEE FOR B/W TV PER SET RP.)							1,000	1,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
(LICENSE FEE FOR COLOUR TV PER SET RP.)							2,500	2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000

Table 10-4-5 Assumption of Total Income Statement for Ongoing Project and New Proposed Project

(In Million Rp.)

Case		1993					1998				
		RRI	TVRI			EC	RRI	TVRI			EC
		Subsidy	License Fee	Other Income	Subsidy	Subsidy	Subsidy	License Fee	Other Income	Subsidy	Subsidy
Case 1			164,356	8,851	11,204			283,434	13,125	0	
	Sub-Total	28,094		184,411		173	0		296,559		0
	Total			212,678					296,559		
Case 2			82,178	8,851	11,204			141,717	13,125	16,847	
	Sub-Total	28,094		102,233		173	42,244		171,689		260
	Total			130,500					214,193		
Case 3			141,205	8,851	11,204			194,432	13,125	16,847	
	Sub-Total	28,094		161,260		173	0		224,404		260
	Total			189,527					224,664		
Case 4			123,267	8,851	11,204			212,575	13,125	0	
	Sub-Total	28,094		143,322		173	42,244		225,700		0
	Total			171,589					267,944		