

**PART IV REVIEW OF THE EXISTING
LONG-TERM PLAN**

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CHAPTER 1 Organization and Management

1-1 Basic Theory for Plan

The study has proceeded based on the theory elucidated as an expedient for organization and management in the Supporting Report. Its essence reads as follows:

(1) Fundamentals of Organization

- 1) A Common Purpose: To imprint on constituents' mind a firm faith of the organizational objective as virtually existing.
- 2) Willingness to Cooperate: To desire contribution to the purpose with an individual's endeavor.
- 3) Communication: To bind the possibility to achieve the purpose with the individuals cherishing the willingness and to make the binding dynamical.

(2) Contribution and Inducement

- 1) Contribution: Individual efforts towards the organizational purpose.
- 2) Inducement: Utility to possibly be provided by the organization to the individual for his/her efforts.

(example)

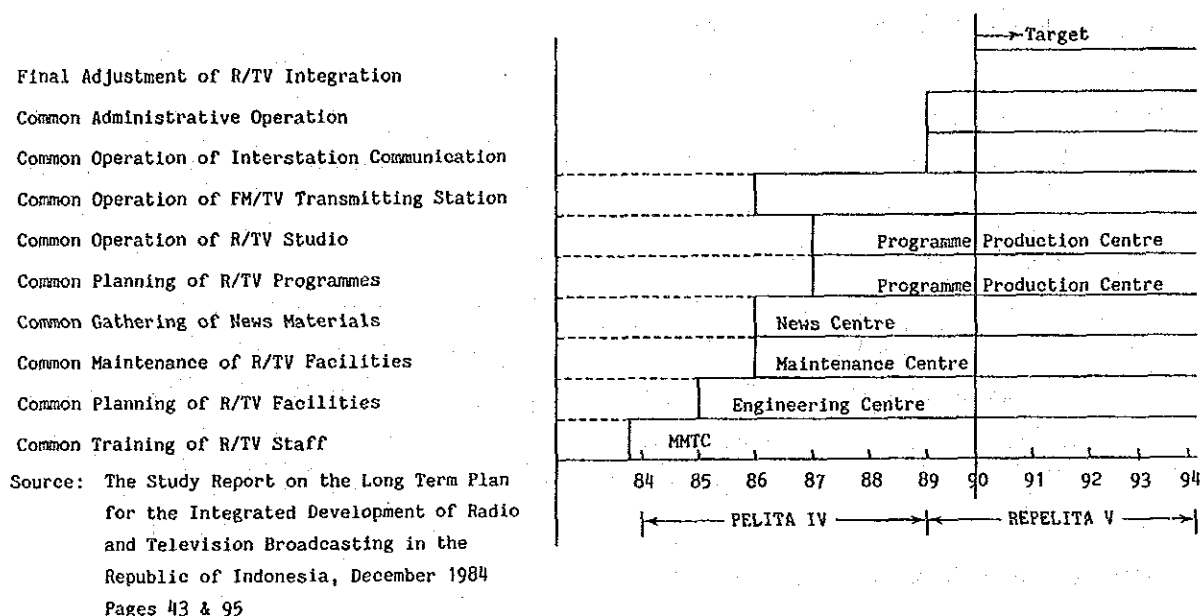
Participant	Contribution	Inducement
Audience	License-Fee Payment	Receiving Information and its service of good quality
Pos & Giro	Fee Collection and Improvement of its Rate	10% increment of an absolute amount

1-2 The Long-Term Plan Formulated in 1984

1-2-1 A Model of R/TV Integration Set up in 1984

With a target of the overall integration to be accomplished in 1990, the integration should proceed step by step from the most realizable part of organizational activities as shown below in Table 1-2-1.

Table 1-2-1 A Model of R/TV Integration



1-2-2 Evaluation

General evaluation: The Long-Term Plan formulated in 1984 is observed to be conceptual as a whole, concrete items were scarcely studied and embodied in it, and also only a few recommendations were made in consideration of the situation at that time. Apart from an order and/or a process towards the integration, the explanation about the advantage and the improvement effects of the integration is really to the point even though the idea was not realistic.

1-3 Comprehension of Present Status

1-3-1 Grade (Golongan) and Level (Eselon)

Reference is made in detail to the Supporting Report.

(1) Golongan (Rank/Grade)

National/state employees/civil servants have their Golongan(s) respectively according to their conditions.

Running Nos.	Rank/Class	Golongan	Ruang (Column)
1 upto 17	17 different names	I upto IV (Low -- High)	a upto d (a upto e only in IV)

Source: Page 385, Himpunan Peraturan Kepegawaian, JILID I

(2) Eselon (Level/Structural Occupation)

"Eselon" is construed be given to an employee on whom Jabatan-Struktural (Structural Occupation) such as section chief and/or higher.

ESELON	DEPPEN (Example)		Ruang	Example of Structural Occupation
	Numbers of Persons	Percent		
I	12	0.1%	a b	Dir. Jen of RIF
II	71	0.8%	a b	Director of Dit. TV Director of MMTC
III	718 Persons	8.0%	a b	Sub. Dit. of Dit. Radio Chief of Dept. in Nusantara
IV	2,845 Persons	31.6%	a b	Section Chief of Dit. TV. Section Chief in Nusantara
V	5,348 Persons	59.5%	a b	Head of Affairs in TVTC. Sub-sec. Chief in Nusantara
5 LEVELS	Total: 8,994 Persons	100%	a&b	

"Eselon" is vertically echeloned like a pyramid and classified into the four, V upto I and each of which is further subdivided in two, "b" up to "a", in direct opposition to the order of Golongan. Ia is the highest position while Vb is the lowest among the selected personnel.

1-3-2 Organization Chart

- (1) DEPPEN : Refer to Table 1-3-1.
- (2) RTF : Refer to Table 1-3-2.
- (3) Directorate of Radio : Refer to Table 1-3-3.
- (4) Directorate of TV : Refer to Table 1-3-4.
- (5) Others : Refer to the Supporting Report.

Table 1-3-1 DEPPEN

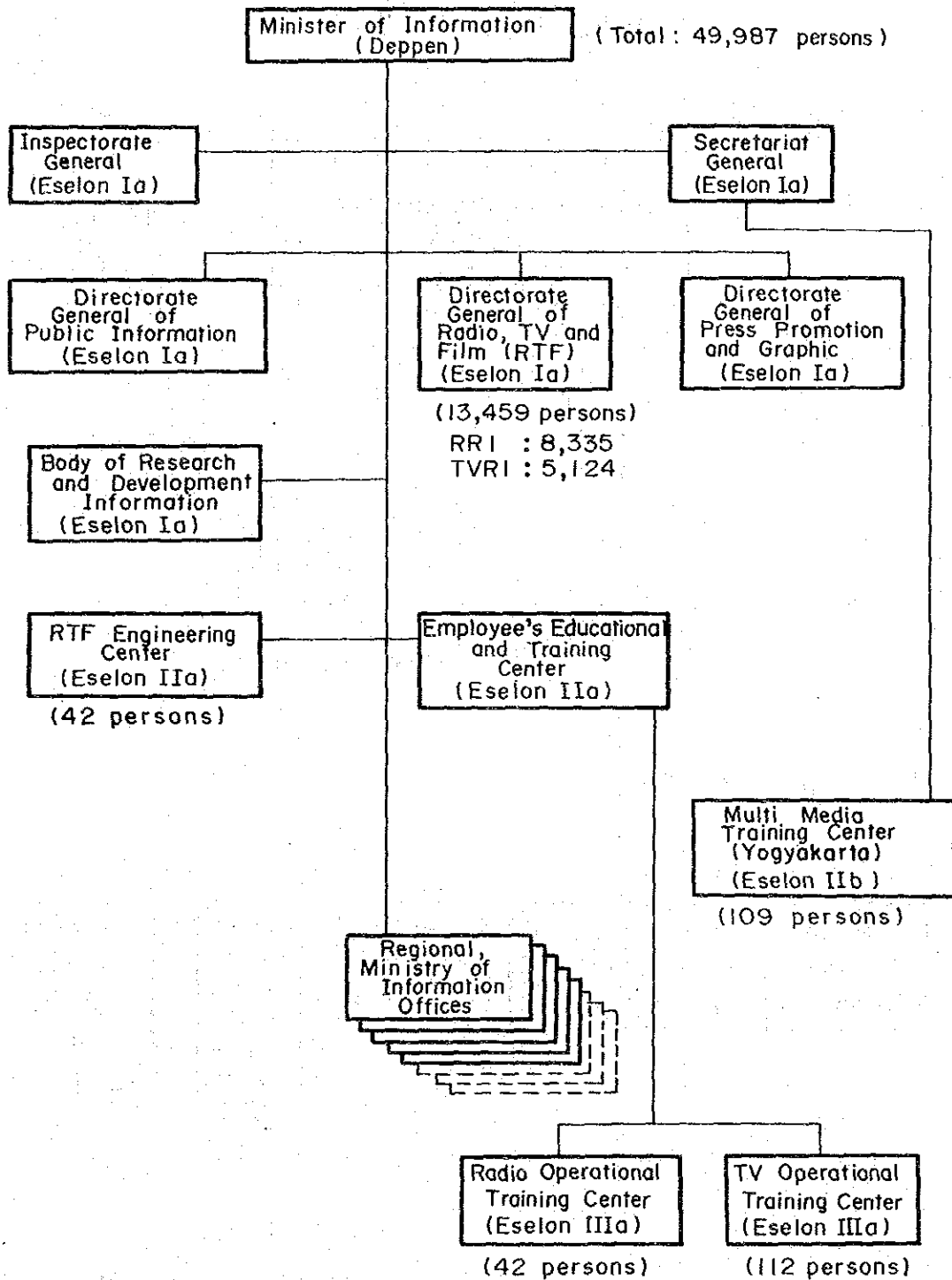


Table 1-3-2 RTF

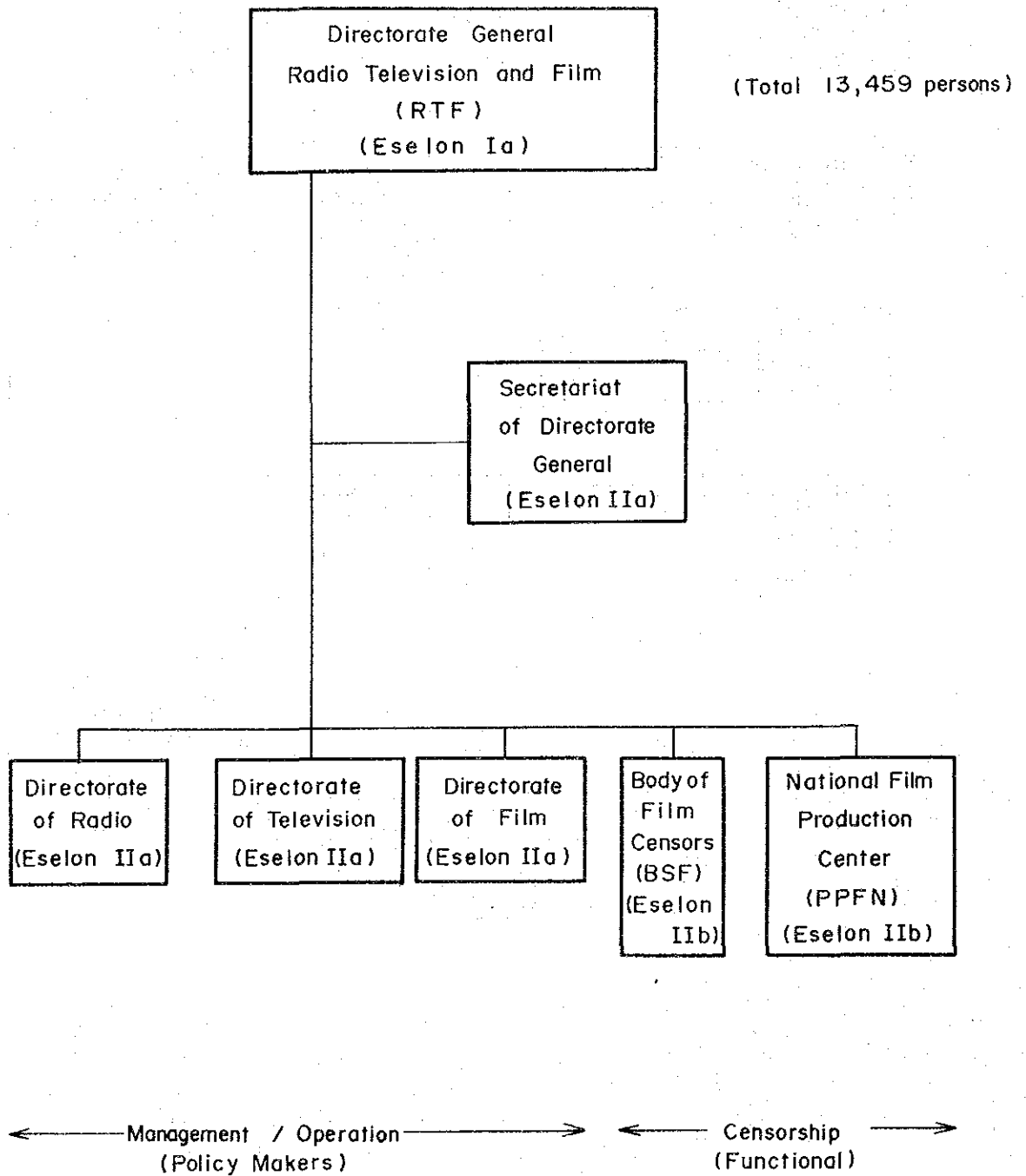


Table 1-3-3 RADIO

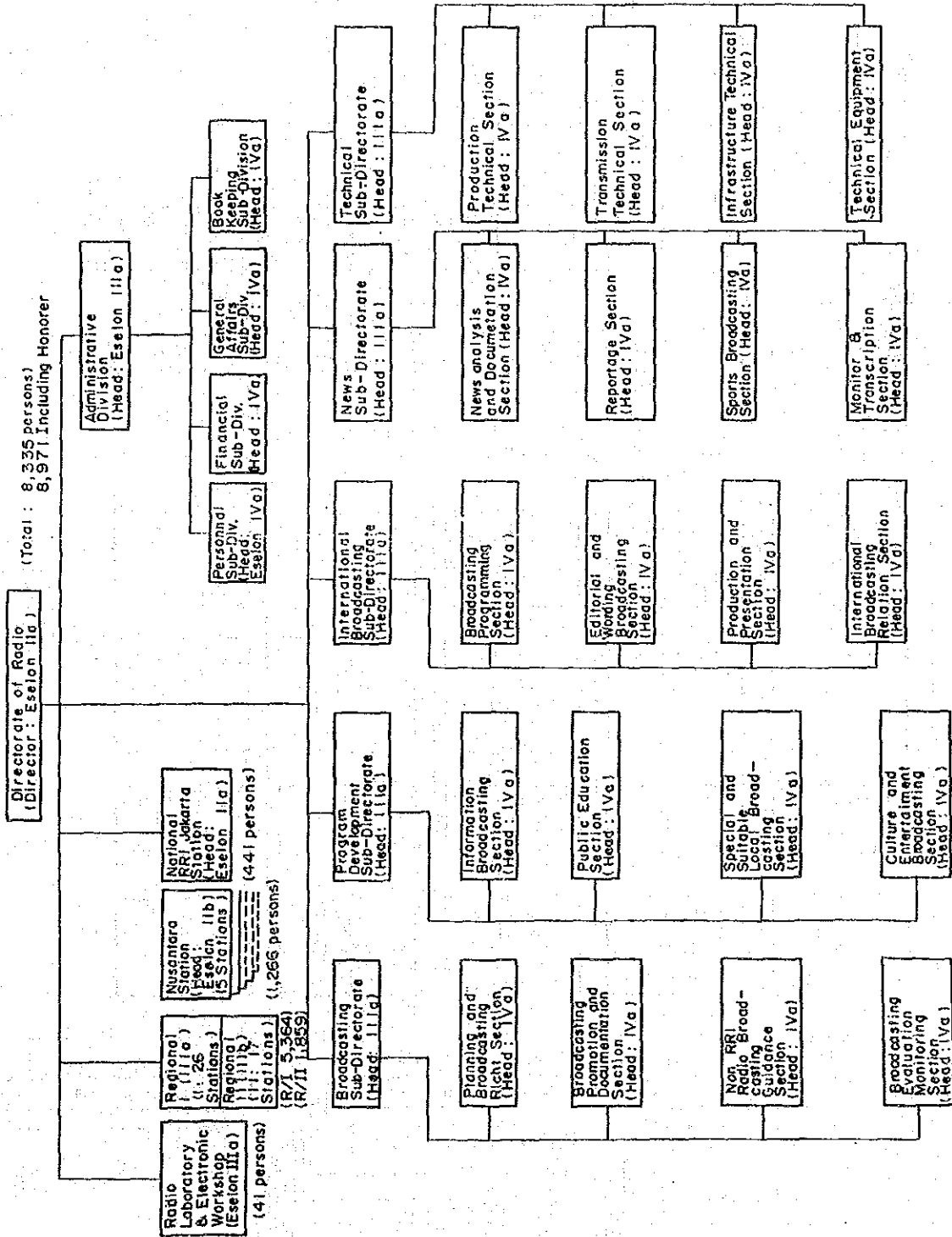
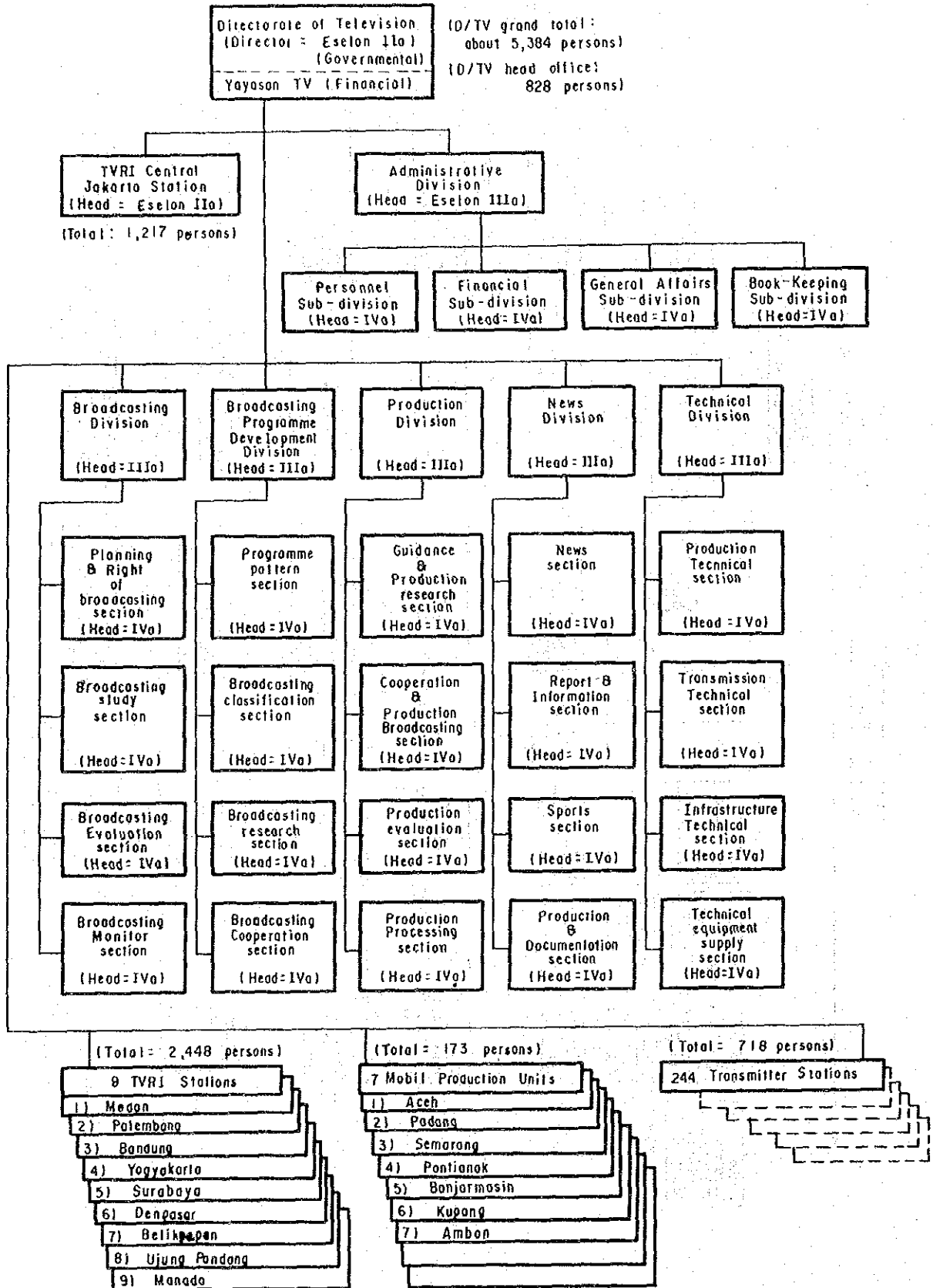


Table 1-3-4 TELEVISION



1-3-3 Organization Function

(1) DEPPEN:

1) Secretariat General (Sek-Jen)

Sek-Jen is in a position to mainly coordinate of the authorities as listed on Table 1-3-1, and to have a direct Garis Komando (Order line) to MMTC.

Part of the National Budget is allocated to the authorities concerned pursuant to respective needs and its affordability and flows from the Minister and/or Sek-Jen to the respective authorities along the Garis Komando except for the support from Yayasan TV to RTF-EC, TVTC and so forth.

2) Directorate General (Dit-Jen) of RTF

(a) Reference is made to the explanation of RTF which is described later on.

(b) Dir-Jen of RTF coordinates activities of RTF-EC by its nature, though no direct Garis Komando is lined between the two, and is deeply related to TVTC and R-TC, though both the TCs are situated under Employee's Educational and Training Center (ETC).

3) Regional, Ministry-of-Information Offices

DEPPEN maintains a network of its own regional/district offices and their respective branch offices in 27 provinces throughout Indonesia contribute to coordinating organizations, bodies, institutions and/or organs related to information and incorporation with local governments distributing public communication including local development as for information and/or, national policies at the respective places/areas where they are located, if necessary.

4) RTF-EC

(a) RTF-EC is inserted in a block as an institution for RTF in the organization of DEPPEN on Table 1-3-1 and organized as shown on Table 4-3-14 of the Supporting Report.

It is reported that Sek-Jen is in a position to function as a coordinator for RTF-EC and the other authorities, bodies, centers and/or institutions. It is natural, however, that RTF-EC should sometimes be guided by Dir-Jen of RTF, though Garis Komando is not lined from Dit-Jen to RTF-EC because its name and nature.

(b) Number of the personnel is 42 persons

5) R-TC and TVTC (Both are called DIKLAT)

(a) R-TC and TVTC are organized under ETC as shown on Table 1-3-1. The organization of TVTC is shown on Table 4-3-16 in the Supporting Report. Both the TCs have more or less the same organization.

(b) Operational Training

Both the TCs conduct an operational training mainly to the employees of RRI and TVRI respectively.

(c) It is said that funds/budgets, even if they are not always a full amount needed, were provided to the institutions through the channel of Garis Komando from the government, but such a flow of the funds has been suspended this year. Now, both the T/Cs are possibly operating with the respective funds from RRI and TVRI.

(d) Investigation on a scope and a status of training had better be made in the relation with that of MMTC.

6) MMTC

(a) MMTC is positioned under Sek-Jen by Garis Komando in the organization of DEPPEN as shown on Table 1-3-1.

This organization is a mixture of the "bureaucratic type" and the "academic type". The former is represented by the director and his deputies, while the latter is reflected by the colleges and the divisions.

(b) The structure is far different by nature, as shown on Table 4-3-17 in the Supporting Report, from those of RTF, RRI, TVRI, their station/branch offices, RTC-EC and the other centers.

(c) It is reported that number of the personnel and the trainees is 109 persons and around 204 persons respectively.

(2) RTF

1) The organization chart is shown on Table 1-3-2.

2) Number of RTF employees: 13,459 persons

3) RTF comprises:

(a) One (1) secretariat

(b) Three (3) directorate of Radio, TV and Film, &

(c) Two (2) censorship institutions, that is,

BSF, a board of film censors & PPFN, a state-owned public corporation.

4) RTF Activities

RTF sustains the national audio, video and cinema publication under its activities, management and operation. The Study is anticipated to focus on radio and television so that mention will be made in detail about the directorate of Radio and TV later on, though it is only explained here that the directorate have their respective broadcasting systems/organs such as RRI and TVRI.

5) Secretariat of Dit-Jen (Sek-Dit-Jen) is composed of the four (4) divisions and their three (3) respective sub-divisions as charted on Table 4-3-5 in the Supporting Report.

Sek-Dit-Jen plays an important role for administration and management of RTF, particularly dealing with budgetary matters for RTF such as:

- (a) DIK, Anggaran Belanja Rutin, National Routine Budget, &
- (b) DIP, APBN Belanja, National Development Budget, &
- (c) BLN, Foreign Aids/Assistance.

6) Dit of Radio/RRI

(a) National Radio Broadcasting

Dit of Radio maintains RRI as a sole national radio broadcasting in the organization charted on Table 1-3-3.

(b) RRI is operated only with a national budgetary fund.

(c) Detail

Reference is made to the Supporting Report.

7) Dit of Television/TVRI

(a) National TV Broadcasting

Dit of TV operates TVRI as a sole national TV broadcasting in the organization tabulated on Table 1-3-4.

(b) Funds for TVRI

Operation cost is borne by the government at about 12% on a budgetary basis (29% on an expenditure basis) and sustained at about 88% with TV license fee which is collected in the name of Yayasan TV through the network of Pos & Giro.

(c) Yayasan TV

Television broadcasting commenced in 1962 with Yayasan TV (a TV foundation) whose staff were incorporated in 1975 as the directorate of TV into the organization of RTF, despite the

fact that Yayasan TV remained as it had existed. As a result, the employees came to work in the dual names, that is, not only as staff of the directorate of TV but also as that of Yayasan TV, for the same job as it had been, in the organization of RTF.

(d) Detail

Reference is made to the Supporting Report.

8) Dit of Film

(a) The directorate of Film and Video seems to differ in its activities and by nature from RRI and TVRI.

(b) The last paragraph of "3.3.7 Organizing in A Concept of the Construction and Development of Electronic Mass Media, Radio, Television, Film and Video (Operational Approach) May 5, 1988 Director General Radio-Television-Film" describes "It is necessary that the organization will be different from that of radio and television".

9) BSF and PPFN

Two different kinds of the functions (management/operation and censorship) are deployed in parallel under RTF.

(a) BSF is in charge of film censors.

(b) PPFN is in charge of national film production, chiefly producing animations and using marionettes, but not limited to, though. PPFN is now a Perum.

Head of PPFN is from Sekretariat Negara (Sek-Neg, National Secretariat) and has two Eselon(s) (a hierarchical position including and/or above the position of a section chief); one is IIIb and the other IIa which is levelled on the same grade as that for Dir-Jen of RTF.

10) DFN and DSN

The two councils function as a council for Film and Broadcasting respectively under RTF, although neither is listed on Table 1-3-2 since their nature is different from the Dit and the censorship institutions.

1-3-4 Main Revenue for RRI and TVRI

(1) DIK and TV License Fee

As far as a routine budget/fund is concerned for the organizations, it is chiefly classified into the two categories as subjected.

1) RRI and its Relevant Working Units

DIK is provided only from the government to them as aforementioned and explicated in the Supporting Report.

2) TVRI and its Relevant Working Units

They are in a position to enjoy receiving their revenue from both the sources, the government as a subsidy (12% approximately on a budgetary basis) and Yayasan TV in the form of TV License Fee (about 88% on a budgetary basis while 70% approximately on an expenditure basis) as elucidated in the Supporting Report.

(Unit: Rp. Billion)

Year	1986/1987	1988/1989	Remarks
Organization			(Nrs of Employees)
RRI	24.5	23.6	8,335 (Other Data: 8,175)
TVRI	48.5	48.9	5,384 (Other Data: 5,124)

Source: RTF Data dan Fakta Pelita III-IV, Pages 57 & 77.

Rough comparison is made in a routine budget as listed above between RRI and TVRI to study the respective sizes and how to balance the budget size and the number of employees or those between RRI and TVRI.

(2) Pos & Giro and TV License Fee

1) TV License Fee Collection System

(a) Report to Pos dan Giro

The system starts at present not as a compulsory but as a volitional action of TV-set sellers and buyers in the form of a report to Pos dan Giro.

(b) Collection

4,122 post offices including mailing houses throughout Indonesia are waiting for the payment of TV license fee to be made by TV-set owners according to the Fee Tariff.

(c) Yayasan TV

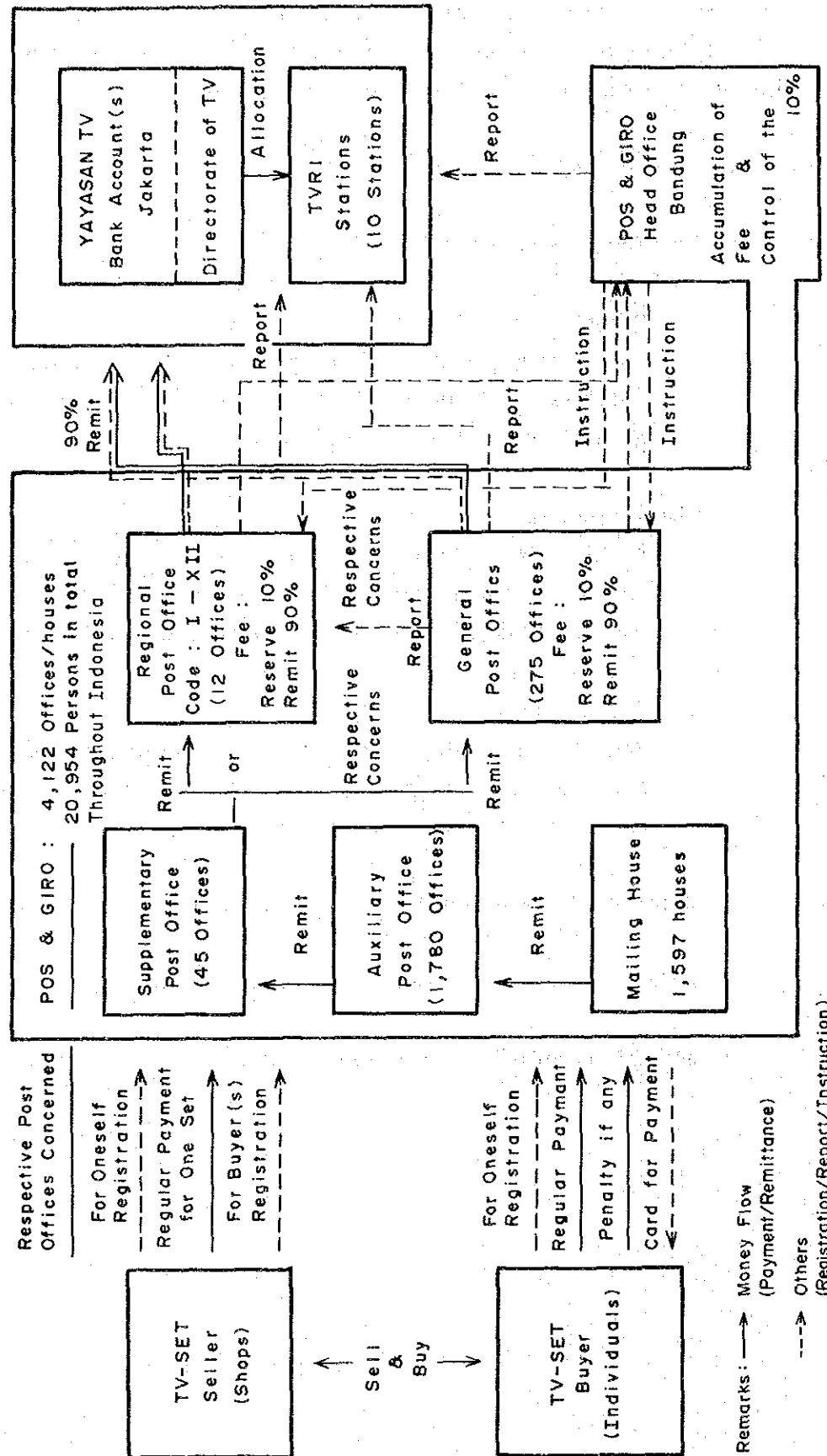
Pos & Giro remits the collected fee to Yayasan TV bank account(s), Jakarta, after reducing 10% of the collected amount as its handling charge.

2) Detailed Explanation and Predicted Amount

Reference is made to the Supporting Report.

3) Flow Chart of TV License Fee

FLOW CHART OF TV LICENSE FEE COLLECTION



Remarks: → Money Flow (Payment/Remittance)
 - - - - - Others (Registration/Report/Instruction)

(3) Pos & Giro and Radio License Fee

1) Radio License Fee in the Form of Tax

Pos & Giro had also contributed to a license fee collection of radio broadcasting on behalf of the directorate of radio/RRI until 1969 when the fee collection was decentralized to local governments which are now collecting the fee in the form of tax. Thus, RRI is situated outside flow of the fee.

2) Some More Reference

Refer to the Supporting Report.

1-4 Reorganization for the Integration of RRI and TVRI

1-4-1 Proposed Alternations made on Indonesia Side

Based on the valuable data supplied from DEPPEN and RTF, major proposals for the subject are two as briefly comprehended below, though a basic concept for the establishment of LPN-RTRI is coincident with each other.

(1) Proposal from DEPPEN

1) This alternative is composed of three Deputies on the top level of LPN-RTRI organization, aiming at the said integration of both RRI and TVRI.

2) Perum

This proposal aims at Perum.

(2) Proposal from RTF

1) Alternatives A or B and AA or BB

In the proposal, combinations of the alternatives are examined for an organization of LPN-RTRI. Each alternative has one Sek. of Dit-Jen and four Deputies on the top level, and one Sek. and four Divisions in the respective Deputies or the operational levels.

2) An Entity of LPN-RTRI

This proposal aims at another type of a state-owned public enterprise for LPN-RTRI other than Perjan, Perum and Persero after comparing the contents of the said three existing public enterprises.

(3) Details of these Proposals

1) Details

The detailed contents are referred to the Short-Term Plan in which those are explicated and illustrated in detail.

2) Target Period

A target period for the establishment of an institution, RTRI in any form, either Perum or another entity is set at the end of Repelita V in both the proposals.

1-4-2 Reorganization for the Integration proposed by JICA Study Term

(1) Discipline and Morale

In access to a reorganization, it is the must to carefully consider constituent personnel of an organization as well as their discipline and morale first because the organization can be well operated only by the personnel having high discipline and morale for the organization.

1) National Discipline

- (a) From a lecture of the Coordinating Minister for Political and Security Affairs reported on the Indonesia Times Volume XV No. 132 of October 7, 1989.

On the title "Boosting of National Discipline-Key of Success of National Development" the bugaboo of corruption and kick-backs were mentioned as erosion of discipline. Further explanation was made as follows.

a) Some issues

- Bureaucracy
- Whether Paternalistic way being the trait of the culture on national discipline

- Others

b) Countermeasures

- A follow-up and implementation of PANCASILA by quoting the GBHN
- Luminaries proving to be effective and efficient
- Improvement of basic pay, effective management system, effective and comprehensive integrated relation and firm repressive action

(b) In the Supporting Report

Reference is also made to the Supporting Report

(c) Very important matters related to the Nation and its Society

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

2) Discipline in Society

Basic Examples

(a) Consideration for other persons and organization

- a) Punctuality in time
- b) Fulfillment of a promise
- c) Others

(b) Consideration for general matters

- a) Caution about fire itself and relating to electricity
- b) Upsurge in sensitivity of cleanliness and practice of neatness
- c) Consideration for arrangement/alignment of things/matters
- d) Others

It is keenly recommended that those discipline and morale should be always drawn attention by the personnel concerned, and be comprized in personnel training courses, since a standard discipline and morale cannot be determined for how low and/or loosely discipline and morale are getting.

(2) Alignment of Office Regulations

Review on the existing office regulations is needed so as to align a regulation for practically executing the said regulations to the full. Particularly, a system of "Sure Penalty and Certain Reward" should be prepared and implemented.

It is recommended in this Study that the existing regulations will be examined in order to standardize and activate them.

(3) Reconsideration of Inducement

It is essential for an authorized superior to envisage what an inducement is for his men/staff to lead them into a volitionally working attitude to their duties and a disciplinary observance to the regulations of their working places.

1) Economic Inducement

Pecuniary benefits such as wage, salary, bonus, remuneration etc., and material benefits such as utilization of welfare facilities etc., are included.

Recommendation is made on the execution of gradual equalization in economic inducement for the employees, especially those of RRI, in light of the integration as far as a national budget permits.

2) Non-economic Inducement

Promotion, raising of status, life employment, life tenure etc., and such typically mental benefits as realization of an ideal, pride and/or appeal of an organization are called the inducement of this kind.

It is noticeable that President Decrees, Ministry Decrees, etc., are deeply related with this category as for the realization of an ideal as stipulated above.

As regards status, speaking of more concretely, that is "Eselon", TVRI is handicapped in number of the personnel for the integration by the fact that the number of structural occupations is fewer than that of RRI.

It is recommended that some adjustment in number of the existing structural occupations and/or personnel should be made to be even as largely as possible between RRI and TVRI for the integration, by means of transferring surplus personnel of Eselon, particularly in RRI, to new positions for audience services without any change of the said Eselon if its alteration is difficult.

(4) Education and Training

Although the subject should be taken up chiefly in the Chapter 8 "Staff Plan", it is briefly described here too since it is deeply related to the reorganization for the said integration of RRI and TVRI.

1) Administration

It is reported that RRI has not always sent any administrative personnel to LAN while TRVI has despatched some personnel.

Training to upgrade administrative capability has been conducted by the respective TCs (Diklat).

2) Others

Reference is made to the Chapter 8.

It is recommended here that education and training had better be furnished to all the personnel by their levels based on a unified-systematic scheme.

(5) Personnel Rotation Plan

Personnel rotation plans are also needed as an element for the reorganization. A limited amount of DIK, particularly that of RRI, makes it difficult and/or sometimes impossible to rotate the personnel, specially on lower levels of the employees and among stations.

It is recommended that personnel rotation plans had better be periodically prepared within a limited budget, even though transfers are compelled to be a few as a result of checking a number of nominees at all the levels and an amount of the budget allocated for the transfer.

In addition, it is advisable that the plans should be considered not only for the existing working units but also to the extent of new units such as MB, and Audience Services and Public Relations Bureau/Division and so forth.

(6) New Recruitment

1) DTK

(a) National Policy

It is a National Policy to give employment to jobless people as may as possible.

Based on the policy, recruitment for public employment is active under the guidance of DTK.

(b) Allocation of Recruits

DTK allocates recruits to all the public organizations except for some employees to be replaced respectively for employees stopping working, passing away or another.

2) DEPPEN and its Organization

(a) DEPPEN

It allocates the recruits from DTK as properly as possible to its relevant organizations such as RRI, TVRI and so on after hearing their views from the respective organs on number of persons and their qualification.

(b) Each Organization

Each organization such as RRI, TVRI etc., should receive some number of recruits in such a way as described above, even though qualification of the recruits is not always suitable nor sufficient for its requirements, and then deploys them to its working units.

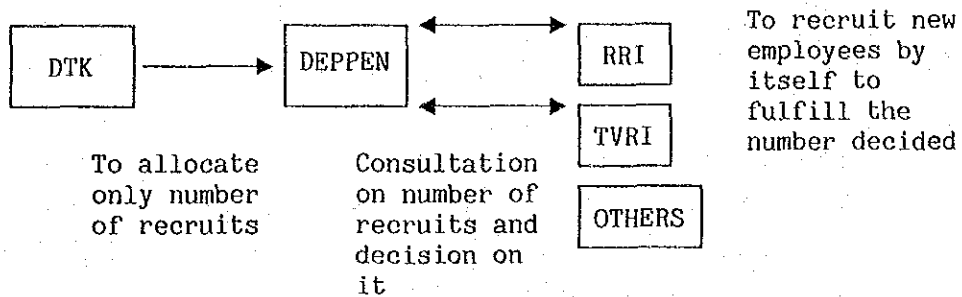
3) Contradiction in Recruitment

(a) Existing Situation

Main Items	National Policy	Requirements of Working Units
1)	Arrangement of employment for jobless people to stabilize people's economic life	Slimming number of personnel by reducing them for rationalization
2)	Candidates in various kinds	Specially qualified recruits to be required
3)	Number of recruits to be decided by DTK	No recruitment to be sometimes needed for streamlining a working unit

(b) Recommendation

A countermeasure is taken up here as a recommendation without any intent to intervene in the domestic affairs of another country, even if it might be refutable.



(7) Establishment of New Jobs

1) MB

Reference is made to the Chapter 6 "Maintenance Plan".

2) Broadcast-Audience Servicing and PR Bureau/Sub/Division

- (a) Job related to public relations (PR)
- (b) Job related to broadcast-receiving technology
- (c) Job related to a license fee collection

Details are referred to the Chapter 7 "Measures Concerning Broadcast-Audience Servicing".

3) Others

- (a) Studios and transmitting stations

The operation of the studios and transmitting stations to be expanded and/or newly set up is comprised in new jobs.

(b) Programme

Job of programme enrichment at local stations including Jakarta is also taken up as a new one.

The respective Chapters are referred to.

(8) Streamlining of the Existing Personnel

Towards a slimmed organization for the integration of RRI and TVRI, a comparison and an analysis are made by profession, Age, Academic Carrier, Golongan and Eselon as clarified below by graphic, diagram and the like.

Recommendations, then, are made based on the comparison and the analysis in the name of "Viewpoints" as a piece of practical ideas for the integration, reading as follows.

1) Profession

(a) Number of Personnel by Profession

a) Directorate of Radio/RRI

1 Administration	2,323 Persons
2 News/Information	1,255 Persons
3 Broadcasting	2,615 Persons
<u>4 Technic</u>	<u>2,142 Persons</u>
Total	8,335 Persons

Source: RTF Data dan Fakta Pelita III-IV, Page 54.

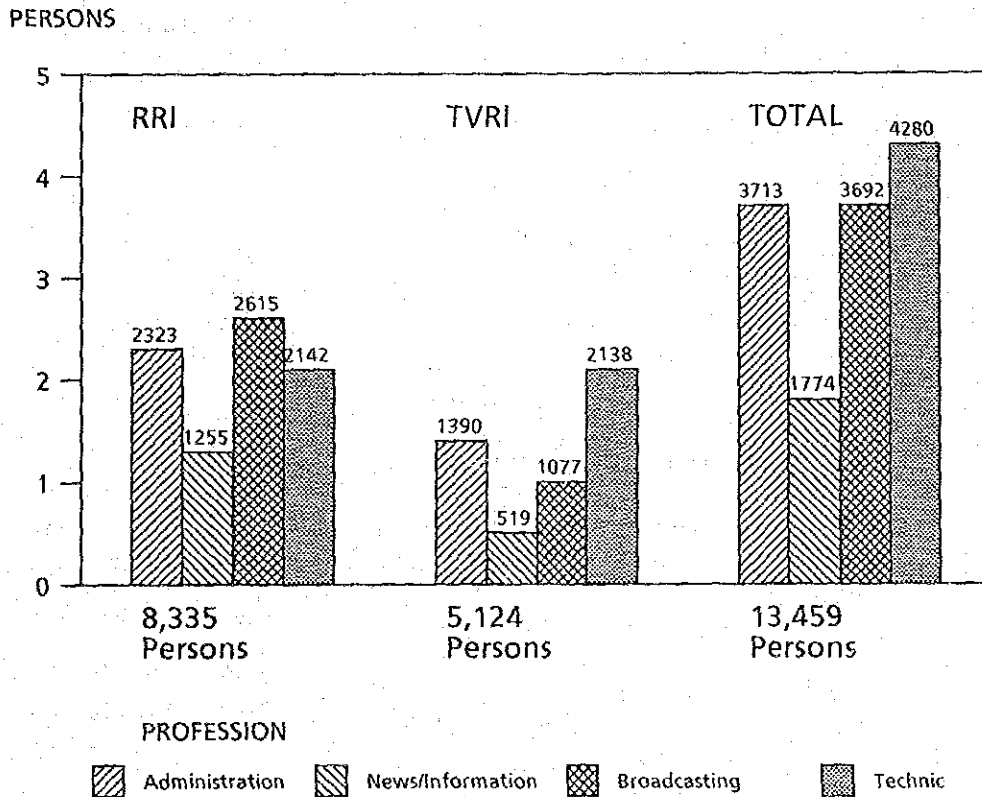
b) Directorate of Television/TVRI	
1 Administration	1,390 Persons
2 News/Information	519 Persons
3 Broadcasting	1,077 Persons
4 <u>Technic</u>	<u>2,138 Persons</u>
Total	5,124 Persons

Source: Annual Report 1987-1988, Directorate of Television

Grand Total (RRI & TVRI) 13,459 Persons

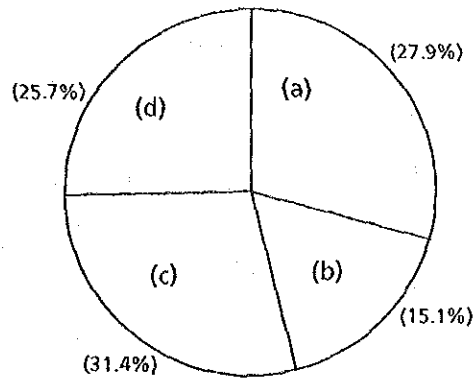
(b) Analysis

a) Graphic



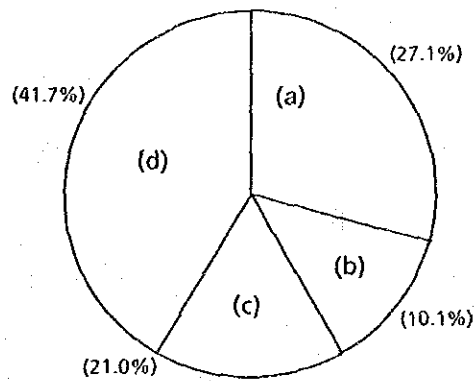
b) Diagram

• RRI



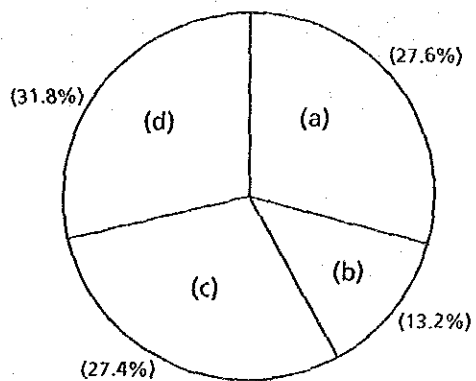
- (a) Administration
- (b) News/Information
- (c) Broadcasting
- (d) Technic

• TVRI



- (a) Administration
- (b) News/Information
- (c) Broadcasting
- (d) Technic

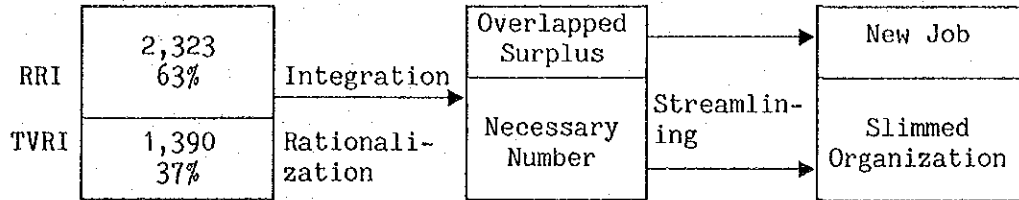
• TOTAL (RRI/TVRI)



- (a) 3,713 Persons
- (b) 1,774 Persons
- (c) 3,692 Persons
- (d) 4,280 Persons
- Total 13,459 Persons

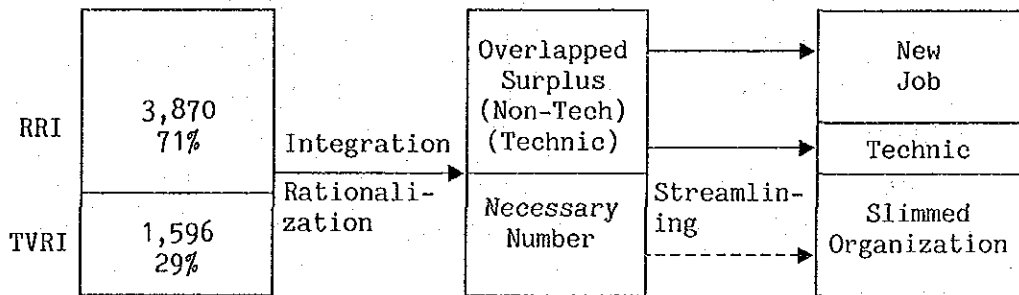
c) Viewpoints on Graphic/Diagram for the Integration of RRI and TVRI

- Streamlining of Administration Personnel

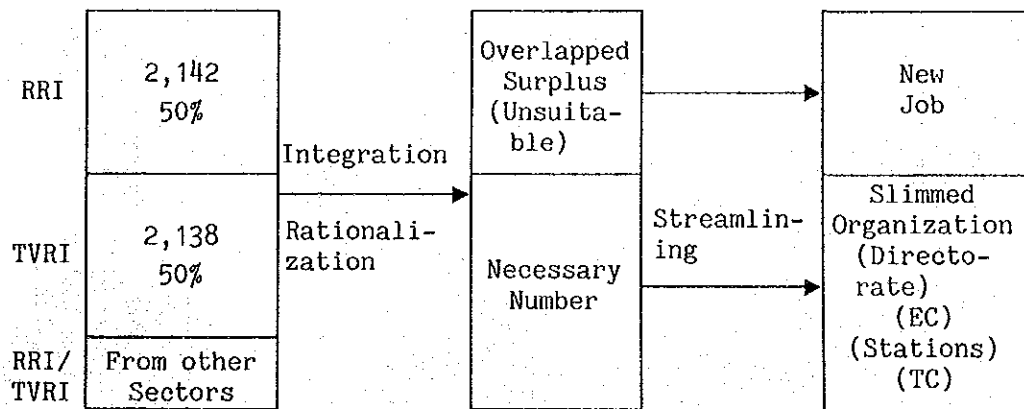


- Practically Effective/Efficient Usage of Personnel/Staff in the other Respective Sectors

- News/Information and Broadcasting



- Technic



2) Age

(a) Annual Report 1988-1989

a) Radio

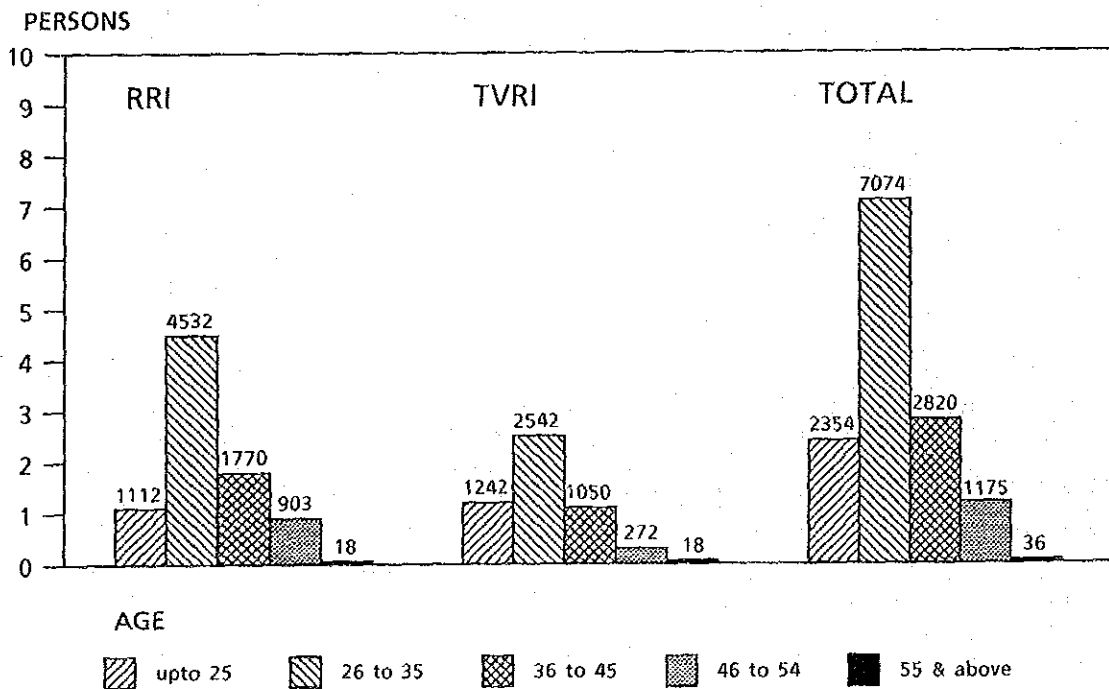
a. Upto 25	1,112 Persons
b. 26 to 35	4,532 Persons
c. 36 to 45	1,770 Persons
d. 46 to 54	903 Persons
e. 55 & above	18 Persons
Total	8,335 Persons

b) Television

a. Upto 25	1,242 Persons
b. 26 to 35	2,542 Persons
c. 36 to 45	1,050 Persons
d. 46 to 54	272 Persons
e. 55 & above	18 Persons
Total	5,124 Persons

(b) Analysis

a) Graphic with Figures/Percentage by Age



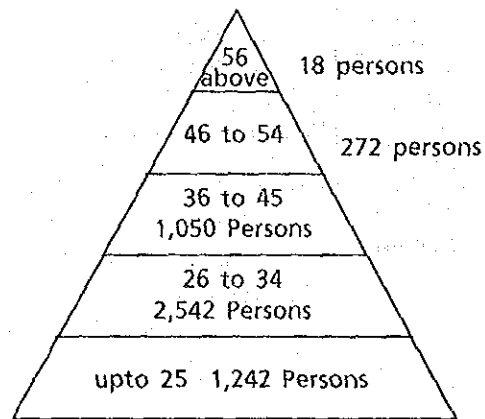
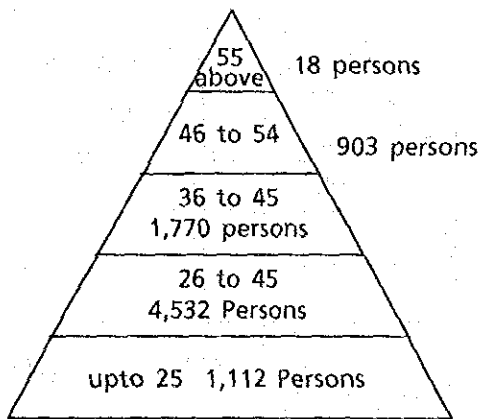
Age	upto 25	26 35	36 45	46 54	55 Above	upto 25	26 35	36 45	46 54	56 Above	upto 25	26 35	36 45	46 54	56 Above
Percent & Number (Total & %)	89% 7,414 (8,335 & 62%)					94% 4,834 (5,124 & 38%)					91% 12,248 (13,459)				
	11% 921					6% 290					9% 1,211				

Source: Annual Report 1988-1989 of Radio Directorate
Annual Report 1988-1989 of TV Directorate

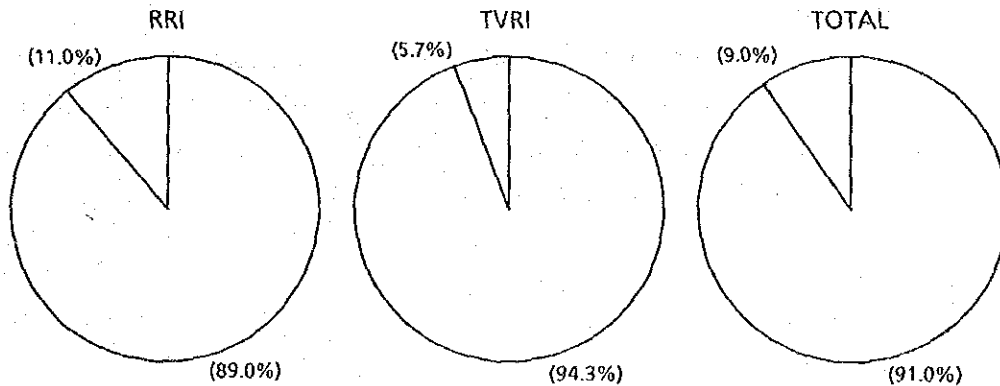
b) Pyramid

RRI = 8,335 Persons

TVRI = 5,124 Persons



c) Diagram



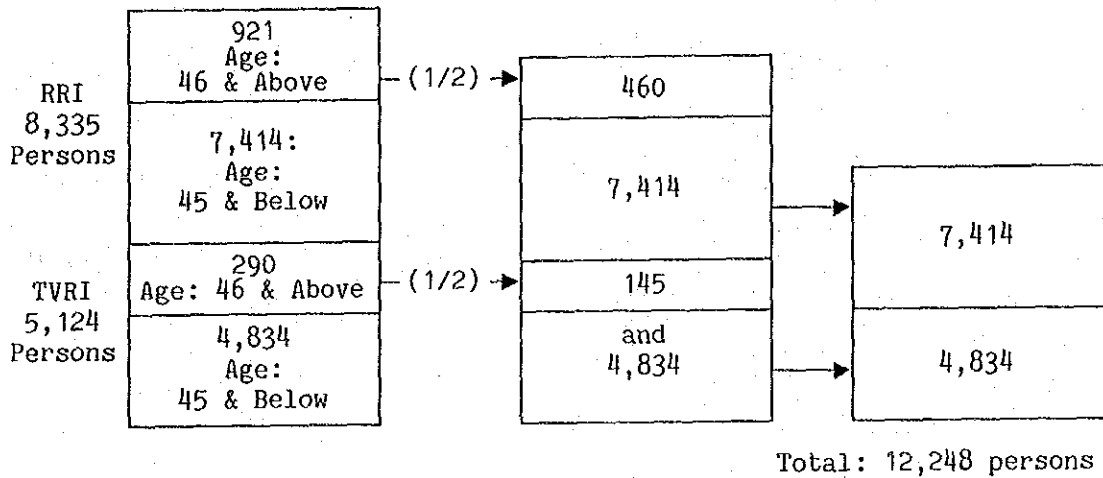
(Unit: Persons)

Age	Below 25-45	46-54/55 Above	Total
RRI	7,414	921	8,335
TVRI	4,834	290	5,124
Total	12,248	1,211	13,459

(c) Viewpoints on Graphic/Pyramid/Diagram for the Integration of RRI and TVRI

a) Streamlining by rationalization towards the integration

Provided that no recruitment of personnel shall be made for five years ahead as reported at RRI and TVRI and even for ten years so, the number will read as follows:



b) Combined streamlining way with another one

It is recommended that a rationalization for the two organs by profession had better be taken up as a referential idea in combination with the above mentioned way for streamlining them towards the integration.

3) Formal Education

(a) Annual Report 1987-1988

a) Directorate of Radio/RRI

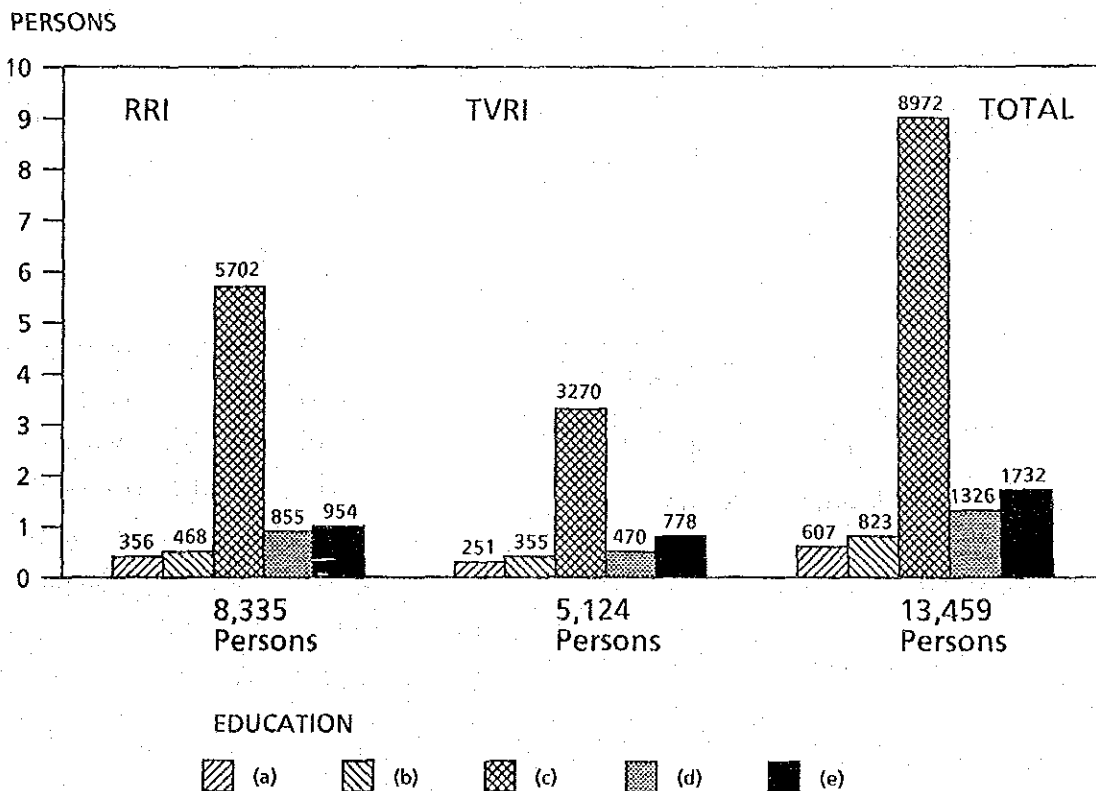
(a) University Graduate	356 Persons (Including 2 of S2)
(b) Bachelor of Arts	468 Persons (Including Bachelor of Education Academy)
(c) Senior High School	5,702 Persons
(d) Junior High School	855 Persons
(e) Primary School	954 Persons
<u>Total</u>	<u>8,335 Persons</u>

b) Directorate of Television/TVRI

(a) University Graduate	251 Persons
(b) Bachelor of Arts	355 Persons
(c) Senior High School	3,270 Persons
(d) Junior High School	470 Persons
(e) Primary School	778 Persons
<u>Total</u>	<u>5,124 Persons</u>

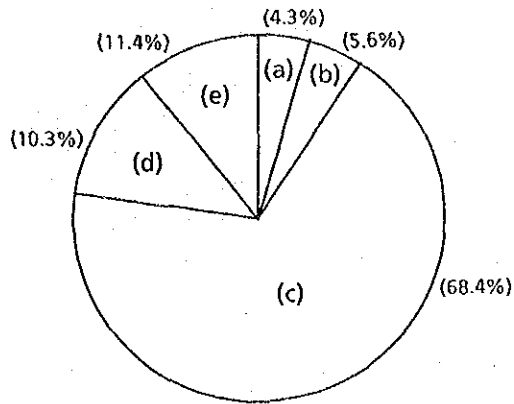
(b) Analysis

a) Graphic



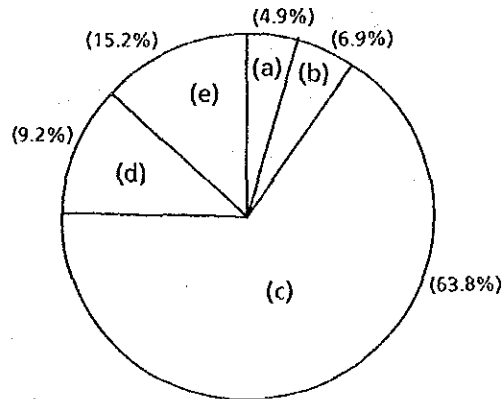
b) Diagram

• RRI



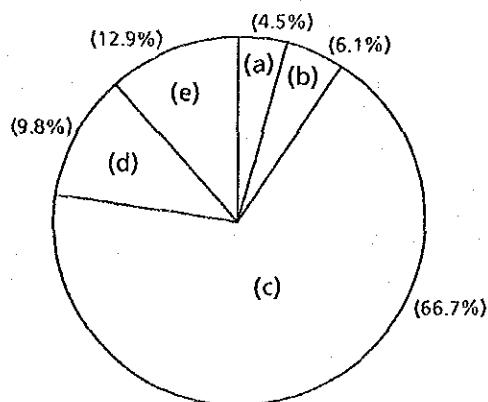
- (a) University Graduate
- (b) Bachelor of Arts
- (c) Senior High School
- (d) Junior High School
- (e) Primary School

• TVRI



- (a) University Graduate
- (b) Bachelor of Arts
- (c) Senior High School
- (d) Junior High School
- (e) Primary School

• Total of RRI/TVRI



- (a) 607 Persons
 - (b) 823 Persons
 - (c) 8,972 Persons
 - (d) 1,325 Persons
 - (e) 1,732 Persons
- Total 13,459 Persons
100%

**COMPARISON IN NUMBER OF PERSONNEL BETWEEN RRI & TVRI
AND THEIR TOTAL BY FORMAL EDUCATION**

(Unit : Person)

education	RRI	TVRI	Total
University graduate	356	251	607
Bachelor of arts	468	355	823
Senior high school	5702	3270	8972
Junior high school	855	470	1326
Primary school	954	778	1732
Total	8,335	5,124	13,459

(c) Viewpoints of Graphic/Diagram for the Integration of RRI and TVRI

a) Equilibrium in Percentage

Balance in percentage among education categories is very similar to each other between RRI and TVRI.

b) Issue for the Integration

Slightly over 10% of all the personnel indicates number of bachelors and university graduates who should have been required more for broadcasting by nature.

This is because education and training are taken seriously particularly for a majority of the remaining personnel showing about 90% in number.

So many personnel have received educational and training course as mentioned on page 55 for RRI and Page 79-80 for TVRI in the report of "RTF Data dan Fakta PELITA III-IV, 1988", which however does not describe correlation by figure between the formal education and the education and training.

It is therefore very difficult to appreciate respective personnel only based on Formal Education whose graphic/diagram should be used as an important reference to them.

4) Golongan

(a) Annual Report 1988-1989

a) Radio

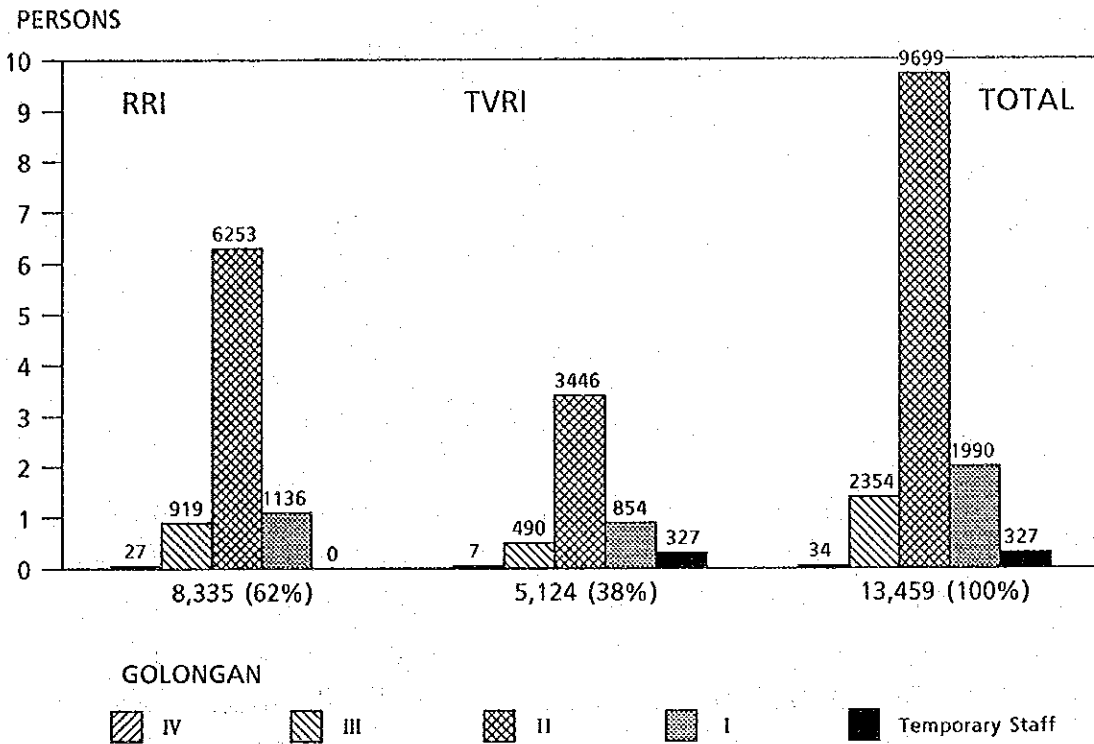
a. Golongan IV	27 Persons
b. Golongan III	919 Persons
c. Golongan II	6,253 Persons
d. <u>Golongan I</u>	<u>1,136 Persons</u>
Total	8,335 Persons

b) Television

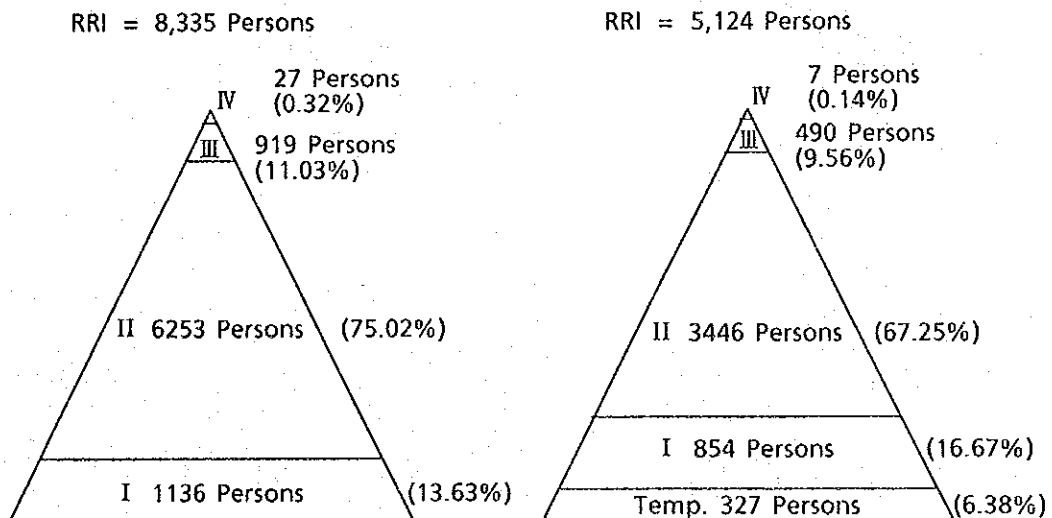
a. Golongan IV	7 Persons
b. Golongan III	490 Persons
c. Golongan II	3,446 Persons
d. Golongan I	854 Persons
e. <u>Temporary Employees</u>	<u>327 Persons</u>
Total	5,124 Persons

(b) Analysis

a) Graphic

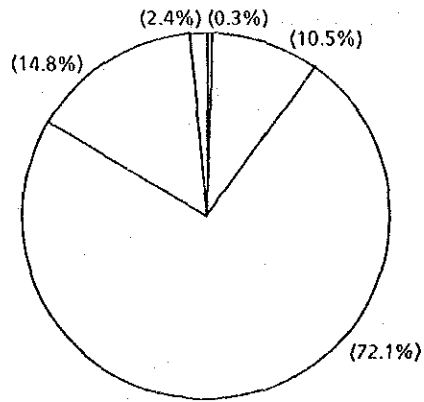


b) Pyramid



c) Diagram

TOTAL PERSONNEL OF RRI & TVRI
BY GOLONGAN



Golongan IV	34 Persons (0.3%)
Golongan III	1,409 Persons (10.5%)
Golongan II	9,669 Persons (72.1%)
Golongan I	1,990 Persons (14.8%)
<u>Temporary Staff</u>	<u>327 Persons (2.4%)</u>
Total	13,459 Persons (100%)

(c) Viewpoints on Graphic/Pyramid Diagram for the Integration of RRI and TVRI

a. Alignment in Number by Golongan between RRI and TVRI.

Integration requires equality in principle. In this sense, as a whole, effort should be paid to reduce number of RRI staff as much as possible by merging positions specially for Golongan IV officials first, then Golongan III personnel and so forth towards equilibrium in number of staff between RRI and TVRI.

b. New positions to be prepared for surplus personnel

- Unit related to public relations (PR)
- Unit related to broadcasting technology
- Unit related to TV license fee collection

Recommendation can be made on transfer of surplus personnel to the above mentioned new units, particularly for TV license fee collection on a partly self-supporting bases irrespectively of their original organizations, that is, even though they are from RRI and work for TVRI in light of the integration.

5) Eselon

(a) Number of Structural-Occupation Personnel in Directorate of Radio and its 49 Stations

(Unit: Person)

No.	STATION	ESELON	II		III		IV		V		(TOTAL)
		RUANG	a	b	a	b	a	b	a	b	
1	Directorate of Radio		1	-	7	-	28	-	12	-	48
2	National JKT Station		1	-	6	-	13	-	38	-	58
3	5 Nusantara Stations		-	5	-	25	-	80	-	235	345
4	26 Regional I Stations		-	-	26	-	104	-	390	-	520
5	17 Regional II Stations		-	-	-	17	-	68	-	204	289
	Dit. & 49 Stations (Total)		2	5	39	42	145	148	440	439	1,260

Source: Data obtained from Dit. Radio on October 23, 1989

(b) Number of Structural-Occupation Personnel in Directorate of TV, 10 Stations, 7 MPUs & 244 TXs

(Unit: Person)

No.	STATION	ESELON	II		III		IV		V		(TOTAL)
		RUANG	a	b	a	b	a	b	a	b	
1	Directorate of TV		1	-	6	-	25	-	4	-	36
2	Central JKT Station		1	-	6	-	29	-	131	-	167
3	10 Stations		-	-	-	9	-	54	-	357	420
4	7 MPUs		-	-	-	-	-	7	-	21	28
5	244 TXs		-	-	-	-	-	18	-	199	217
	(Total)		2	-	12	9	54	79	135	577	868

Source: Data obtained from Dit. TV on October 21, 1989

(c) Between RRI and TVRI and Their Total by ESELON & its RUANG

(Unit : Person)

ESELON	RURANG	RRI	TVRI
II	a		2
	b	5	0
III	a	39	12
	b	42	9
IV	a	145	54
	b	148	79
V	a	440	135
	b	439	577
TOTAL		1,260 (59%)	868 (41%)

(Unit : Person)

TOTAL	
	4
	5
	51
	51
	199
	227
	575
1016	
2,128 (100%)	

Source : Data 2 Obtained from Dit. Radio on October 23, 1989 and Dit. TV on October 21, 1989 respectively.

(d) Viewpoints on Graphic for the Integration of RRI and TVRI

a) Difference in number of posts between RRI and TVRI

Recommendation is made on an adjustment in number of the RRI posts for the structural-occupation officers in order to make the number by level as even as possible for the integration on equal terms by transferring surplus personnel to new jobs as they keep their present Eselon(s) or will be given another title of the levels enough to keep their pride/dignity as a man irrespectively of the contents of their new jobs.

b) Main Post and Expert Post

In the organization, it is also advisable that expert posts should be considered for the personnel having the same Eselon so as to divide one post into two; the main post as it has existed and an expert post which is situated outside Garis Kommando (an order line) but related inside the organization by Garis Pembinaan (Fostering/Nurture line).

The idea is originated from the thought that the ability of the experimental personnel, even if they are put aside on Garis Kommando, can be utilized as much as possible, without spoil of their pride/dignity.

(9) Sources and Flow of Money (Budget/Fund)

1) Money, a Decisive Factor to Organization

Reference is made to the Supporting Report, specially relating to Inducement by organization for an employee and contribution by employee to organization.

2) Recommendation

The said integration of RRI and TVRI will presumably be required as an effective countermeasure for an alignment of money flow in light of the existence of Yayasan TV. It is recommended to align sources and flow of money and to make treatment conditions of all the broadcasting personnel concerned unitary even if the equalization takes time by step.

(10) Garis Kommando (an order line) an Garis Pembinaan (Fostering/Nurture Line)

1) Issue

EC, R-TC and TV-TC are not situated under RTF on Garis Kommando as shown on Table 1-3-1, despite the fact that they maintain Garis Pembinaan closely with RTF, particularly RRI and TVRI from an operational viewpoint.

2) Recommendation

It is confirmed this time in the study that the officials concerned of RTF stand for shifting those organizations to the positions under RTF so as to make an alignment of those Garis-garis in anticipation for an effective operation. Thus, the shifting should be recommendable.

Remarks

Number of Personnel:

It is apt to occur not often but sometimes that the number of personnel in datum is not always coincident with the figure(s) obtained from the other data notwithstanding those of the same category and/or a working unit. A discrepancy is deemed to come out by reason of;

- (a) Different-dated materials
- (b) Transference of personnel
- (c) Honorer (a temporary employee) whether to be included or not
- (d) Personnel tentatively dispatched from one working unit to another if calculated in or not
- (e) Other Unforeseeable facts

Although a right number will be as applicable as possible to the study, eventually a figure shall be assumed on the basis of the data collected, unless otherwise the numbers concerned are equal.

1-5 Basic Concept for the Integration in Long-Term Plan

1-5-1 Fatality of Executive Functions to Organizations

- (1) In principle, an organic body is composed chiefly of Man, Money, Material; so called 3Ms.
- (2) In general, executives have the right to effectively organize and efficiently utilize the 3Ms at their discretion for keeping the organic body sound and prosperous.

As explained about the fundamentals of organization in 1-1 "Basic Theory for Plan" in this Chapter, it is one of the fundamental executive functions to imprint on the constituent's mind a firm faith of the common purpose virtually existing.

- (3) Recommendation

Thus, it is natural that reshuffle/reorganization starting from the origin, namely, at the top executive level should coincide with the purpose.

1-5-2 Money, a Decisive Factor To Organizations

- (1) Money in this case reflects mainly salary, benefit, etc., in any other way in treatment for employees. Economic inducement is the very key to deciding a situation of organizations.
- (2) Administration working units in any form such as division, section, department and so forth, specially personnel and financial units are deeply related to economic inducement and its allocation to the employees.

- (3) Recommendation

1) In this sense, the administration working units of the relevant organizations had better be unified at an earlier stage by gradually integrating process, with a target of the consolidation of RRI and TVRI broadcasting organizations.

2) In anticipation of a smooth unification, it is recommended that the working units remain at work for a certain period under the same umbrella as they have functioned, improvement on the allocation of economic inducement is made step by step for the employees who have been handicapped in benefit, taking into account adjustment to and also improvement on the economic inducement of the other employees who have had no discrimination in treatment, and then the units should be merged into one unified organization.

3) The improvement in treatment is sure to require an additional fund, for which some action should be taken. For example, some surplus personnel generated by amalgamation are transferred to another working unit, particularly to a licence fee collection unit aiming at increment of the fee to be collected.

1-5-3 Material; Equipment/Facilities

(1) Material is regarded as equipment and facilities including buildings and sites for them. It is very difficult and in some cases practically impossible to move equipment/facilities from a place to another and to put buildings and their sites together.

(2) Recommendation

Integration had better commence with a new working unit like MB and/or comparatively-software working units such as News Production, Programme Production and so forth, in parallel with or later than the consolidation of administration working units. Of course, technically possible moving of the equipment/facilities is carried out, taking into account activities of the organizations concerned.

1-5-4 Law and Regulation Arrangement

(1) Lawful procedures are required for social activities of an organic body in a law-governed country. As aforementioned, thus a legislative arrangement is essentially required.

(2) Recommendation

In the Long-Term Plan, it is recommended that a law and regulation arrangement, inherently for the integration, including office regulations will be taken up first in parallel with reshuffle/reformation of the organizations at the top-class and/or the executive level.

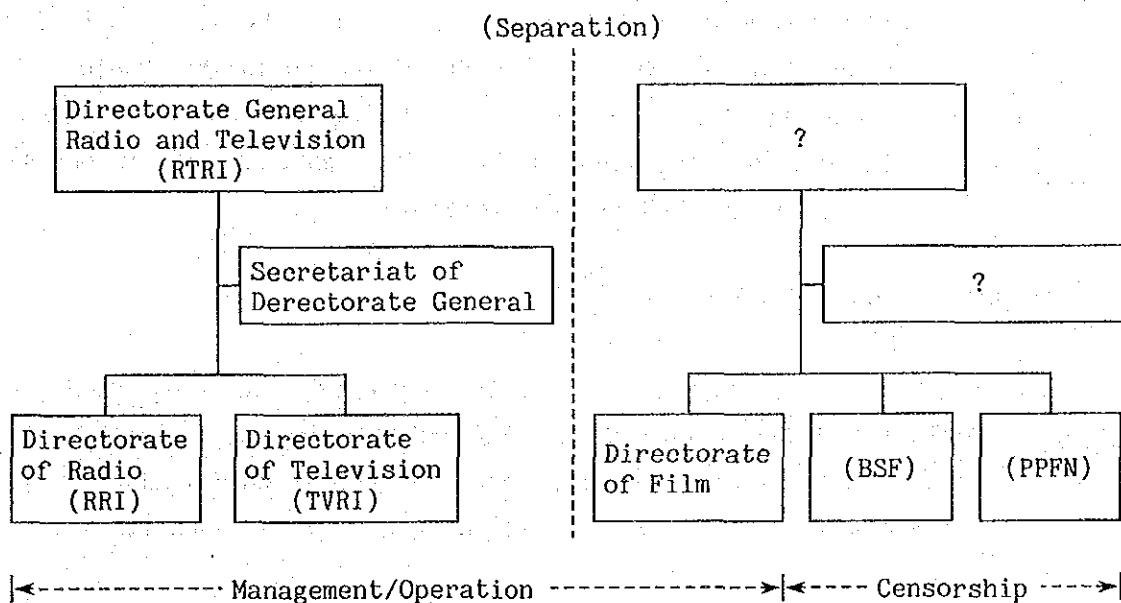
1-6 Long-Term Plan

1-6-1 Integration

(1) First Stage (1993-1994) for Reshuffle at the Top Level

1) Organization Structure

Reference is made to Table 1-3-2 (First Stage).



2) Reasons of the Separation

- (a) Only the two directorate are directly connected with national broadcasting organs; RRI and TVRI as studied before, and the target rests on the entire integration of both the national broadcasting organizations.
- (b) Reference is made to the last paragraph of "3.3.7 Organizing, A Concept of the Construction and Development of Electronic Mass Media, Radio, Television, Film and Video (Operational Approach) May 5, 1988 Director General Radio-Television-Film" in which the following sentence was described.

--- it is necessary that the organization will be different from that of radio and television.

Therefore, the two directorate are separated from that of Film.

- (c) The undermentioned sentence is quoted from the Minutes of Meeting for the discussion on Rule of Law Arrangement which was held on October 15, 1988 by the Secretary Team for Transition & Preparation of Form/Status of RRI/TVRI Institutions.

--- (the prior sentences are omitted) ---, the statement of information minister No. 230A year 1984 or the President Decree determined the status to be or like an institution of general Electronic Communication Media on Radio and Television with the name of Radio Television National Broadcasting Institutions of the Republic of Indonesia which could be abbreviated to RTRI.

3) Formulation of an Enterprise (LPN-RTRI)

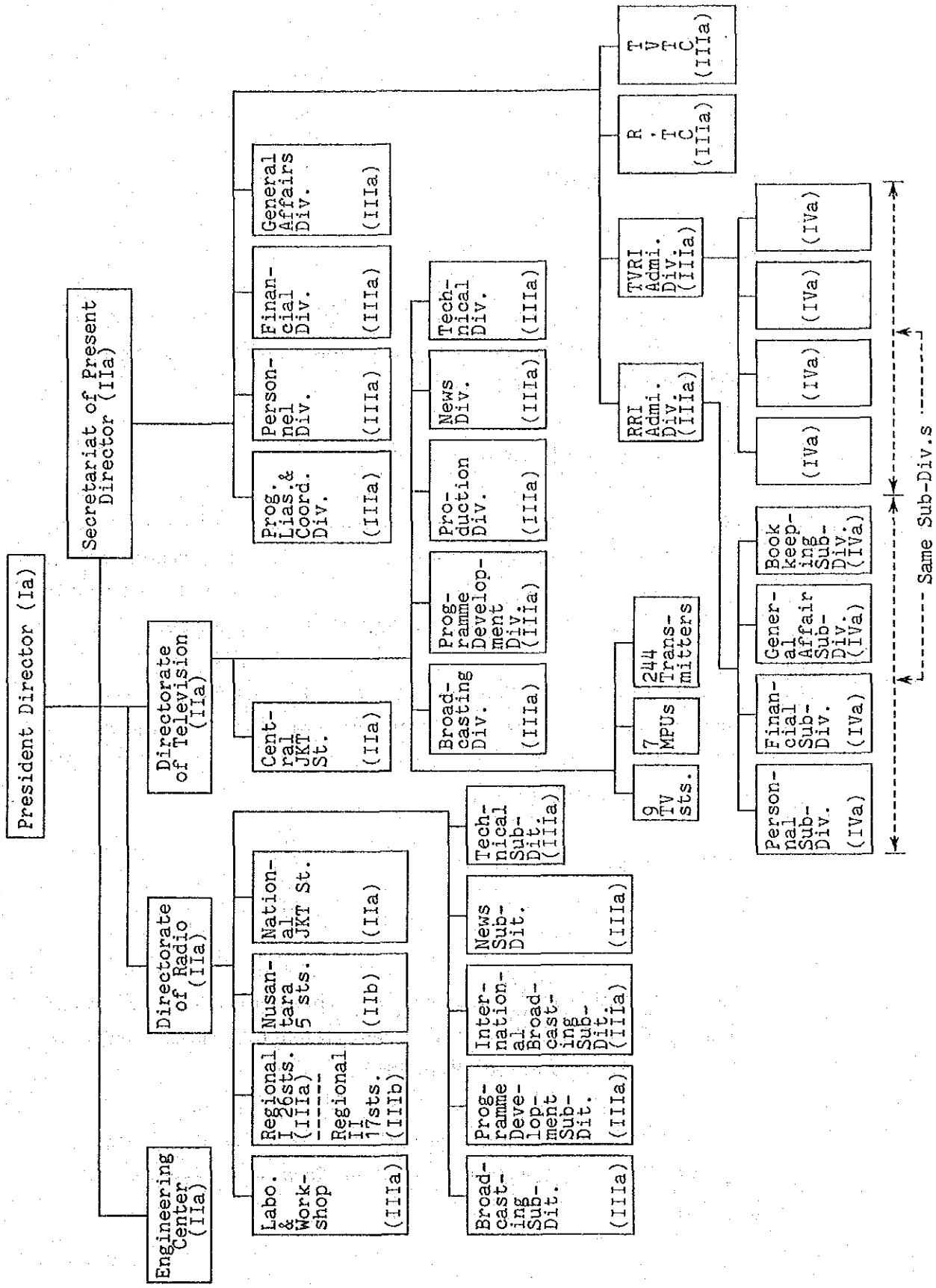
- (a) By the first Stage, it should perfectly be completed to formulate LPN-RTRI on documents and to get approval of its establishment from all the Authorities concerned subject to its commencement as an enterprise at the beginning of Repelita VI.

- (b) Separation of Dit. of Radio and TV from the others under RTF
One year time is spared for reshuffle/reorganization at Dit. Jen and/or Directorate level(s) in RTF to separate the national broadcasting organs; RRI and TVRI from the others, though LPN-RTRI could legitimately be approved to be ready for commencing at the beginning of Repelita VI.

- (2) Second Stage (1994-1995) for Commencement of LPN-RTRI and Consolidated Work of Administration

1) Organization Structure

Reference is made to Tables 1-3-3, 1-3-4, and Tables 4-3-5, 4-3-14, 4-3-15 and 4-3-16 in the Supporting Report.



2) Reasons of Unification in Administration

Money and Man (Personnel) are chiefly handled by administrative working units as stipulated in 1-5-2 and 3 of the Chapter.

3) Commencement of LPN-RTRI

(a) Operation

LPN-RTRI legally and practically starts even though a majority of its working units can not help operating/functioning in an integrated organization of LPN-RTRI as they have done.

(b) Consolidated Work of Administration

a) Sek. for President Director commands the administration of Radio and TV under its umbrella aiming at its consolidation, even though the two units are compelled to work separately for a certain period within a year to avoid disorder.

b) Treatment/benefit (Inducement) for the employees from RRI should substantially be adjusted on its level for those from TVRI because their contribution to the organization is regarded as being equivalent.

(c) Positions of EC, R-TC and TVTC

a) Garis Kommando (an order line)

Once LPN-RTRI is established, the three institutions should legally be shifted from the organization of DEPPEN (Refer to Table 1-3-1) to that of LPN-RTRI.

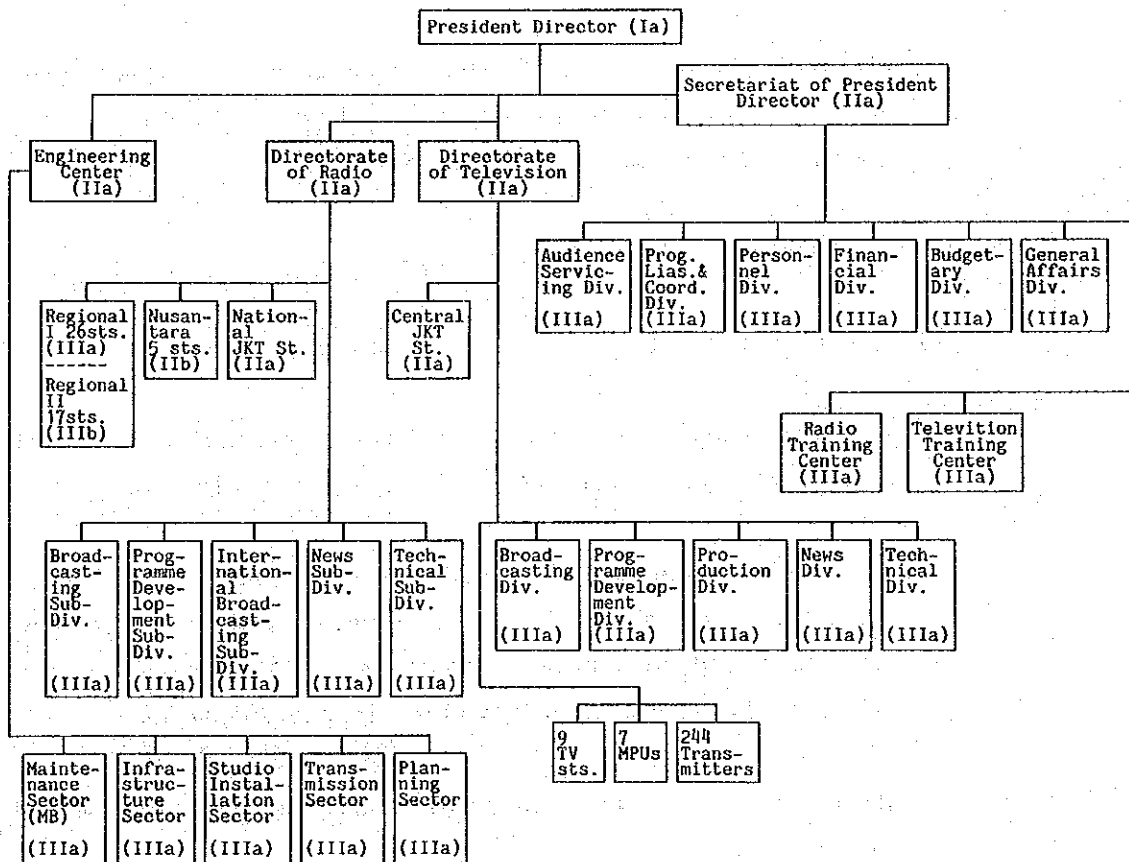
EC is positioned directly under President Director, while R-TC AND TVTC are organized in Sek. of President Director.

b) Practical Amalgamation

The three organs are operated for a certain period of about a year as they have been done, even in the one major organization, as least until the completion of consolidation of the aforementioned administrative units.

(3) Third Stage (1995-1996) for Amalgamation of All Administrative Units, Actual Start of MB and Implementation of Audience Service/PR Organs

1) Organization Structure



2) Reasons of Gradual Merging

(a) Limited Fund/Budget

It is practically impossible to improve the treatment of Radio personnel upto the same level of that of TV personnel at one time within a limited fund/budget consisting of TV licence fee and a governmental subsidy.

This is because merging of the organizations should be conducted step by step and the working units of radio actually consolidated could enjoy a gradual increase of their personnel's treatment in exchange for the rationalization of some personnel.

(b) Avoidance of Disorder

Hasty implementation of the integration is liable to create disorder in the organization so that a certain time-lag is required for a smooth integration.

3) Process of Actual Integration

(a) Embodiment of All Administrative Units

All administrative working units are reorganized to embody in one unitary organ under Sek. for President Director.

(b) EC having operated in LPN-RTRI as before is practically structured afresh in LPN-RTRI with a view to comprising Radio engineers and to virtually establishing MB within the activities of EC in LPN-RTRI, as schematized in the Chapter 6.

(c) Radio Laboratory and Electronic Workshop are also merged in EC at this stage.

(d) Implementation of Audience Servicing Division

Preparation for establishing such a division as Audience Servicing Division should be made far before whenever superfluous personnel generate but are forced to remain as they have been.

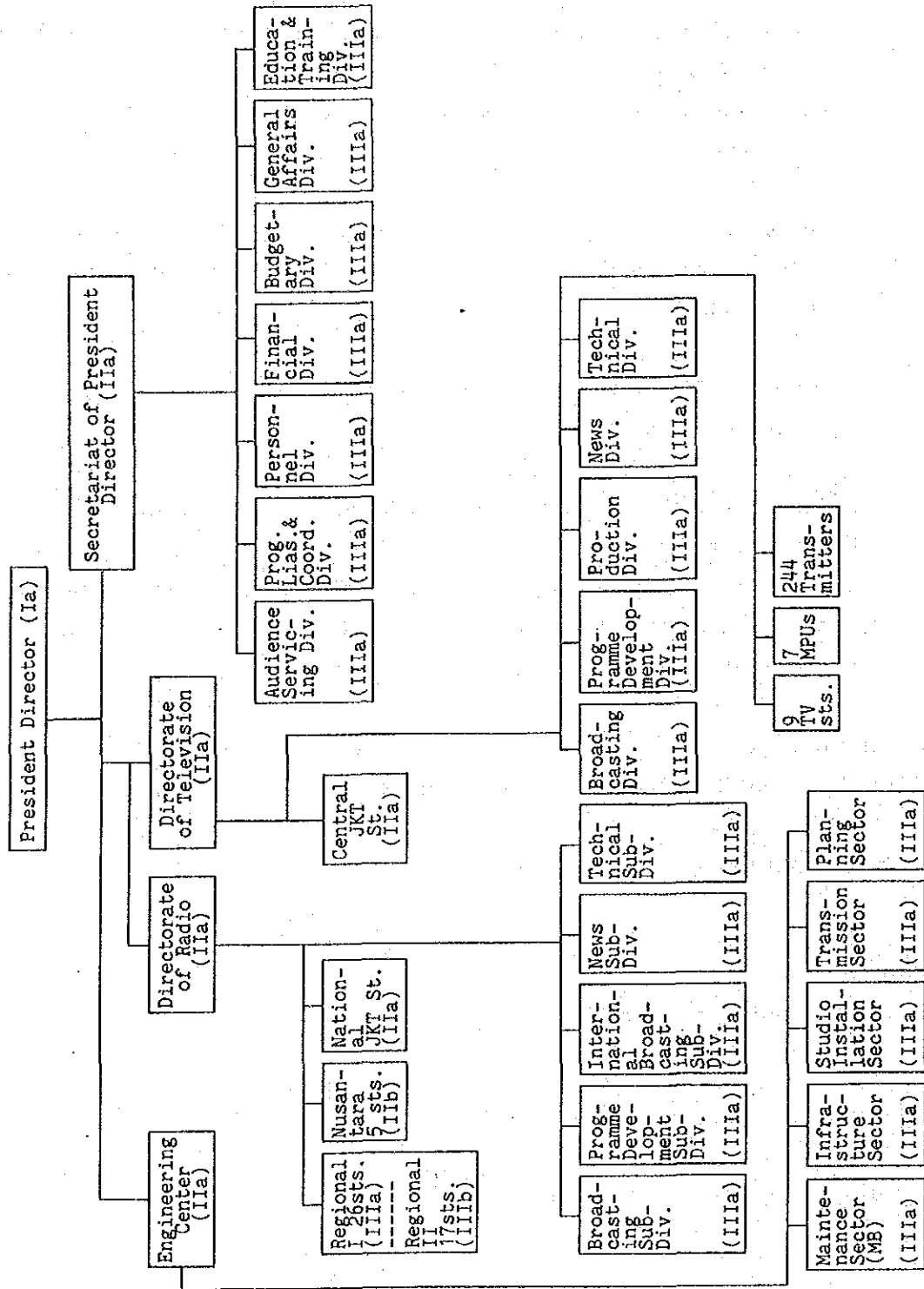
In process of the unification, it can be anticipated that some surplus personnel will further generate by streamlining those working units.

Audience Servicing Division is establishing for such supernumeraries under Sek. of President Director.

The division is requested to organize some personnel into a task force for TV licence fee collection in consultation with Pos & Giro and, if necessary, local governments and also by reviewing the existing regulations and, if possible, legitimating them enough to make a compulsory execution.

(4) Fourth Stage (1996-1997) for Establishment of Education and Training Division and Preparation of Alignment at Regional Working Units

1) Organization Structure



2) Reasons of One Division for TCs (Diklat)

- (a) One major organization should provide all the personnel with an institutional education and training on equal terms.
- (b) No specific meaning will remain in difference between Radio and TV for the national broadcasting education and training under the one roof, except for some small fields indigenous to the respective broadcasting.

3) Process of Actual Integration

- (a) TCs (Diklat) having worked respectively even in the structure of LPN-RTRI are actually united into one division and positioned under Sek. for President Director in order that vocational education and training may equally be provided by level to all the necessary employees pursuant to a unified-systematic plan.
- (b) Regional working units start to be examined for a joint work as soon as possible even though they have worked apart by broadcasting.

(5) Fifth Stage (1998-1999) for Actual Integration at Regional Working Units and Preparation for Grouping Idea

1) Organization Structure

Same as the Fourth Stage

2) Reasons for the Execution of the Two Subjects

(a) Complete Integration

Although a complete integration at all the levels is hardly expected in light of the existing and foreseeable situations of RRI and TVRI, it should be targetted at all times and, incessant efforts should be paid to it.

(b) Grouping Idea

The idea is derived from the effective/efficient simplification of an organization, that is, in this case a Three General Department System which is deemed as a suitable structure for a national broadcasting institution from a viewpoint of management and operation.

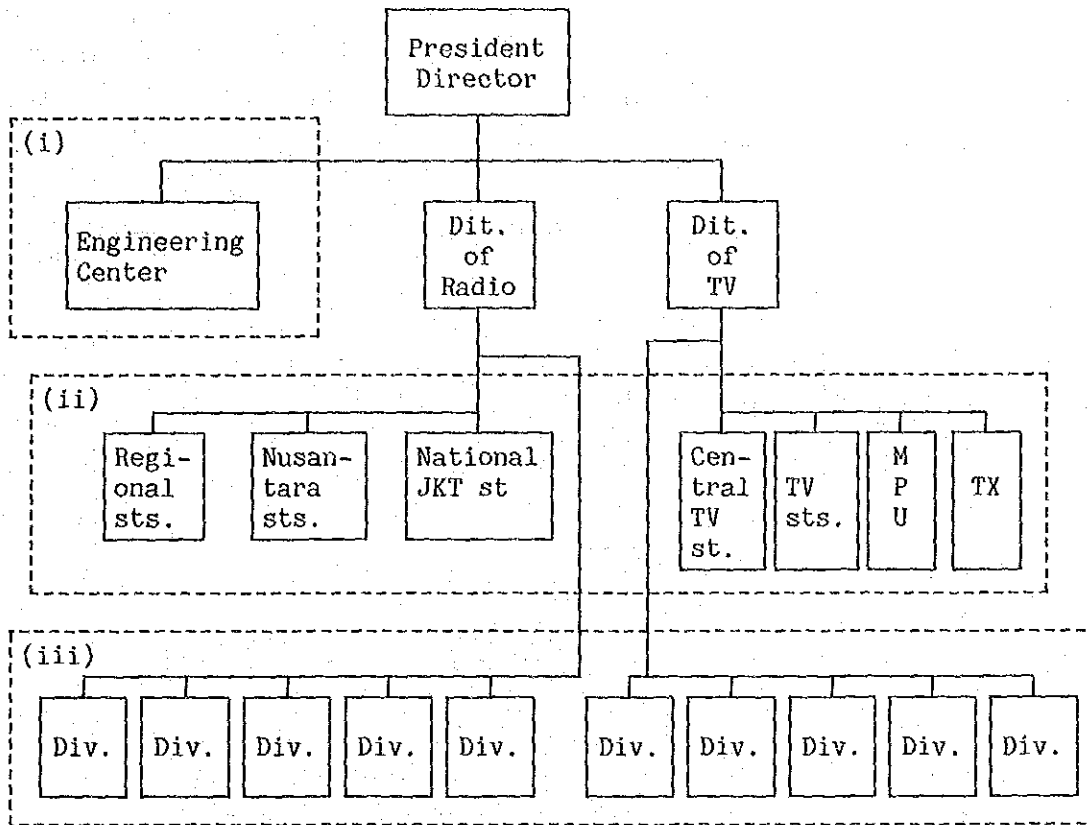
Grouping is made by Engineering, Broadcasting Headquarters and Broadcasting Operational Units (Business Relations).

3) Process of the Integration

(a) Regional Working Units

Regional working units are put together as many as possible, should their locations permit to do so, and if not, on account of being remotely situated, a joint work should be conducted at least, with the target of a thoroughgoing reform to the complete integration in the form of LPN-RTRI.

(b) Grouping Idea by Function



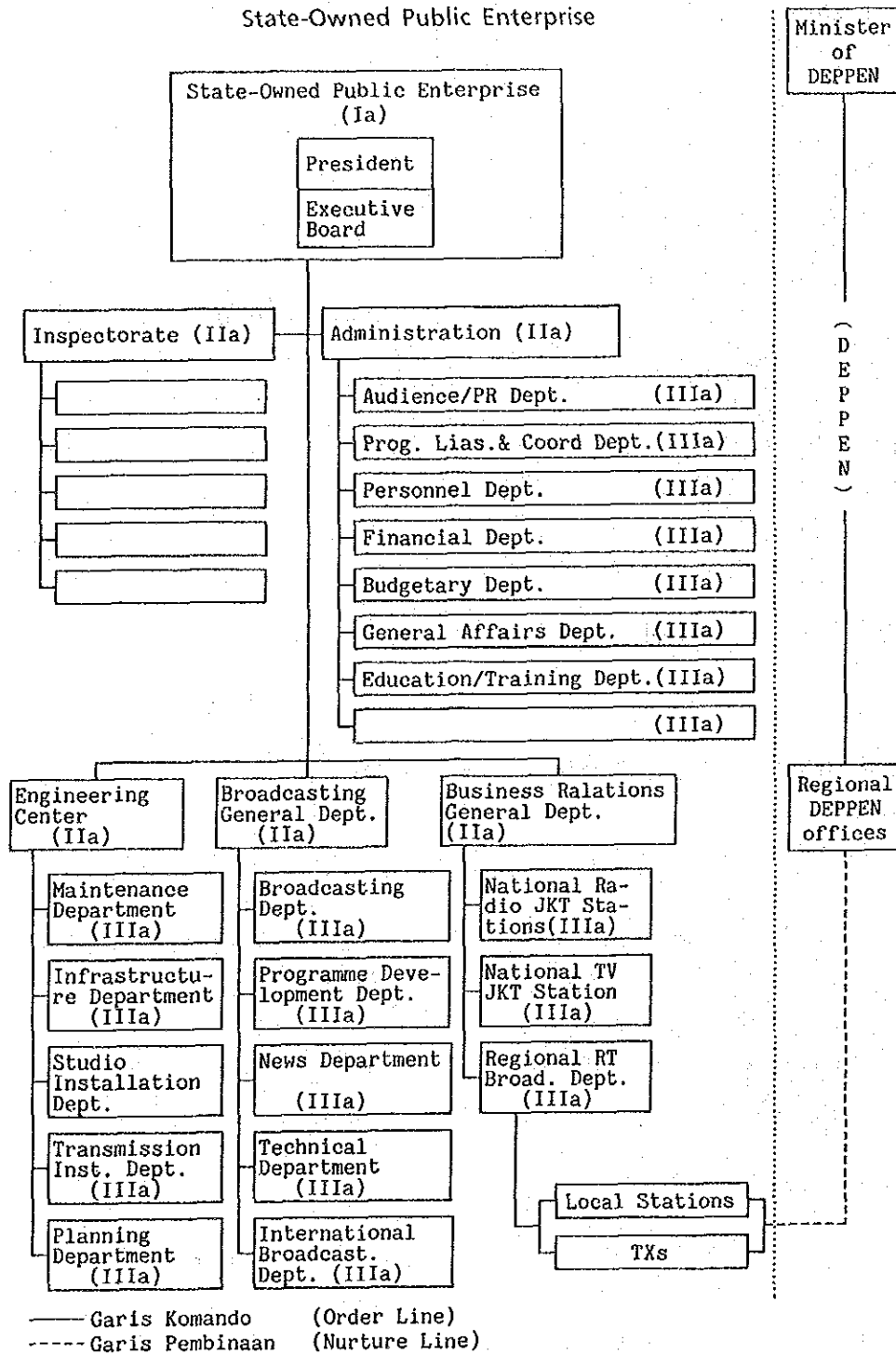
Remarks: Two Dit. to be embodied in Broadcasting General Department

- (i) EC
- (ii) Business Relations General Department (Broadcasting Operational Units)
- (iii) Broadcasting General Department (Broadcasting Headquarters)

It is recommended that a functional integration will be mapped out in the respective groups from every possible angle such as personnel, if possible, location of the facilities, equipment and facilities themselves so as to consolidate the broadcasting functions both nominally and virtually.

(6) Year After 2000

The Articles of LPN-RTRI will be altered in order that LPN-RTRI may have such a simplified organization as shown in the following organizational structure.



1-6-2 Time Schedule for the Integration

(1) Difference in Schedule only in the First Year

1) RTF

It is confirmed that RTF intends to complete all the necessary procedures for documentation and approval of the Authorities concerned by the end of Repelita V and to realize the integration at the beginning of Repelita VI in the form of another entity (LPN-RTRI) slightly different from such state-owned enterprises as P.T. Persero, Perum and Perjan while DEPPEN likewise in the form of Perum.

2) JICA Study Team

In the plan proposed by the team, it is scheduled to complete the necessary procedures for documentation and approval of the Authorities concerned one year before the end of Repelita V in conditions that LPN-RTRI will start at the beginning of Repelita VI as an enterprise, though not specified yet, after reserving one year for the preparation of both reshuffle/reorganization at the top executive level in RTF and preparation for defacto transfer of the administration divisions of RRI and TVRI to a position under Sek. of President Director.

(2) Sameness in Schedule at the Commencement of an Enterprise

	Repelita V		Repelita VI
	Documentation		Enterprise
RTF/DEPPEN		→ ●	Completed and ○ Starts
JICA Study Team	→ ●	Completed	○ Starts
	92/93	93/94	94/95

(3) Time Schedule in Bar Chart/Graphic

INTEGRATION SCHEDULE IN LONG-TERM PLAN

REPELITA	REPELITA V					REPELITA VI					
YEAR	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/2000
5th Stage Alignment of Regional Stns.											
4th Stage Merging TCs with Admi.											
3rd Stage 1) Amalgamation of all Admis. 2) MB Starting											
2nd Stage Shift of R&TV Admis to Sek.											
1st Stage 1) Separation of RT from Film 2) Ent. approved Subject to start in Repelita VI											
	Document preparation				(a) Prep. for start	(b)	(c)	(d)	(e)	Comprehensive Integration	
(For Reference)	(Preparation)					(Operation)					
Schedule Indonesia Side	All the documentations for Integration to be prepared and approved by all the authorities concerned					Upon the establishment of an enterprise, commencement of its operation to the full at the beginning of Repelita VI					
	REPELITA V					REPELITA VI					

Remarks:

- (a) Documents to completely be approved by all the Authorities concerned subject to practical commencement of the enterprise at the beginning of Repelita VI.
- (b) Administration to be shifted to and under one umbrella of Secretariat for RTRI because of dealing with Man and Money

- (c) Personnel of Administration to properly be streamlined into one simple organization, and Maintenance Base to practically be arranged for operation in EC to be incorporated with RTRI
- (d) TCs (Diklat) to actually be shifted to and under Secretariat for a unified operation
- (e) Regional working units like stations etc., to be examined for a joint working from a viewpoint of their locations.

1-6-3 Form of an Entity for LPN-RTRI

(1) Law and Regulation Arrangement

It is also confirmed and agreed upon that the subject should be clarified in writing first as touched and recommended in the Short-Term Plan.

(2) Confirmation of a Relation between Yayasan TV and a New Entity of LPN-RTRI

1) Dissolution upon the Establishment of LPN-RTRI

It is confirmed in the discussion with the officials of RTF this time that Yayasan TV will definitely be abolished as soon as LPN-RTRI is established according to a new Presidential Decree for its establishment.

2) Decision of the President of RI No. 215/1963 Regarding the Establishment of Television Foundation of RI (Refer to the Short-Term Plan)

Since Yayasan TV was set up based on the Presidential Decision (Keputusan President RI) No. 215 Tahun (Year) 1963, it can be considered that Yayasan TV will be liquidated based on Chapter X "Liquidation" Article 22 of the said Kep.

(3) Perjan, Perum, PT Persero and Another

1) Reference

Reference is made to 1-4-1 in the Chapter, the Short-Term Plan and the Supporting Report.

2) Comparison among Perjan, Perum and Persero

A comparative study is made in the Short-Term Plan, and as a reference Japan Broadcasting Corporation (NHK) is quoted in the Supporting Report.

3) An Entity of LPN-RTRI

It is recommendable that a new entity of LPN-RTRI should enjoy receiving a subsidy from the government under a new Presidential Decision (Refer to the Short-Term Plan) and being at least entitled to reserve such a revenue from its activities as TV Licence Fee, Commercial Fee and so forth by adopting not ICW but IBW for it.

CHAPTER 2 Broadcast Programming Plan

2-1 Present Status of Radio and TV Broadcasting

2-1-1 Radio Broadcasting Programmes

(1) Existing Long-term plan for RRI Broadcasting Programmes

Since its foundation in September, 1945, RRI had presented broadcast programmes mainly on shortwave during the initial 30 years.

Under a 1975 long-term plan and a similar plan worked out in 1984 with the cooperation of JICA, the aims set up by RRI were to achieve "transfer from shortwave to medium wave" and "100% coverage with three nationwide networks - RN-I General, RN-II Educational and RN-III Special" with a total air time of 24 hours a day for RN-I and 18 hours each for both RN-II and RN-III.

As for the shortwave overseas broadcasting RRI's long-term plan was for the setting of a "24-hour-a-day foreign languages broadcasting covering the whole world."

According to "A Concept of the Construction and Development of Electronic Mass Media Radio, Television, Film and Video" announced in May, 1988, the following eight concepts on broadcast programmes were drawn up, in addition to the above-mentioned long-term programme.

1) National Broadcast

- (a) National Programme I (general)
- (b) National Programme II (educational)
- (c) National Programme III (entertainment)
- (d) Metropolitan (general)

2) Regional Broadcast

- (a) Regional Programme I (general)
- (b) Regional Programme II (educational)
- (c) Local Programme (general)

3) Overseas Broadcast

The final goal of RRI is to enable all local households to enjoy broadcast programmes. But achieving the goal necessitates the construction of a number of broadcasting stations across the country. This appears to be unrealistic in Indonesia at present.

Therefore, under the long-term plan, the 8 broadcast programmes shown in the concept will be understood to mean the character of Programmes, and the titles of the Networks given in the 1984 long-term goal, namely, RN-I, RN-II and RN-III, will be used without alteration as the titles of the radio networks.

So, each broadcasting station in each network will compile on its own discretion programmes having the character of National Programme, Regional Programme and Local Programme on a time-sharing approach.

(2) Present Status of RRI Broadcasting Programmes

As against the above goals, the present state of execution is as follows.

- 1) Domestic broadcasting is being conducted with two networks in the Jakarta area, and one network of 48 local stations.
- 2) 24-hour-a-day broadcasting is conducted by 46 stations, and 3 stations (Wamena, Manokwari and Serui of West Irian Jaya) are broadcasting for 19 hours with a 5-hour suspension at midnight. About 20% of programmes from Jakarta cover news and other items, with the remaining programmes being produced in regional stations.
- 3) No jurisdictional relay broadcast centering on Nusantara stations, nor provincial relay broadcast from regional stations are conducted.
- 4) News bulletins are presented on every regular hour except at midnight, and Non-RRI 617 stations are "duty-bound to report news items and the government's official reports aired by RRI."

5) Educational programmes are broadcast for about 20 minutes mainly in the 5 to 6, 9 to 10, and 10 to 11 hours in the morning, and 6 to 7 p.m. But their total air hours are decreasing gradually, standing at 17% of the broadcasting time for the year of 1989/90. Jakarta Station produces formal educational Programmes three times a week with Education Ministry budgets. Among them are radio programmes planned and produced by the studios of correspondence course universities (UT) from Dec, 1984.

However, a 1985 accidental fire at Jakarta Broadcasting Hall caused a marked lowering of the programme-producing ability. So, no systematic organization of educational programmes is made.

The composition percentage of RN-I programmes is shown in Fig 2-1-1.

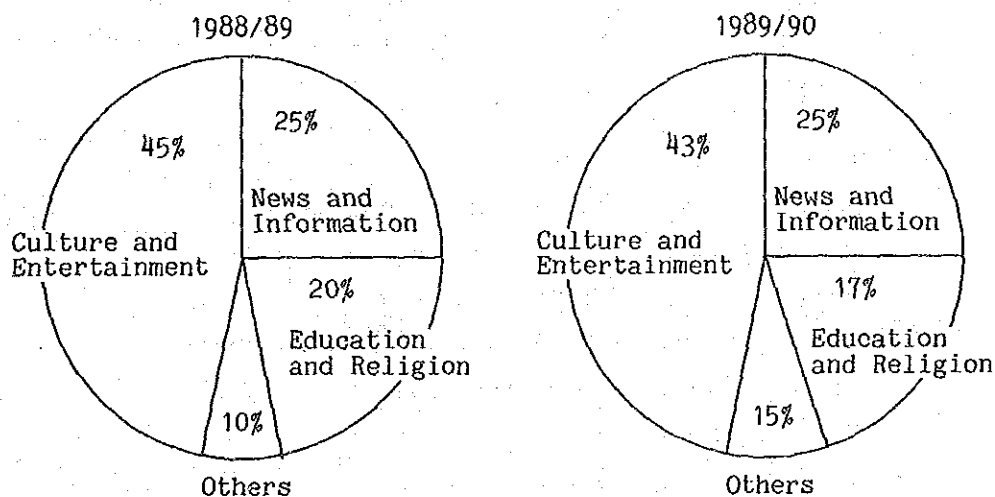


Fig.2-1-1 The Composition Percentage of RN-I Programmes

6) A number of entertainment feature songs by noted singers and traditional folk music on audiocassettes. Disc Jockey programmes incorporating traditional music are prevalent in regional broadcasts in this area.

- 7) Regional stations' participation in a national network depends solely on tapes, and no live programme exchanges are made for lack of up-stream transmission line.

News and information programmes are relayed from Jakarta station to the regional stations via PERUMTEL transmission line, which however is not of good quality at present.

- 8) In order to make the radio programmes more rich and diversified involving the regional stations, RRI applied an Integrated Broadcast System since 1st April, 1987. The system that keeps broadcasting by rotating package programmes from regional stations.

These broadcasts have brought about 17 programmes, 6 of which are produced by the National RRI station in Jakarta and 11 programmes by the RRI stations in Jakarta, Nusantara RRI stations, Regional I and Regional II stations are taking turns in producing such programmes.

The programmes cover:

- Aneka Informasi (All sorts of information)
- Panggung Gembira (Cheerful stage)
- Arena Anak-anak (Children's Arena)
- Bintang-bintang Cemerlang (Twinkling stars)
- Wisata Nusantara (Nusantara tours)
- Siaran Pedesaan (Rural broadcast)
- Yang Muda Yang Cemerlang (The young-the brightest)
- Pembinaan Bahasa Indonesia (Up leveling Bahasa Indonesia)
- Dari Sabang Sampai Merauke (From Sabang till Merauke)
- Jumpa Artis (Meeting the Artists)
- Musik Daerah (Music from the regions)
- Produksi Indonesia (Indonesian products)
- Budaya Nusantara (Culture from Nusantara)
- Hiburan Akhir Pekan (Weekend Entertainment)
- Rubrik Kalpataru (Column on Kalpataru)
- Album legenda (Legend album)
- Bina wiraswasta (Up leveling of Self-support)

9) Overseas Broadcasting Programmes

Overseas broadcasting is conducted for 12 hours a day, using 10 languages, as against the goal of 24-hour-a-day service covering the whole world.

Its broadcast hours are 2 hours in Indonesian, 3 hours in English and about one hour each in Malay, Mandarin, Thai, Japanese, Arabic, French, German and Spanish. Its programmes are aired to each targeted area.

But, overseas broadcasting is facing various problems as follows:

- The amount of the annual budget allocated is extremely small
- Installations are old and offices are small
- There are only a few foreign-language experts and they are generally of old age
- There is no equipment for monitoring

2-1-2 TV Broadcasting Programmes

(1) Existing Long-term Plan for TVRI Broadcasting Programmes

TVRI was established in August, 1962, or 17 years after the foundation of RRI. Initially, its broadcasting networks were centered in Java, and service facilities were built in Sumatra and many other areas during and after the 2nd Five-Year Development Programme.

Its long-term programme vision is "18 air hours in TVN-I General and 17 air hours in TVN-II Educational, each covering the whole nation."

The Concept of TV Programmes announced in May, 1988, is as follows.

1) National TV Network

- (a) National Programme I (general)
- (b) National Programme II (educational)
- (c) Special Metropolitan Programme (general)

2) Regional Television Broadcasting (general)

Therefore, in explaining these goals, this Concept should be understood to mean the character of TV programmes, and the titles of the TV networks given in the 1984 long-term goal, namely, TVN-I and TVN-II, will be used without alternation.

(2) Present Status of TVRI Broadcasting Programmes

As against these goals, the present status of execution is as follows.

- 1) 8 hours of broadcasting (14 hours on Sundays and holidays) conducted from Jakarta on TVN-I, and 2.5 hours service by the Metropolitan Channel.
- 2) Regional programmes which are aired for about 2 hours a day are presented by 9 stations (Medan, Palembang, Yogyakarta, Surabaya, Denpasar, Ujung pandang, Manado, Balikpapan and Bandung) with TV studios other than Jakarta Central Station and 7 stations (B.Aceh, Padang, Semarang, Pontianak, Banjarmasin, Ambon and Kupang), with MPU on each station trying to relay the programmes closely associated with its related areas.

These programmes are also instrumental in promoting mutual understanding among inhabitants of each district through nationwide broadcasting made after they are airlifted to Jakarta for lack of up-stream transmission line.

- 3) News bulletins are presented four times a day (17, 19, 21 and 22:25 p.m.), and news programmes covering news commentaries, interviews and documentaries account for 31% of the all broadcast programmes.
- 4) Regional stations' news materials covering such events as VIP's inspection tours of local districts or their attendance at ceremonies are airlifted to Jakarta Station and put on the air after being screened and edited. As regional stations use film

cameras for their news gathering in many cases, pictures obtained are considerably inferior to those from coverage made by Jakarta Station using the ENG system.

- 5) For foreigners living in Indonesia, information about Indonesia and international news, as from 1st January, 1983 TVRI has offered a programme in the English language.

English News Service operates under the sub-directorate of News and broadcasts 30 minute daily from 18:30 to 19:00 on Channel 8, beginning with a coverage area that includes Jakarta.

Since 24th August, 1986, the English News Service has been extended to TVRI Denpasar, Bali through the terrestrial communication network of PERUMTEL. Programmes offered consist of News and Features, Art and Culture, Asean Forum, Foreign Report, Music corner, Sport Report etc.

- 6) Educational Programmes account for 17% of the all broadcast programmes, covering such items or programmes as "cooking", "medicine", "prayer", "With Mothers" for babies, "singing contest" for children and programmes of correspondence course universities. The composition percentage of TVN-I Programmes is shown in Fig. 2-1-2.

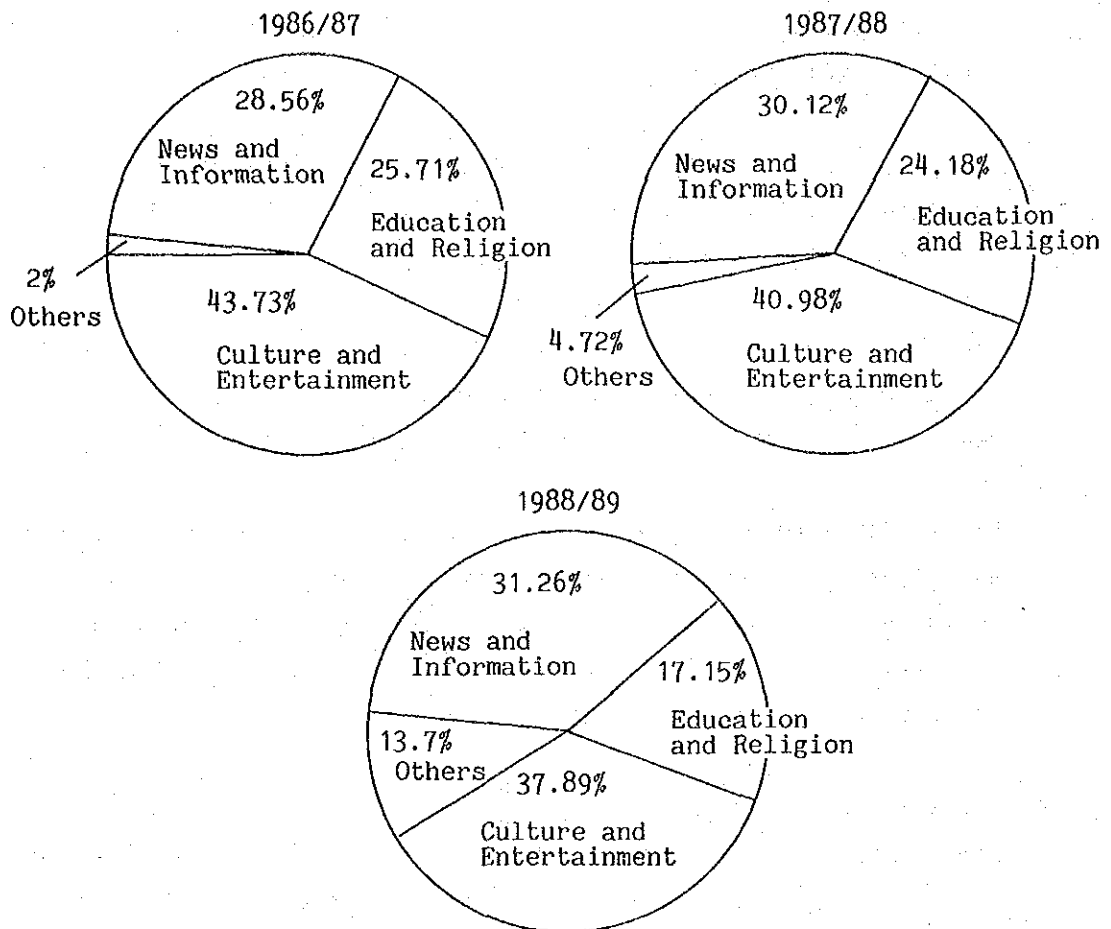


Fig.2-1-2 The Composition Percentage of TVN-1 Programmes

The government of Indonesia is promoting the policy of making an effort to educate people by TV broadcasting. TVRI planned to establish an Educational TV Network as early as possible in the long-term Plan formulated in 1984, but the realization will not be expected within the period of Repelita V and VI because of heavy financial burdens. Therefore, to meet such requirement to expand TV educational programmes, it will be appropriate to extend to the empty broadcasting hours of the existing TVN-I and the Metropolitan channel.

- 7) In a bid to counter this development, TVRI began to revitalize its entertainment programmes (accounting for 38% of the total) in May,

1989, by presenting traditional drama series or music specials. Its programming policy set a limit for foreign-made programmes to be purchased at 20% of the total programme hours. American-made film dramas and TV serial programmes (English version) are predominant in the foreign programmes.

The 9 regional stations with TV studios are producing monthly local specials, presenting programmes on traditional music, dramas and quiz games.

(3) RCTI Broadcasting

Indonesia's first commercial TV station, RCTI (The Rajawali Citra Televisi Indonesia), was set up in Jakarta City in November, 1988, and now has 90-thousand receiving households as a Pay-TV station. Its broadcast hours are 12 hours a day (18 hours on Sundays and Saturdays), and all of its programmes except TVRI news are foreign made English Programmes. Basic broadcast pattern of limited channel broadcast is as follows: News \pm 10%, Education, Religion and Culture \pm 20%, Entertainment and Sports \pm 55%, Advertisement \pm 15%.

2-2 Long-Term Plan of RRI

Major issues in the government's development policy concern the expansion of RRI's domestic broadcasting and improvement of shortwave overseas transmissions.

Therefore, the following programmes are proposed in order to meet the pace of progress in a facility plan envisaged separately.

2-2-1 RN-I Broadcasting Programmes

As for 49 stations of "RN-I" network, efforts will be made to improve their broadcasting facilities and transmission line as well as the contents of their programmes so that a 24-hour-a-day broadcasting setup involving the whole stations will be materialized.

With regard to programme exchanges between Jakarta and local stations, local stations now produce about 80% of their programmes at their own stations. But, for the use of superior educational and entertainment programmes, programmes of the Jakarta stations are available for the regions, through the improvement of the telecommunication circuit. Programmes of the Jakarta stations can be sent to local stations for their use.

On the other hand, integrated programmes of local stations sent by tape to the Jakarta station broadcast throughout all regions. These traditional programmes of local colour produced by local station can be spread out to each regional programme (entirely 40%), in future. (Refer to Table 2-2-1)

Programme	CLASS OF STATION			
	National station Jakarta		Nusantara and Regional stations	
	A	B	A *1	B *2
National Network (News and other programme *3)	60%			60%
Regional Network (Local Programme)	40%		40%	

Remarks *1 Origination
 *2 Distribution
 *3 When high quality programme transmission line in available (1995)

Table.2-2-1 Organization and Distribution of RN-I Programme

At present, each regional station is bound to make, as relay programmes from Jakarta, broadcast of news and the government's publicity programmes so that they account for about 20% of the all broadcasting programmes. And, in order to improve the quality of programmes, improved down-stream transmission lines from Jakarta station will be laid down to make relay broadcasting of good programmes aired in Jakarta.

2-2-2 Educational Broadcasting Programmes (RN-II programmes)

As for production of the educational programmes, a "Liaison Coordination Committee" will be formed by RRI, TVRI, UT (correspondence course university), the Ministry of Education and the Ministry of Health in order to further improve the production system for Educational Programmes. And, when two more shortwave stations (Jakarta and Ujung Pandang) are built under the long-term programme, a shortwave "RN-II" network will be established through organizational rearrangement of Educational Programmes produced by Jakarta Station. Broadcasting hours will be about 9 hours a day as scheduled in the 1984 long-term plan, taking various conditions of the production capability into consideration.

2-2-3 RN-III Broadcasting Programmes

As for the "RN-III" network, 6 local stations (in Medan, Bandung, Yogyakarta, Semarang, Surabaya and Banjarmasin) will have FM stations under the Project committed by RTF. Programmes of these stations will be the same, in principle, as those of "RN-I"

However, those programmes for RN-I produced in the regional stations by utilizing stereophonic resources can be transmitted in stereophonic through its RN-III transmitter.

In addition to that, the stereophonic programmes of Jakarta Metropolitan service will be available to relay upon completion of the transmission lines for those stations. As a result, a mixed programming with monophonic and stereophonic programmes will be possible in accordance with the request of listeners.

2-2-4 Overseas broadcasting Programmes

When Jakarta studios are rehabilitated and new shortwave stations are built in Jakarta, Medan and Biak, the current overseas broadcasting will be conducted with almost 24 hours service in 15 languages as RRI envisages.

Because of characteristics of the programmes, it will be required to arrange well trained foreign language experts and appropriate budget.

In the future, not only by means of overseas shortwave service, but through the distribution of TV news and programmes, will it become possible to introduce and inform other countries of the world about aspect of and the situation in Indonesia.

2-3 Review of the Long-term Plan of TVRI Programming

It is expected that broadcasting facilities of TVRI will be greatly improved by the Projects under implementation and planning by RTF during the period of Repelita V and VI. The production facilities such as TV studios, OB vans and ENG systems in regional stations as well as in Jakarta, will be modernized. In addition to the above, a mobile TV Up-links will be introduced at two major cities in Java and Sumatra districts.

In order to enable the viewers in the whole Indonesia to receive programmes of good quality through TV broadcast, TVRI should do its best to enrich the contents of programmes and should at the same time endeavor to further improve the quality of the programmes by making effective use of the improved facilities.

2-3-1 Present Status of TV service

As explained earlier, TVRI broadcasts about 8 hours a day on TVN-1 from Jakarta, and about 2.5 hours a day on the Metropolitan channel for Jakarta area.

It will be noticed that the broadcasting time, conducted by TVRI is rather shorter compared with an international standard of the TV broadcasting service.

Since Television is one of the most powerful mass-media which can convey information of a large volume and high quality to a wide range of

audience, it will be advisable to utilize this media in more effective way.

From such viewpoints, it will be necessary to expand broadcasting time for each TV channel with programmes of high quality in order to meet the audience demand.

On the other hand, it has already been proven through experiences in various countries that educational TV is also very useful in improving the life of the people.

TVRI planned to construct the TVN-II network for broadcasting of educational programmes as early as possible in the long-term plan 1984.

However, it is unrealistic to spend a huge amount of funds for construction and operation of the TVN-II network since the existing TV facilities are becoming more and more superannuated.

Preparations for the start of the TVN-II will be made for the year 2000 and onwards.

2-3-2 Expansion Plan of existing TVRI Broadcasts

To cope with such difficulties, an expansion plan of the existing TVRI programmes will be drawn up as follows:

- TVN-I will gradually extend its daily broadcasting time until it eventually reaches 16 hours. Efforts will be made to further enrich the educational and cultural programmes in the morning and in the afternoon, and entertainment, news and the Indonesian versions of foreign programmes in the night.
- The Metropolitan Station in Jakarta will gradually shift to programming centering on educational programmes, aiming at daily broadcasts of more than six hours.
- The following broadcast programming shows the proposed plan to extend broadcasting hours gradually, utilizing the open hours of

the TVN-I and the Jakarta Metropolitan station, in the early morning and in the afternoon hours.

In this case, the broadcast programming should be carried out, closely considering audience desire, time use survey, production of programmers and technical operation by TVNI.

The expansion plan is shown in Table 2-3-1.

Table 2-3-1 Expansion Plan of TVRI Programmes

TVN-I (Ch6) PLAN

METROPOLITAN TV (Ch8) PLAN

Stage Time	1	2	3	4	5
7:00	News (TVRI)				
8:00		Morning Show (NEW)			
8:00					Open Learning University <Produced by UT> (New)
9:00			Education ① (New)		
10:00					
10:00				Education ② (New)	10:00 Women Children } (New)
11:00					11:00 Family (New)
11:00				Education ③ (New)	
12:00					12:00 TVRI News 30' ③
12:00				TVRI News 30' (NEW)	(Same of CH6 programmes)
13:00				Afternoon Show 30' (NEW)	Afternoon Show 30' ③
13:00			Afternoon Show (NEW)	Education ① (Repeat)	13:00 Afternoon Show (New)
14:00			Education ① (Repeat)	Education ② (Repeat)	14:00
14:00		Afternoon Show (NEW)	Education ① (Repeat)	Education ② (Repeat)	
15:00					
15:00					
15:00	Afternoon Show (NEW)	Open University by UT (Repeat)			
16:00					

Ⓜ = Repeat

2-4 Setting up of Liaison Coordinating Committees for Programmes, News Gathering and Audience service

2-4-1 A Liaison Coordinating Committee for educational programmes

For the purpose of planning educational programmes and setting up a related production system, a "liaison coordination committee" will be formed by such bodies as RRI, TVRI, Correspondence Course Universities (UT), the Ministry of Education (Technology, Communication Research Institute. KEPALA AND SARAPENDRIKAN, and others), PPFN (the State Film Production Center) and the Ministry of Health.

The main target will be centered on the systematic production of educational programmes for RRI and TVRI by obtaining full support from the other organs related with educational programmes.

The committee will be proposed to start as early as possible. Furthermore, this committee raises to the level ~~to the level~~ of Division when the integrated body of TVRI and RRI commences its operation.

Detailed Project flowchart is shown on Table 2-4-1.

2-4-2 A Liaison Coordinating Committee for News Gathering

For the purpose of rationalization and efficiency in the gathering of news material, RRI and TVRI should as soon as possible establish a "Liaison Coordinating Committee".

Main target will be placed on the mutually close cooperation in the news gathering between RRI and TVRI ranging from the daily topics to the large scale of events such as the Olympic Games.

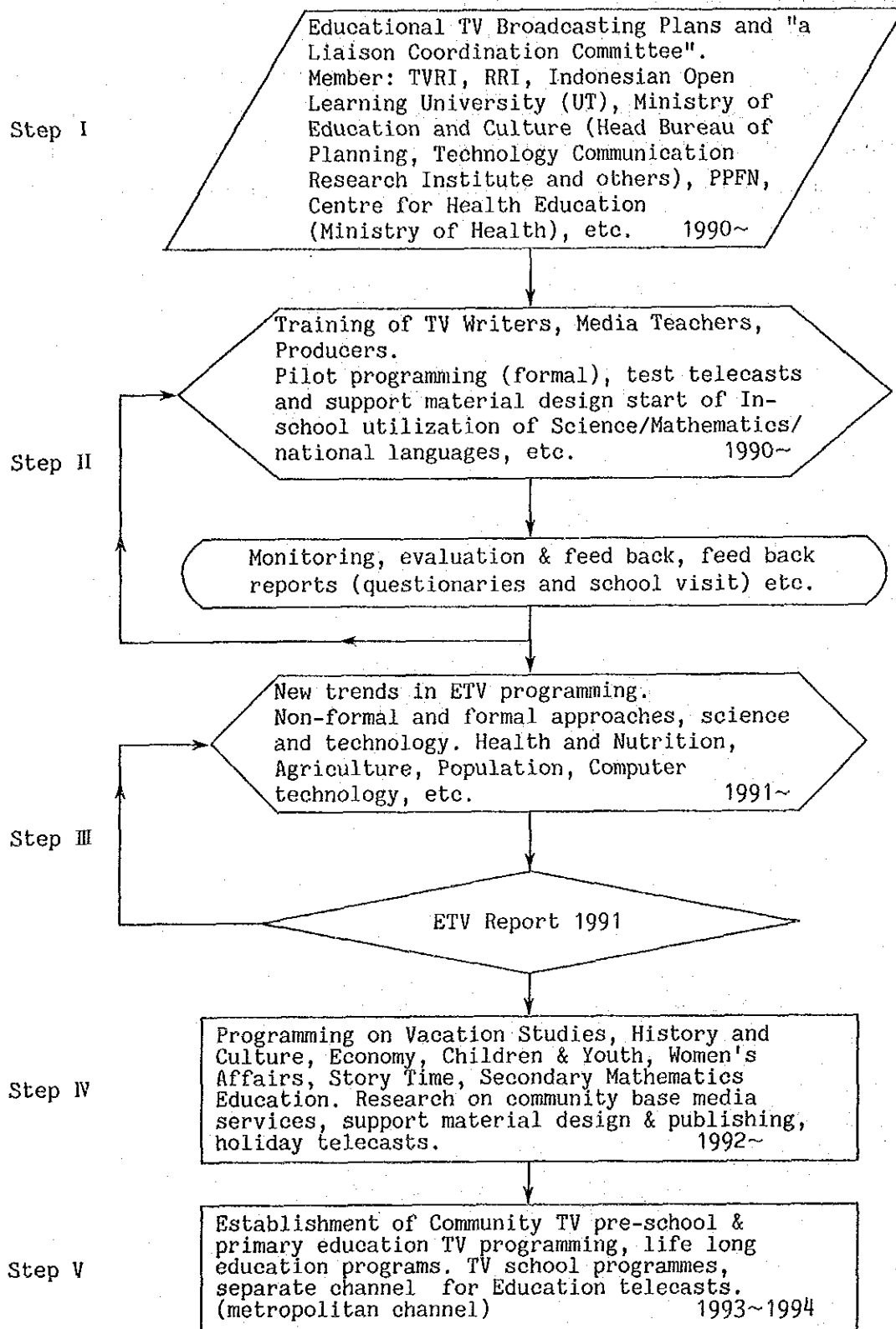
The committee will be proposed to start as early as possible. Furthermore, this committee raises to the level of Division when the integrated body of TVRI and RRI commences its operation.

2-4-3 Audience Service

Broadcast-audience servicing should be one of the most important jobs for a broadcaster to support its business activities.

Above all, the audience service in programming aspects is important in keeping contact with audience by PR of the programmes and absorbing audience desire. This job should be done by cooperative work of RRI and TVRI. Details of the total broadcast-audience servicing are referred to CHAPTER 7, 7-2-1 and 7-2-2.

Table 2-4-1 EDUCATIONAL PROGRAMMES
(PROJECT FLOWCHART) 1990 ~ 94



CHAPTER 3 Broadcasting Network Plan

3-1 Radio Broadcasting Network

3-1-1 Basic Policy for Expansion and Consolidation of the Broadcasting Network

(1) Renovation and Maintenance of Broadcasting Network Functions

RRI was inaugurated in September 1945. So, it already has a history of 44 years. Over these years, RRI's broadcasting network has achieved a rapid expansion, helped also by financial assistance from overseas; the economic assistance from the Japanese government during the eight years from 1972 to 1980 and the assistance given during the subsequent years from the western countries. Today, RRI has attained a 68% population coverage with radiowaves transmitted through 49 stations across the country.

However, because of superannuation, inadequate maintenance and other circumstances, a large number of technical facilities that have lost their original functions have come to be seen among the facilities of the broadcasting stations forming RRI's broadcasting network. As a result, in actual practice, the coverage of the services offered by RRI is observed as having dropped substantially from the level that ought to have been attained by now.

Therefore, for RRI today, there are a number of tasks to tackle. First, it should try to renovate the functions of the existing facilities, rather than attempting at expanding the broadcasting network.

Second, once the renovation of the functions of the facilities has been achieved, RRI should endeavor to maintain such functions.

And third, RRI should thoroughly eliminate the superannuated idle facilities and thereby do its best to save the personnel and operational expenses. Such facilities that need to be eliminated include:

- 1) The transmitters which are superannuated and have been left broken for many years.
- 2) The transmitters from which adequate output power cannot be obtained because of the downgrading of functions.

- 3) The facilities at transmitting stations which can no longer provide sufficient antenna output power because of the inappropriate antenna matching circuits between feeder and antenna.
- 4) A large number of superannuated facilities which are considered unnecessary if the main device is functioning properly.

(2) Roles of Medium-wave and Shortwave Broadcasting

At present, the broadcasting service, for a considerable part of it, depends on shortwave broadcasting. However, while the propagation of radiowave on shortwave is suited to services for a wide area, it has its shortcomings in that, with short-wave propagation, it is difficult to expect achievement of constantly stable and high-quality reception of broadcasts. This is because, in the case of short-wave propagation, it fluctuates by season and by time of the day and is accompanied by all types of fading to degrade the quality of reception, and, furthermore, the generation of noises often becomes conspicuous depending on the degree of activities of sunspots.

Therefore, in the future, it will be desirable for the broadcasting network of Indonesia to consist mainly of medium-wave service, with the short-wave broadcasting being used in such a way as to enable it to play a supplementary role, making effective use of its characteristics as mentioned above.

As regards the shortwave broadcasting, it has been decided by the resolution at WARC-87 that the shortwave broadcasting services of the world should be switched from the current DSB (Double-Sideband) system to the SSB (Single-Sideband) system. This is being carried out mainly from the point of view of ensuring effective use of frequencies and is to be completed by the end of December of 2015. This worldwide transition to the SSB system, while involving the problem of the necessity of diffusion of receivers, is expected to offer the following advantages:

- 1) The total radiation power of the transmitting station will be reduced.
- 2) Adjacent interference protection ratio can be improved.

- 3) By adopting the synchronous detection system, the non-linear distortions caused by selective fading can be reduced substantially.

3-1-2 Expansion and Consolidation Plans for Broadcasting Network

(1) Expansion of Medium-wave Broadcasting Network (RN-I)

The plan to expand and consolidate the broadcasting network to ensure that at least one radiowave of sound broadcasting can be received in any region of the country is the most fundamental plan that satisfies the needs of the entire nation.

However, as mentioned earlier, RRI's broadcasting network at present is confronted by a mountain of problems that require urgent solution, such as, the facilities that need to be repaired or renewed and maintenance problems waiting to be solved. So, it is proposed that, for the time being, such plans as those of renewing the superannuated facilities through concentrated measures should be promoted, deferring the planning of expanding the broadcasting network until after the stage is reached where the broadcasting can be maintained on a stable basis.

However, with regard to some of the areas under special circumstances, such as those having extremely strong desire for establishment of a broadcasting station, it is proposed that, in parallel with the implementation of the plan to replace the superannuated facilities, about ten relay stations be constructed during the latter half of the long-term plan, at the rate of about two each year.

As to the scale of such a relay station, it shall be with a relatively small output of about 100W-1kW, serving the city concerned and its surrounding areas.

Table 3-1-1 Construction Plan for Radio RN-I Broadcasting Network

Five-year Development Plan	IV	V	VI
Number of Stations Planned	0	35	51
Achievements & Reviews	0	0	10

(2) Construction of Medium-wave Broadcasting Installations at the Shortwave-only Stations

Among the 49 existing broadcasting stations of RRI, the 12 stations listed below are those which, since their establishment, have had no medium-wave broadcasting facilities installed and therefore have been operating on shortwave only over the years.

The shortwave broadcasts are accompanied by fluctuations in the reception field intensity by time of the day and by season, with the result that it is difficult to ensure stable service. Therefore, it is proposed that medium-wave broadcasting installations be additionally constructed at those shortwave-only stations during the long-term plan.

Incidentally, as for the stations other than the two for which the plans are in progress, there is the need of an on-site survey to determine such factors as the frequencies to be used and the output of transmitters. As regards the frequencies, output power etc., the unregistered five stations need to be registered with the IFRB. Also with regard to Dili, the site to which the transmitting station is to be moved from Atambua, the registration procedures are required to be taken with the IFRB.

The outline of the facility plan is as follows:

- 1) The new stations shall be of manned type; no remote-control or remote-monitoring device shall be installed.
- 2) Each transmitter shall have a standby device installed close by so that they may be operated by a manual switching method.
- 3) A solid-state system shall be adopted for the transmitters and the output of each shall be 1-10kW.

- 4) The antenna shall be installed on a 33~100m tall cylindrical stay pole.

Table 3-1-2 Plan for Additional Construction of Medium-wave Broadcasting Installations

	STATION NAME	FREQ. (kHz)	OUTPUT POWER (kW)
(a)	Bukittinggi	1512	10
(b)	Kupang	1107	5
(c)	Dili	(711)	(5)
(d)	Palangkaraya	1197	5
(e)	Wamena	(1125)	(1)
(f)	Serui	(1008)	(1)
(g)	Sorong	909	10
(h)	Fak fak	774	10
(i)	Manokwari	(1035)	(1)
(j)	Ternate	891	10
(k)	Gorontalo	(1008)	(1)
(l)	Nabire	(936)	(1)

Figures in () are the frequencies and outputs under examination. These are yet unregistered with the IFRB.

Table 3-1-3 Plans for Additional Construction of Medium-wave Broadcasting Installations at Shortwave-only Stations

Five-year Development Plan	IV	V	VI
Number of Stations Planned	10	2	--
Achievements & Reviews	0	7	5

(3) Construction of High-power Shortwave Broadcasting Stations

For the purpose of supplementing the RN-I broadcasting network and also of newly establishing the RN-II broadcasting network, construction of high-power shortwave broadcasting stations will be planned as follows:

1) Supplementing the RN-I Broadcasting Network

Even today, the coverage of the RN-I broadcasting network is about 68%; in the remaining 32% or so regions, the residents are unable to receive even a single radiowave.

In order to relieve these regions, the most desirable choice would be to expand the broadcasting network on medium-wave which can be expected to help ensure stable broadcasting service. However, as mentioned earlier, RRI is currently confronted by a mountain of problems to be solved and therefore the advisable policy would be to refrain from increasing the number of broadcasting stations any further until a more stable financial foundation has been established.

In other words, any increase in the number of broadcasting stations at the present moment should be kept at the minimum, since the maintenance of these stations is a burden that is constantly becoming heavier. Hence, it is desirable to adopt a system centering on two transmission points from which to emit the radiowaves covering the entire territory of Indonesia at a sweep. The shortwave broadcasting service, on the other hand, has the advantage in that even those undeveloped regions where the installing of a medium-wave transmitting station is difficult and where the infrastructure is nonexistent, can be served from a distant transmitting station.

2) Construction of the RN-II Broadcasting Network

As can be seen from the Table 3-1-4, in the long-term plan drawn up earlier, too, construction of the RN-II, that is, the medium-wave educational broadcasting network, is being planned and thus the chance of the RN-II becoming a reality has been rising fast.

However, newly establishing a broadcasting network would mean a substantial financial burden including the construction cost for transmitting facilities at 49 stations and their subsequent maintenance and operating costs in addition to the programme production expenses, even if the RN-II can be assumed to enable obtaining a coverage similar in level to that of the RN-I. And

in future, in order to further widen this coverage, an enormous amount of investment will be required.

Under these circumstances, it is proposed to set up the two shortwave stations as mentioned above with which to cover the entire country. This is for the purpose of reducing the above-mentioned heavy financial burden even a little and also of holding down the increase in personnel costs, even at the sacrifice of the plan of developing regional broadcasting services.

Table 3-1-4 Plans to Newly Construct the RN-II Broadcasting Network

Five-year Development Plan	IV	V	VI
Number of Stations Planned	5	41	48
Achievements & Reviews	0	2 (short-wave)	

3) Outline of Facility Plan

As regards the short-wave broadcasting, the entire territory of Indonesia will be served from two stations for reasons mentioned in 1) and 2) above. In other words, broadcast waves will be emitted from two stations in Jakarta and Ujungpandang to serve the entire territory of Indonesia, with a directivity given roughly to the east or to the west.

Generally speaking, the propagation of short-wave broadcasts is conducted over a long distance, utilizing the ionospheric reflections. The maximum propagation distances with one reflection in the ionosphere are said to be about 2,000km with reflection in the E layer, about 3,000km with reflection in the F₁ layer and about 4,000km with reflection in the F₂ layer, respectively. (See Fig. 3-1-1.)

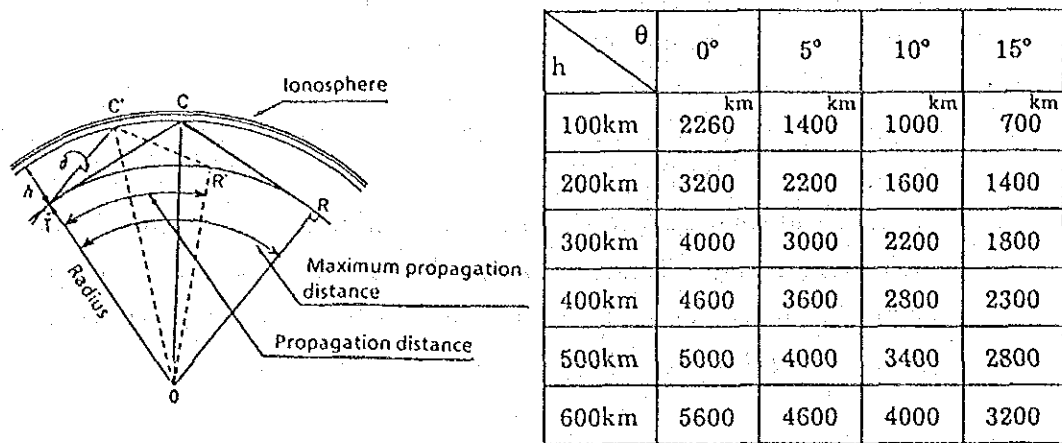


Fig. 3-1-1 Relations between Vertical Radiation Elevation Angle (θ), Height of Ionosphere (h) and Propagation Distance

Since the entire territory of Indonesia falls within the distance that can be covered by one ionospheric reflection of radiowave from the two stations mentioned above, it is proposed that nationwide coverage be planned by means of transmissions in the directions mentioned below.

From the Jakarta station, the directions of transmissions shall be Sumatera in the northwest, Nusa Tenggara Timur, Sulawesi and Maluku in the east, and Kalimantan and Sulawesi from the northeast to east. And from the Ujung Pandang station, the directions of transmissions shall be Irian Jaya in the east and Jawa and Sumatera in the west. Each of the two stations shall be serving on two radiowaves, viz., one for RN-I and one for RN-II (See Fig. 3-1-2). Furthermore, in transmitting the radiowaves, the stations shall be using the optimum radiation elevation angle that fits the width of the service area and the frequency suited to the season.

(4) New Establishment of an RN-III Broadcasting Network

As the third programme channel to follow the General and the Educational networks, RRI plans to establish the RN-III through which to conduct an FM radio service on VHF of entertainment programmes.

As can be seen from the Table 3-1-5 given below, this RN-III network had been planned to go into service as from Pelita IV, but the plan has been delayed and has not yet been brought to reality, except for a series of experimental broadcasts conducted in Jakarta.

In recent years, however, thanks to developments such as the opening of commercial FM radio stations in regional cities, too, the ownership of FM receiving sets has now diffused to a level of one set to every four households. So, under the present long-term plan, the construction of regional FM broadcasting stations shall be pushed ahead. However, in view of the large number of urgent projects waiting to be carried out, it is proposed that, in the present review, the number of FM stations to be newly constructed be kept to the necessary minimum. So, for the present, while the broadcasting facilities at the Jakarta station will be consolidated to enable regular broadcasts, stations will be newly constructed at the following six sites:

1) Planned Construction Sites

Medan, Bandung, Yogyakarta, Semarang, Surabaya, Banjarmasin

2) Outline of Facilities

- a) The stations shall in principle be constructed on the site of the existing TV transmitting stations and shall be manned stations.
- b) The transmitters shall be standby system.
- c) The antenna tower for TV shall be used in common as much as possible.
- d) All facilities and equipment shall be stereophonic.
- e) The output of the transmitter shall be, in principle, 5kW.

Table 3-1-5 Establishment Plans for the RN-III FM Broadcasting Network

Five-year Development Plan	IV	V	VI
Number of Stations Planned	39	40	40
Achievements and Reviews	1 (Jakarta station)	7 (Incl. Jakarta station)	0

3-2 Television Broadcasting Network

3-2-1 Television Broadcasting Network

Since its start of broadcasting in 1962, Indonesia's television has been steadily expanding its network every year. Today, through a total of 232 transmitting stations, the television of this country has achieved the national coverage of about 68% of the total population. However, the remaining 32% of the population is not yet to enjoy the benefit of television, and thus there is the need of continuing to expand the TV broadcasting network as a top priority project among the many important development plans. In fact, it is not only what the entire nation desires but is also in perfect conformity with the national policy to ensure that the construction of TV re-broadcasting stations will be carried on so that the TV broadcasting network may be expanded in such a way as to enable the people, whichever region they may live in, to view at least one channel of TV programmes.

(1) Construction Plans for TV Re-broadcasting Stations

1) Construction Plans

This station-construction plan is of a small scale, designed for regional cities and their vicinities. What is being planned is the construction of about ten stations a year as a target number, eventually totalling 100 stations in ten years. (Table 3-2-1)

2) Possible Sites of Construction

Present possible sites of construction are as shown in Table 3-2-2. It is, however, desirable that the plans be carried on with a flexible attitude, responding quickly and effectively to the ongoing changes in local trends, such as a sharp increase in the number of local households following industrial development.

Table 3-2-1 Construction Plans for TV Re-Broadcasting Stations (TVN- I)

Five-year Development Plan	IV	V	VI
Number of Stations Planned	50	78	122
Achievements and Reviews	47	50	50

Table 3-2-2 Possible Construction Sites for TV Re-Broadcasting Stations

	<u>D.I. ACEH</u>		<u>LAMPUNG</u>		<u>SULAWESI TENGAH</u>
1	Blangpidie	18	Liwa	35	Ampana
2	Mereudu	19	Ngaras	36	Batui
	<u>SUMATERA UTARA</u>		<u>JAWA BARAT</u>		<u>SULAWESI SELATAN</u>
3	Kabanjahe	20	Seketi	37	Pulau Selayar
4	Sidikalang	21	Pangandaran	38	Majene
5	Natal		<u>JAWA TENGAH</u>		<u>SULAWESI</u>
	<u>SUMATERA BARAT</u>	22	Baturetno		<u>TENGGARA</u>
6	Pariaman	23	Bumiayu	39	Lasusua
7	Inderapura		<u>JAWA TIMUR</u>	40	Lasolo
	<u>RIAU</u>	24	Pulau Kangean		<u>N.T.B.</u>
8	Kotatengah	25	Situbondo	41	Dorokempo
9	Tembilahan		<u>KALIMANTAN BARAT</u>	42	Lunyuk
10	Pasirpangarayan	26	Kendawangan		<u>N.T.T.</u>
	<u>JAMBI</u>	27	Nangapinoh	43	Labuanbajo
11	Kualatungkal, kota	28	Balai Berkuak	44	Betun (Besikama)
12	Sarolangun		<u>KALIMANTAN</u>		<u>MALUKU</u>
	<u>BENGGULU</u>		<u>TENGAH</u>	45	Tobelo
13	Bintuan	29	Kualakurun	46	Larat
14	Muaraaman	30	Kualapembuang		<u>IRIAN JAYA</u>
	<u>SUMATERA SELATAN</u>		<u>KALIMANTAN TIMUR</u>	47	Enarotali
15	Lubuklinggau	31	Labangka	48	Kaimana
16	Pagaralam	32	Longmalinau		<u>TIMOR TIMUR</u>
17	Sukaraja		<u>SULAWESI UTARA</u>	49	Same
		33	Kuandang	50	Manatuto
		34	Pinolosian		

3) Facility Plan

- (a) The stations shall in principle be manned stations.
- (b) The service area shall be narrowed down to municipalities and the transmission output power shall be about 10~300W.
- (c) Commercial power sources shall be used as much as possible, but standby power source shall be installed in order to cope with voltage changes of the power from the source of supply or with a power failure.
- (d) The transmitters shall be standby system.
- (e) Switching from the transmitter in use to a standby shall be of a system in which the input-output of the transmitter in use can be detected and be automatically switched from one to the other.
- (f) As regards the monitoring of the operation of a TV re-broadcasting station, a simple, entrusted monitoring system will be adopted, in which the work is commissioned to a suitable person (a TV repair shop, for example) living within the service area. No remote-monitoring system will be adopted.

(2) Construction Plan for a TVN-II Broadcasting Network

It is widely recognized that broadcasting can be used most effectively for education. Thus, in every country, development and expansion of educational radio and educational television are being pushed ahead actively.

In Indonesia, too, under the long-term development plan established earlier, the construction of TVN-II, or an educational TV broadcasting network, had been planned as shown in Table 3-2-3. Also, for the period of Pelita IV, it had been planned that consultations should be carried on with a national organ in charge of education and training of people concerning basic matters including programme production with a view to concretely promoting the development of educational TV.

In this way, the time had actually been becoming ripe for this nation to promote the plans for educational broadcasting. However, on the other hand, there still existed a wide region where people were totally unable

to view even a channel of TV broadcasts. Moreover, in actual reality, TV broadcasting stations are still operating with a large number of broadcasting facilities that are already so superannuated as to require urgent replacements.

Under these circumstances, it is evident that setting up one more network for educational TV and maintaining and operating it would require an enormous amount of expenses. For that reason, it is proposed that priority should be given to more urgent plans and that the plan to construct the TVN-II network in addition to the existing networks should be carried out in the context of a long-range perspective.

In other words, with regard to the educational television, it is proposed that the necessary educational programming should be incorporated into the broadcasting schedule of TVN-I during the period of the present project and that, at the Jakarta station, the programming of CH-6, CH-8 should be further improved and expanded so as to reinforce educational functions, as soon as necessary measures have been taken to expand the station's programme-producing facilities.

Table 3-2-3 Construction Plans for TV Re-broadcasting Stations (TVN-II)

Five-year Development Plan	IV	V	VI
Number of Stations Planned	11	48	51
Achievements and Reviews	0	0	0

3-2-2 Studies of Measures to Eliminate Poor-reception Areas

(1) Problems of Measures to Eliminate Poor-reception Areas with Terrestrial Facilities

At the start of TV broadcasting services in Indonesia, stations were constructed one after the other across the country, centering on the major urban areas. Consequently, the service areas spread steadily and, because of the high density of population within the service areas, the rates of coverage also grew rapidly.

However, as more and more stations were constructed, the sites for new stations kept on moving from large to medium-sized cities and then to smaller cities, and eventually to towns and villages. As a result, while transmitting stations of smaller and smaller scale have become enough to serve the purpose, each service area became smaller and smaller. Moreover, the density of population in each service area also became smaller and the growth of coverage, too, slowed down. Thus, the construction efficiency, that is, the per-household share of the construction cost of each station, has also risen sharply.

As can be seen from the results of the review made of the present long-term development plan, the anticipated growth of coverage is only about 3.4% during the coming decade, even if about 100 re-broadcasting stations were to be constructed in the coming ten years under the terrestrial broadcasting system. This is an extremely slow pace, since it means only about 0.34% growth a year.

However, in order to achieve a 100% coverage so that the entire nation may be able to view at least one channel of TV programmes, it is estimated that more than 10,000 re-broadcasting stations will inevitably have to be constructed, although this estimation would depend on the altitude of each transmitting station and on how the transmission power is selected.*

Therefore, there is the need of solving numerous problems before reaching the goals; about how many years should be estimated as required in reaching the national population coverage of nearly 100%, how much money would need to be invested for construction purposes, what the maintenance costs would be and what the estimated increase in the costs of replacing the superannuated installations in the future would be.

For example, if a total of 10,000 stations were to be maintained, and if the average life of the installations were to be assumed as 25 years,

* In Japan, a country about 1/5 the size of Indonesia and topographically quite similar to the latter, a population coverage of about 99% has been achieved today with a total of 3,493 TV transmitting stations and 10,627 community antenna reception facilities, per one TV channel.

then, there will be the need in the future of replacing the superannuated equipment and facilities at an average rate of 400 stations each year.

(2) DBS and the Palapa Satellite

When aiming at achieving a 100% coverage with terrestrial facilities, one has to face many problems that need to be solved. So, here, we would like to study the use of a satellite as a means of achieving this goal.

1) DBS

DBS, or the Direct Broadcasting Satellite, is a satellite which is to be launched with the following purpose: that the TV broadcasting waves emitted from the geostationary satellite may be received directly by each household using a facility for reception of DBS broadcasts.

In the case of terrestrial TV broadcasting, the height of a transmission antenna is generally 50-60 meters to a maximum of several hundred meters (sometimes, transmissions are made from the top of a 2,000m-class mountain, though) and the distance the radiowave can reach is restricted to 50-60km at most. In contrast, in the case of DBS, the radiowave is emitted from a geostationary satellite at an altitude of 36,000km above the ground and, even though it all depends on the width of the beam of the radiowave, a single beam is capable of covering the island of Sumatera in its entirety or the entire area including Jawa and Nusa Tenggara.

Therefore, if five beams emitted from two points above the Equator could be used as shown in Fig. 3-2-1 and Fig. 3-2-2 it will be possible to cover the whole of Indonesia all at a time.

Thus, DBS is capable of distributing radiowaves strong enough to be received directly with a home receiving set installed at private households, with a single beam covering a wide area of one million km². So, this system can be regarded as superior to the conventional terrestrial broadcasting system, in that the former enables reception of broadcasts anywhere in the service area as long as there is the receiving facilities. For that reason, DBS may be considered the most suitable means of ensuring that the TV

broadcast waves will quickly cover the entire territory of Indonesia, a country spreading over a vast area of 5,100km from east to west and about 1,900km from north to south and made up of five main islands and 13,677 large and small islands.

2) Palapa Satellite

The Palapa Satellite is Indonesia's domestic communication satellite, which is used not only for domestic telephone communication but also for transmission of TV programmes. At present, about 52% of the existing TV stations receive the programmes by TVRO.

Within the country, general TV viewers are permitted to receive the programme from the Palapa Satellite directly: today, throughout Indonesia, about 20,000 viewers are receiving programme from the Palapa Satellite with a parabolic antenna 2-3m in diameter installed in their individual households.

Table 3-2-4 gives a comparison between the DBS and the Palapa-B. In studying the measures this time, the following are the points that require attention. First, the DBS is a subject on which a study should be made over the merits and demerits of launching it at an enormous amount of expenses, while the Palapa-B is something that is already in orbit and is being put to practical use. Second, between the two, there is a big difference in transmission output power and in the prices of receiving installations.

Table 3-2-4 DBS and the Palapa Satellite

	DBS (WARC-BS)	PALAPA-B
Frequency Band up-link down-link	14 GHz 12 GHz	6 GHz 4 GHz
Transponder Transmission Bandwidth	27 MHz	36 MHz
Transponder Power Output	-	10 Watt
EIRP at beam center	63~64 dBW	36 dBW
Number of Transponders	2~3	24
Orbital Position	80°E, 104°E	108°E
Receiving Antenna (diameter)	0.5~0.9meter	3meters or more

3) Future Plans for Elimination of Poor-reception Areas

If we were to make a very bold comparison of the different measures, the results would roughly be as shown in Table 3-2-5 below.

When the terrestrial facilities are used, there will be the need of newly constructing TV re-broadcasting stations totalling more than 10,000 which will have to be maintained and operated in the future.

On the other hand, in the case of DBS, too, the project will involve an enormous amount of expenses required for the construction and launching of the DBS, construction and operation of the ground facilities. Besides, if the measures already taken for terrestrial broadcasting were taken into account, the expenditure for DBS broadcasting would mean double investment.

The DBS does offer a dream for the future, such as its use for the high-definition TV broadcasting. However, with a large number of more urgent projects waiting to be carried out, it is quite difficult to bring the DBS project to reality. So, for the time being, it is proposed that the project of DBS be shelved for further study in the future.

In other words, as far as the DBS broadcasting is concerned, we would like to place expectations on further development in the future, in view of the technological innovations in recent years, as a result of which the noise figure of the tuner has improved so spectacularly that viewers are now able to receive DBS broadcasts with a parabolic antenna of much smaller size.

So, if we are to make an overall judgment of the situation based on the information outlined above, we should say that it will be necessary, for the present, to construct ground facilities first in the districts that require urgent measures being taken and, on the other hand, continue to study the possibility of spreading community viewing of broadcasts from the Palapa and to carry on

the research on receiving facilities of lower cost so as to promote the spreading of reception of satellite broadcasts.

Table 3-2-5 Comparison of Different Measures to Eliminate Poor-reception Areas

	Terrestrial Broadcasting Facilities	Geostationary Satellite	
		DBS	Palapa-B
1. Expenses on the transmission side	<ul style="list-style-type: none"> • Cost of constructing an enormous number of re-broadcasting stations which are expected to exceed 10,000. *1 • Cost of operating and maintaining the above. • Cost of replacing the facilities in the future. 	<ul style="list-style-type: none"> • Cost of newly constructing and launching 2 DBSs. *2 • Cost of launching another DBS when the life of the first one will have expired. 	<ul style="list-style-type: none"> • Lease of circuits (existing) *3
2. Costs on the receivers' side	<ul style="list-style-type: none"> • Low-priced antenna for general reception use. 	<ul style="list-style-type: none"> • Comparative cheap antenna 45-90cm ϕ parabolic • BS tuner 	<ul style="list-style-type: none"> • High-priced parabolic antenna 2-3m ϕ • Tunner for exclusive use
3. Speed of expanding the broadcasting network	<ul style="list-style-type: none"> • Even if 500 stations were to be built each year, it would take more than 20 years to attain the goal. 	<ul style="list-style-type: none"> • A 100% coverage can be secured the moment the DBS is launched. 	<ul style="list-style-type: none"> • Can use the existing facilities.
4. Conducting of regional broadcasts	<ul style="list-style-type: none"> • Even if the project were to be carried out under the conventional facilities standards, about 50% of the area would be covered with off-air relays, so regional broadcasts would be feasible. 	<ul style="list-style-type: none"> • Identical programmes will be broadcast nationwide. 	<ul style="list-style-type: none"> • Identical programmes will be broadcast nationwide.
5. Increase in the number of channels	—	<ul style="list-style-type: none"> • Of 4-5 channels, more than one channels may be used simultaneously. 	<ul style="list-style-type: none"> • Of 24 transponders, there is possibility of leasing more than one channels.
6. Other media of the future	—	<ul style="list-style-type: none"> • Relay of high-definition TV is feasible. 	—

(Notes) 1. Assuming that the construction cost per station is 500,000 US dollars, the construction of 10,000 stations would cost a total of 5 billion US dollars.

2. Outline of the British BSB which is scheduled for launching in the autumn of 1989 is as follows:

- 3ch. DBS
- The cost of the satellite itself and its launching expenses are estimated at about 300 million US dollars (including the cost of one stand-by satellite)

3. Annual amount of lease per channel is estimated at 750,000 US dollars.

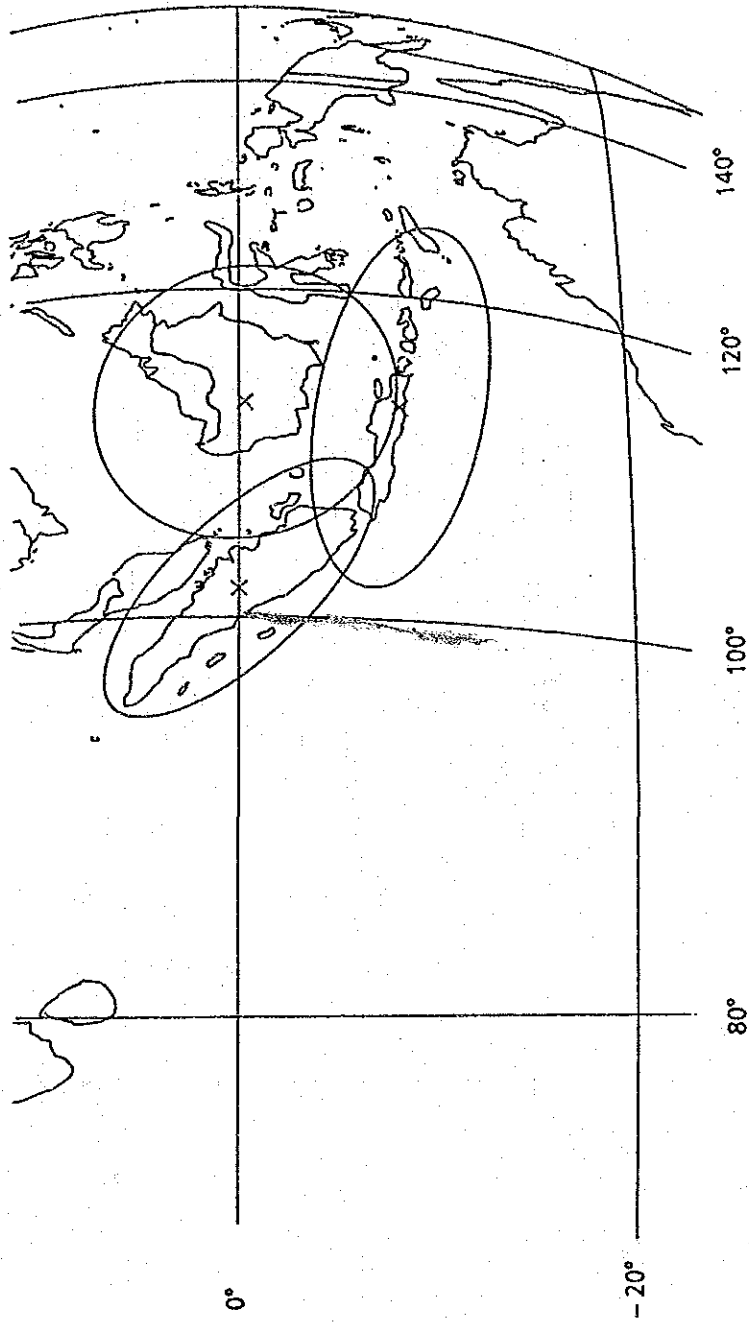


Fig. 3-2-1 SATELLITE POSITION (DEG.) = 80.0

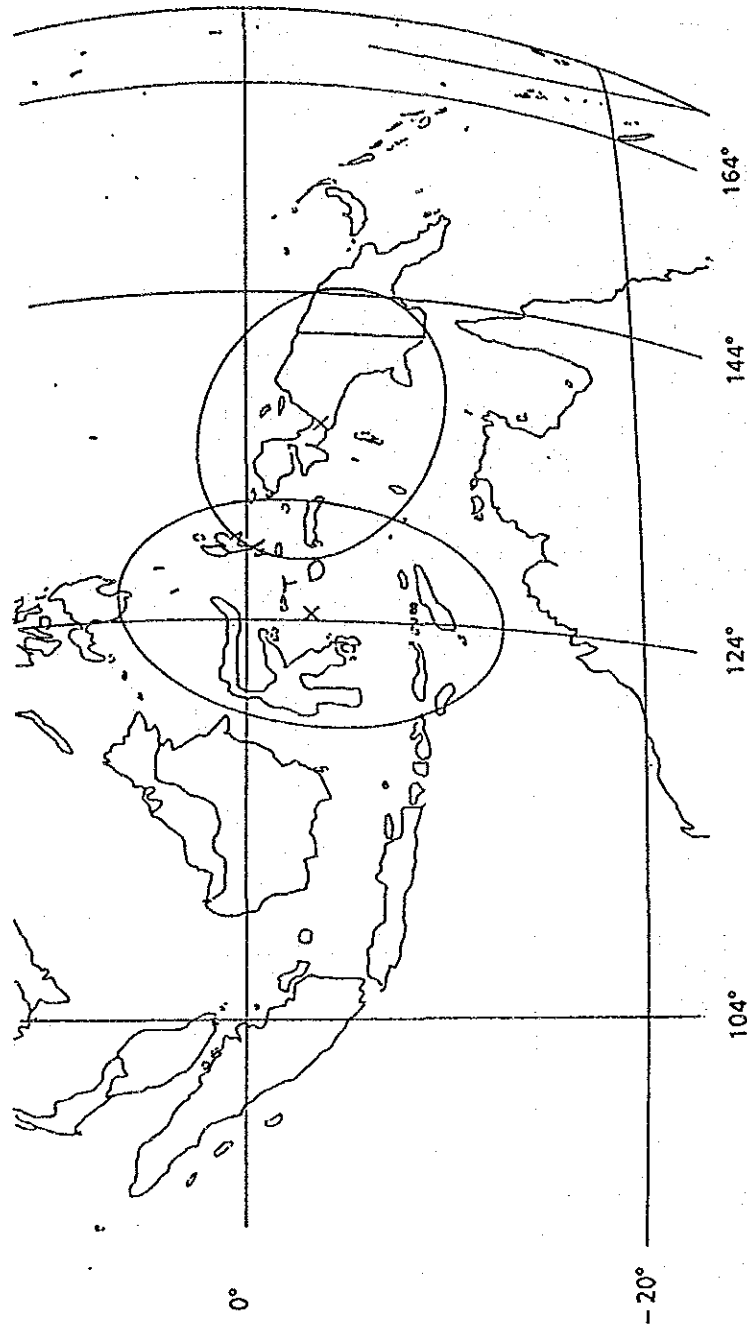


Fig. 3-2-2 SATELLITE POSITION (DEG.) = 104.0

CHAPTER 4 FACILITY PLAN

A broadcasting station has a heavy mission to carry out for the benefit of the general public. And the responsibility it carries is immeasurably great. In order to discharge such responsibility, two kinds of main tasks need to be undertaken by broadcasting stations. One of them is the promotion of plans to expand broadcasting networks aimed at ensuring that the services will reach the maximum number of people, the other is the task of providing stable broadcasting services to the residents of the service area. Each of these tasks is of great significance.

The history of Indonesia's broadcasting shows that, in this country, there has always been an expansion plan in every stage of development to precede further progress in the field of broadcasting. This is fully understandable because it reflects the Indonesian Government's intention to provide broadcasting services equally and extensively to the people who live scattered across the wide territory. However, on the other hand, a problem of considerable dimension is being faced in that, whereas the people living in the service area need to be provided with stable broadcasting services, there still remain some room for improvement in such services. In any kind of project, an expansion is something that ought to be planned on the basis of a well-maintained status and it is something to be developed more with reserved energy.

In Indonesia, through the great efforts made heretofore, both radio and television have secured a considerable width of service area (about 68% for both radio and TV in terms of population coverage) even though neither has yet attained 100%. It seems, therefore, it is becoming increasingly important to maintain in good condition the service areas already secured rather than responding immediately to the requests for development of some new service areas.

From now on, the broadcasting stations should realize anew the importance of their responsibility for such maintenance of services, and the government and the people, on their part, should understand the significance of such responsibility carried by broadcasting stations. Only after such recognition is made of the existing conditions in the

field of broadcasting, should efforts be started to further uplevel the status of RRI and TVRI. For that purpose, what become necessary are the fulfillment of such conditions as the improved quality of personnel, plenty of budgets and improved facilities. So, in this section the proposals concerning the facility plan that needs to be implemented by the end of Repelita VI are examined considering the following points:

- (1) Facilities should always be kept in good condition
→ Planned renewals, positive maintenance
- (2) Wear off "surplus fat" → Discard unnecessary equipment
- (3) Develop a well-coordinated system
→ Model plans, unified technical specifications
- (4) Enhance efficiency -- Introduction of newly developed equipment

4-1 Planned Renewals

Any facility has its life; there is nothing that remains eternally as it is, hence the efforts to prolong the life of a facility as much as possible is necessary. To make such an effort means to conduct positive maintenance, which is a concept of "preventive maintenance." In Indonesia, it is most essential to establish this preventive maintenance system as soon as possible.

On the other hand, even this preventive maintenance cannot prevent the facilities from superannuating; it cannot maintain the facilities in a fresh condition forever. That is why there is the need of renewing the equipment when a certain point of compromise is passed. Designating such a point of time is fairly difficult because it involves various factors.

It is difficult to determine the useful life of a particular equipment since this depends heavily on how well the maintenance is being conducted, how often it is being used, and the general environmental conditions. However, if one compares the timing of renewals at Japanese and Indonesian existing stations, and the level of deterioration at that

time, it can be said that the useful life in Indonesia is about 15 years after installation. (Refer to Supporting Report, LIFE EXPECTANCY OF BROADCASTING EQUIPMENT.) It is therefore advisable to start investigating in detail whether such broadcasting equipment as transmission equipment, studio equipment and power devices need any replacement, once 15 years have lapsed since installation.

One must take into account the number of failures the equipment has experienced in the past, the degree of the hazard, and also whether spare parts could be sourced easily or not, before deciding whether to replace the equipment altogether, or simply overhaul it. This also means that utmost efforts must be made to keep the equipment in good condition at least for 15 years, which would require appropriate maintenance. The view stated here is the opinion under the view point which grasp the broadcasting equipment globally. This opinion, however, does not apply to the consumable parts such as tubes and VTR heads.. The best way to keep up with this goal is for everyone in a particular station to always try and maintain the system fresh by discarding superfluous equipment and replace whenever necessary and appropriate.

4-2 Discarding of Unnecessary Equipment

(1) Shortwave Transmitters

Indonesia's history of broadcasting shows that the radio broadcasting in its earlier days had the objective of conducting services to the ships on the seas. In fact, even today, a large number of shortwave transmitters are installed along the seashores. However, in recent years, expansion and maintenance of medium-wave broadcasting network have been pushed ahead, with the result that many of such shortwave transmitters have apparently completed their missions. For that reason, it is proposed that the shortwave transmitters for local broadcasts should in principle be discarded.

Today, when the medium-wave broadcasting network has been expanded to such an extent that the reason that the shortwave band is more advantageous in relation to the tropical noise no longer has as much persuasive power as it used to have in the past. It seems that shortwave

today has been confronted by more serious problems, such as, that its propagation is unstable, that its receiving sets are more expensive and that, by year 2015, short-wave broadcasts should be shifted over to SSB. However, since short wave broadcasts seem to have the utility value in that it can cover farther regions than medium-wave broadcasts, it is proposed that, with regard to some of the stations, a survey be made about their necessity and the possibility be looked into about installing both the shortwave and the medium-wave transmitters to be used optionally.

(2) Superannuated Equipment

A study shall be made about the possibility of discarding the equipment installed before 1959. Other equipment shall also be renewed if any functional problem has been detected.

(3) Film Processor

Film coverage could be supplemented with ENG (Electronic News Gathering). Therefore, it is proposed that assignment of ENG equipment should be promoted and that those film-coverage equipment that are feared to cause pollution should be discarded. As for the production of programmes which are considered as being fit to be produced only in film, the work shall be commissioned to Pusat Produksi Film Negara (PPFN), the national film production centre.

4-3 Unification of the system

While the TV stations have relatively little problem in their day-to-day operation, the radio stations are generally faced with the problems caused by the complexity of the system because of their using many units of equipment of different types and makes. Therefore, it is proposed that the system of each radio station be streamlined into one with a minimum necessary scale, eliminate unnecessary technical facilities and that, depending on the characteristics of each station, additional functions be introduced into the operation as options. In other words, a nationally-unified basic system should be established and improvement and maintenance of the facilities at each station should be carried out. Fig. 4-3-1 and Fig. 4-3-2 show the proposed basic systems.

The points that need to be taken note of in setting up a basic system are:

- (1) The system should possess a redundancy so that it may always be operated in the same condition.
- (2) The domestic radio broadcasting should basically be the services on medium-wave.
However, the FM broadcasting service, which also functions as STL, shall be conducted in the urban areas.
- (3) The radio's high-power (over 50kW) operation shall in principle be of parallel operation system and the low-power (under 10kW), in principle, of stand-by operation system.
- (4) The ratings allocated to the broadcasting stations (frequency, output, etc.) shall always be adhered to.
- (5) The system should be as simple as possible.

At present, in Indonesia, the technical specifications are determined for each project, using the manufacturer's specifications as reference material. In this regard, it is proposed that the Engineering Centre should prepare unified technical specifications for use in Indonesia as a whole. In promoting nationalization of manufacture of broadcast-related equipment and installations, guidance from the users is indispensable. Hence, there is the need on the part of the users to point out current problems so that the technical specifications to be prepared may reflect such problems.

4-4 Introduction of Newly Developed Equipment

In every industry, technicians all over the world are making aggressive efforts for technological innovations.

Broadcasting equipment is no exception, and technical progress is bringing new, efficient and complicated equipment and system from day to day. New equipment is always attractive, and everyone wants it. However,

one must be particularly cautious when adopting an equipment for professional use, for there is a big difference between consumer products and professional products. Whereas consumer products are used only by a limited number of people for a limited period of time, professional products are used by many people and for very long hours. Therefore, following points must be taken into consideration, when introducing new equipment.

- Reliability

Reliability and continuity of service of the equipment are of the utmost importance.

- Simplicity of Operation and Maintenance

Simplicity of operation and maintenance and ease of fault location are essential.

- Standardization

The equipment of an identical type shall be fabricated to consist of identical units, modules and component parts and to have identical configuration. Also, consideration shall be given in design so that component units, modules and parts can provide interchangeability as much as possible among different types of equipment as well.

- Safety Regulations

Particular attention shall be paid to the design and installation of the equipment in order to afford maximum safety to the operational staff and associated personnel in both mechanical and electrical aspects.

Taking these points into account, the following equipment could be considered for introduction.

- (1) Frame Synchronizer

This equipment can mold a system without combining matrices for complicated synchronizing signal.

- (2) CCD Camera

This equipment requires little maintenance, and have excellent characteristics.

(3) 1/2 inch Video Cassette Recorder

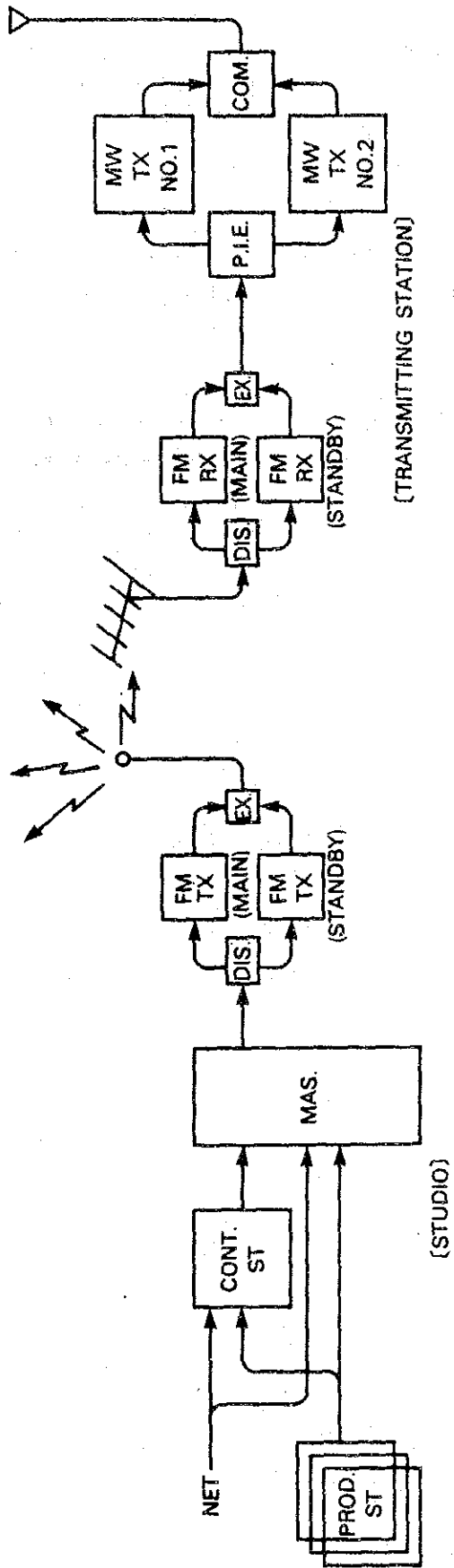
This equipment has many advantages which include less operational expenses and being smaller and lighter. It would also facilitate a dispersed arrangement system of studio equipment.

(4) Compact Disc Player

The sound quality is significantly better than on conventional disc players. It would be particularly useful for FM broadcasting.

(5) Solar Battery

A solar battery cannot supply large capacity of electricity at the present technical standards, but it could be used for TV relay stations that require less power. The device would make "unmanning" of relay stations possible.

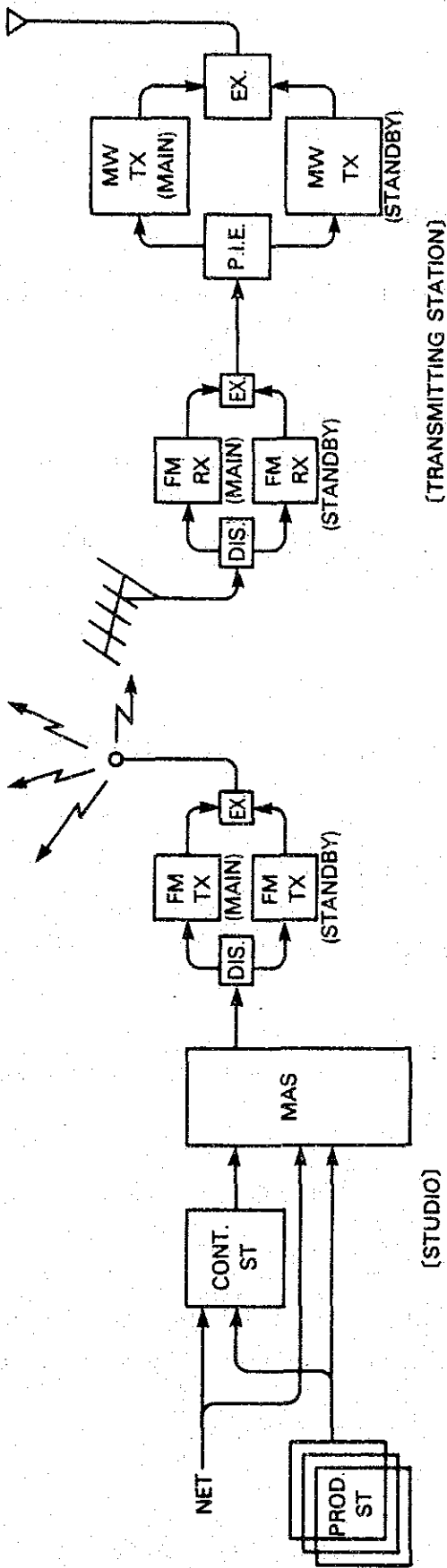


(NOTE)

- PROD. ST.: PRODUCTION STUDIO
- CONT. ST.: CONTINUITY STUDIO
- NET : NETWORK
- MAS : MASTER CONTROL
- DIS. : DISTRIBUTOR
- TX : TRANSMITTER
- EX. : EXCHANGER
- RX : RECEIVER
- P.I.E. : PROGRAMME INPUT EQUIPMENT
- COM. : COMBINER

- * Medium wave transmitter shall be a parallel running system.
- * FM transmitter shall be employed for programme link and broadcasting in common.

FIG 4-3-1 RADIO BROADCASTING SYSTEM FOR HIGH POWER TRANSMITTING STATION



(NOTE)

- PROD.ST : PRODUCTION STUDIO
- CONT.ST : CONTINUITY STUDIO
- NET : NETWORK
- MAS : MASTER CONTROL
- DIS : DISTRIBUTOR
- TX : TRANSMITTER
- EX : EXCHANGER
- RX : RECEIVER
- P.I.E. : PROGRAMME INPUT EQUIPMENT

- * Medium wave transmitter shall be a standby system.
- * FM transmitter shall be employed for programme link and broadcasting in common.

Fig 4-3-2 RADIO BROADCASTING SYSTEM FOR LOW POWER TRANSMITTING STATION

CHAPTER 5 Programme Transmission Plan

In order for entire nation to clearly receive various radio and TV programmes throughout the country, it is vital to establish an effective nationwide radio and TV transmission network which enables the transmission and clear reception of programmes among the stations.

Generally speaking, composing of an ideal radio and TV programme transmission network should consider the following conditions:

- (1) That it has high technological characteristics
 - 1) It can keep good broadcasting activities by high quality transmission properties.
 - 2) It has high reliability and can get the back-up line smoothly in case of malfunctions.
- (2) That it has high cost efficiency.
- (3) That it allows both regional and national programmes to be smoothly integrated.

The most effective way to improve the network which meets all of the above-mentioned conditions is to use a national telecommunication network. In Indonesia, it would be most desirable to use the PERUMTEL network which provides telecommunication service.

Since the launching of PALAPA satellite, rapid progress has been made to improve the PERUMTEL network nationwide.

However, it will be sometime before the PERUMTEL network that meets the above-mentioned conditions is completed.

While, the Programme Transmission Plan should be designed to cope with the current situation, with wishing for further progress in the improvement of the PERUMTEL network.

5-1 Radio Programme Transmission Network

5-1-1 Present Status of Radio Programme Transmission Network

At present, the radio programmes of RN-I including news and information, all of which are produced in the National Jakarta Station, are transmitted from Jakarta to 40 stations in different regions leasing the PERUMTEL's communication line, as shown in Fig. 5-1-1.

Two transmission systems are currently in use at the PERUMTEL Cibinong Ground Station. One uses an ordinary FDM telephone line for transmission to large PERUMTEL earth stations (SBB) in regions. The other is a multiplex system using a frequency of TV signal for transmission to medium PERUMTEL earth stations (SBS) and small PERUMTEL earth stations (SBK). (Refer to Table 5-1-1)

However, in either system the leased lines are not those with a bandwidth of 7kHz or higher which is considered necessary when the line is used as an audio transmission for broadcast use (generally speaking, the audible range of a human being is said to be 16Hz - 20kHz in frequency bandwidth and a 20kHz bandwidth line is considered ideal but, as a transmission line, one with a bandwidth of 7kHz or higher is considered necessary, if the modulation characteristics of the MW transmitter and the demodulation characteristics of the receiver on the market were taken into account). Instead, leased line is narrow bandwidth line of 300Hz - 3.4kHz which corresponds to one channel of the telephone line. This is unsuitable as an audio transmission line for broadcast use which transmits the music programmes from Jakarta.

Moreover, the maintenance of the transmission lines are not adequate either. During the transmission, especially between a regional PERUMTEL earth station and a regional RRI station, there are interferences from hum noise, etc.

Furthermore, for eight stations, viz., Sumenep, Gorontalo, Dili, Fakfak, Manokwari, Serui, Nabire and Wamena, PERUMTEL's transmission lines have not yet been well established and these stations are receiving shortwave broadcasts from Biak, Ujung Pandang and other stations as a

substitute for a programme transmission line. However, this is inappropriate as a programme transmission line because fading and other interferences make reception unstable, even though it can be used as an emergency line.

In fact, broadcasting the nationwide programmes originating in Jakarta that form the basis of radio broadcasting in Indonesia cannot possibly be considered as being transmitted in a satisfactory quality to the regions.

5-1-2 Existing Long-term Plan (1984)

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

- (1) To arrange a standard transmission network for the efficient distribution of high quality programmes to the existing stations.
- (2) For the newly established stations, the standard network which enables distributing of the programmes in good condition which have been produced at the central stations.
- (3) To establish an up-stream line to the central or Nusantara station in order to send news materials gathered at regional stations, programme materials or the programmes originated in regional stations for the purpose of using them for a part of national programmes or broadcasting programmes intended for the Nusantara.
- (4) To arrange transmission for local time difference.
- (5) To arrange a high standard transmission network which can send the stereophonic programme.
- (6) To constitute a broadcasting programme transmission network in order to conduct regional broadcast mainly by the Nusantara station.

As mentioned above, as far as the radio programme transmission network is concerned, none of them have as yet been improved or expanded

on a full scale. Furthermore, RRI is faced with difficulty in the point of financial aspect.

Therefore, during the period of this long-term plan, it is proposed that the improvements should be confined to those on the down-stream programme transmission line from Jakarta to the regional stations, such as those elaborately mentioned in the existing long-term plan, will be started after all the necessary measures will have been taken and everything will have been put in right order with regard to programming and broadcasting facilities.

5-1-3 Reviewed Long-term Plan

The following improvement shall be promoted within the period of the long-term plan.

- RN-I downstream Programme Transmission Network from Jakarta
- RN-II downstream Programme Transmission Network from Jakarta
- RN-III downstream Stereophonic Programme Transmission Network from Jakarta
- Overseas downstream Programme Transmission Network from Jakarta

(1) Network Concept

In Indonesia, a country consisting of a large territory including large and small islands, it seems to be hardly possible to form a network using a terrestrial line as a means of delivering the nationwide programmes produced in Jakarta to a total of 48 regional stations in high sound quality.

For that reason, the most effective means of delivering the nationwide programmes will be to use a satellite which, from the altitude of about 36,000km above ground, is capable of carrying out the delivery of the programmes to multi-points across the country all at a time. So, in this plan, too, it is proposed that the Palapa satellite should be used.

As shown in Fig. 5-1-2, the concept of programme transmission network will be a star-shaped network with Jakarta at the centre including the construction of 8 regional stations which have not yet established the programme transmission line.

- 1) RN-I : from Jakarta to all 48 regional stations
- 2) RN-II : from Jakarta to Ujung Pandang Station
- 3) RN-III : from Jakarta to Medan, Surabaya, Yogyakarta, Bandung, Semarang and Banjarmasin Stations
- 4) Overseas: from Jakarta to Medan and Biak Stations.

(2) Technical Standards of Programme Transmission Line

1) RN-I

As shown in Table 5-1-2, the programme transmission line with a frequency bandwidth of 50Hz - 10kHz, which is the most suited to the transmission of medium-wave radio programmes and which satisfies the CCITT Recommendation J22, will be improved.

2) RN-II and Overseas Broadcasting

These two channels of programmes will be broadcast in shortwave. The channel separation in the shortwave band allocated 5kHz interval.

Also, the modulation-frequency range of a shortwave transmitter is usually 100Hz- 4.5kHz. So, in the case of RN-II and overseas broadcasting, there is no need of a 10kHz bandwidth line as in the case of RN-I.

Therefore, as shown in Table 5-1-3, the programme transmission line with a frequency bandwidth of 70Hz - 5kHz that satisfies the CCITT Recommendation J23 will be improved.

3) RN-III

Wide-bandwidth, high-level lines are necessary for transmission of the RN-III stereophonic programmes.

In cases of long distance transmission, stereophonic signals shall be coded and changed into digital signals in order to maintain stereophonic effect.

As shown in Table 5-1-4, the programme transmission line with a frequency bandwidth of 40Hz - 15kHz that satisfies the CCITT Recommendation J21 will be arranged.

The FM stereophonic programme transmission lines require very high-level standard, therefore it is very important to ask the PERUMTEL's sufficient technical cooperation.