

**Television Broadcasting In Indonesia :
The Use Of Domestic Satellite Technology
And The Implications Involved**

By

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TELEVISION BROADCASTING IN INDONESIA

THE USE OF DOMESTIC SATELLITE TECHNOLOGY
AND THE IMPLICATIONS INVOLVED

Background paper
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Television in Indonesia holds a unique and specific role. Based on a Parliament Decision issued in 1983, which acts as the major guideline for all laws and regulations now being carried out, TV - as one form of mass media functions as "an instrument which will arouse the People's Participation in development".

Ever since the great political change which occurred in 1965, Indonesia has carried out Five-year Development Programs. This year, we are into the fourth program of its kind. Each stage has its own dimensions but every stage mutually aims in transporting the people of Indonesia from their traditional agricultural situation to a more industrially modern society, without destroying the nation's cultural values and characteristics which have been handed down for hundred of years.

A MAP OF INDONESIA

Indonesia is considered the vastest archipelago in the whole world. It consists of 13,677 large and small islands - only 6000 of which are inhabited. Its land area measures 2,027,087 million km² (Forty times the Republic of Korea), and if you include its waters, that would add up to an area of 5,163,250 km² (One hundred times the Republic of Korea). As a comparison, its farthest west to east point equals the same distance as a flight from London to Istanbul; Los Angeles to New York or Sin Kiang to Taiwan. Travelling from the north to the south of Indonesia would be the same as a trip from Seoul to Hongkong.

The country has a population of 167 million persons, unevenly distributed. As an example, the island of Java, where the capital city of Jakarta is located, 1/20 of Indonesia's total area, has a population of 110 million - more than half of Indonesia's total population. The other islands are very sparsely inhabited. Java's population density averages around 700/km². Other areas - Sumatra : 59/km², Kalimantan: 12/km² and Irian Jaya: 1,5/km².

The population is not only separated geographically, but is also separated by its ethnic values, religion and culture. Eventhough Indonesia is divided into 27 geographically - administrative provinces, ethnically it is divided into 170 different tribes which individually has its own traditions, language/dialect and history. There are 250 different dialects still actively used throughout the nation. Ninety-one percent of the people are Moslems, 6% Christian, 2% Budha and 1% Hindhu. Ninety-four percent of the people of the famous island of Bali is divided between those that are Hindhu and Budha.

In line with all this, Indonesia is lucky to have one language which is shared and understood by all. It is a lingua franca which has been used since 1928, 17 years before Indonesia won its Independence. This one language is what unites the people of Indonesia, who are basically diversified.

Aware of the geographical condition, the concept of national development is directed towards: an equal and balanced development and growth in all regions throught the country. From the bureaucratic aspect, this is reflected through officials' routine tour of duty - which is the posting of officials from governmental headquarters to smaller areas or from one region to another. Aside from this, there has been a great effort to immigrate people among islands. This results in the rapid development of cities, especially provincial capitols. University centers and the intellectual field has also seen great progress.

TELEVISION IN INDONESIA

Television was first introduced to Indonesia in 1962. Its main purpose was to complete facilities needed to support the carrying out of the IV Asian Games which was held in Jakarta.

Television then used the PAL/625 line system, and was in the beginning still black-and-white. But by 1970, Indonesia could enjoy color television. It may be said that development was rushed, but the growth which followed was unbelievable and beyond the nation's hopes. At the start, programs were only televised for Jakarta and surrounding areas. Eight years afterwards (1970-1978) a local station in Yogyakarta was built. In line with the development of certain areas, a number of provinces demanded their own television stations like the one found in Jakarta.

In the following 8 years, seven regional stations were opened. They were in Medan, North Sumatra; Palembang, South Sumatra; Surabaya, East Java; Balikpapan, East Kalimantan; Denpasar, Bali; Ujung Pandang, South Sulawesi; and Manado, North Sulawesi (refer to map).

The opening of these seven local stations immediately brought about the 3 following effects:

- (1) The lack of able technicians and employees to handle the broadcasting (the software of the business). To buy the equipment needed to furnish a studio is easy, but it is quite difficult to train or find trained and skilled workers to handle that type of job. (It takes 2 years of basic training to become an operator, and 4 years of training for technical work).
- (2) Maintenance of the equipment which was vastly distributed also became a problem. Maintenance would need a high degree of skill and large financial funds.
- (3) The ability to produce and improve broadcasting productions was not equally found in every area. This was mainly caused by the different styles and material sources of each area.

For the years 1962-1970, the development of national (central) broadcasting from Jakarta was done by using microwave. This was evidently unsuitable for Indonesia because :

- (1) The microwave radius was limited to 60-80 km. This would mean that thousands of microwaves would be needed in order for isolated areas in other island, far from Jakarta to be able to receive television broadcasts.

- (2) Indonesia is a vast archipelago. There would be several technical obstacles which have to be handled if the country were to use this system.
- (3) It would take a great span of time (25 years) before all of Indonesia could be reached through television.

Based on this, in 1976 a new concept was found which would prove to be a big step in the field of television technology.

THE DOMESTIC SATELITE SYSTEM

In 1974, Indonesia signed a contract with HUGHES CO., in United States which stated that they agreed to build a domestic satellite for Indonesia which would then be launched by NASA.

Indonesia bought the HS 333 D ANNIX type satellite, which was previously used by Canada.

On the 8th July 1976, the satellite was named PALAPA, and was launched to a height of 77 east longitude.

On the 11th of March 1977, the satellite reserve - Palapa A II was also orbited at a height of 83 east longitude.

At that time, Indonesia was the third country, after Canada and the United States, and the first developing nation to use the domestic satellite. Using the domestic satellite was a brave choice on Indonesia's part, as it involve a high budget of US \$ 200 million and the employment of advanced technology. The Palapa satellite not only covers the whole of Indonesia, but can also reach the ASEAN countries. The satellite consists of 12 transponders, of which each can accomodate 1500 telephone circuits or one TV channel. Together with the launching of the satellite, a ground controlling station was built in the Cibinong area - 20 kilometers south of Jakarta, along with 40 other mini ground receiving stations in various parts of the country. After the year 1980, the development of ground stations grew rapidly, as Indonesia have succeeded in building it's own stations. Each ground station is equiped with a 15 meter - diameter parabolic antennae, a power amplifier, a power modulator, a power generator and a transmitter which broadcasts TV programs

received from the satellite.

In 1978, 40 ground stations were built, and now the country owns 197. ground stations. Practically only after 8 years since the satellite was launched, the whole country can enjoy TV programs broadcast from Jakarta. Now, TVRI is one of the world's largest broadcasting networks. The total of television sets now in Indonesia has reached 5,5 million, and broadcasts reach 65% of the whole country. The usage of Palapa involves several implications :

- (1) Technologically, the Indonesian communication system is very dependent on the satellite which physically is difficult to control as it is over 36.000 km above the earth's surface.
- (2) After every 8 years, Indonesia has to acquire a new satellite, as it only has an eight-year life span.
- (3) The communication satellite has incited the public's demand for more TV programs and the increased usage of telephones, and this implies that a larger satellite must be used. Compared to Palapa A, Palapa B I which was launched last year, is 2 times more powerful (it consists of 24 transponders, while Palapa A consisted of only 12 transponders).
- (4) More ground stations must be built so that more areas can receive TV broadcasts from Jakarta.
- (5) Indonesia becomes dependent on the capabilities and technology of satellite producing countries.

Palapa B II, which was the reserve of Palapa B I, was lost in orbit after it was launched from Capa Carnaveral, Florida, in last year.

THE CONCEPT OF THE ARCHIPALAGO APPROACH :

The usage of the Palapa domestic satellite has opened new dimensions in the country's development of television system. Technically, Palapa has made it possible for TV programs to reach the whole nation.

Through television, the public's activities in rural areas, as well as their culture and traditions, can be exposed.

This has a big influence in raising the public's sense of belonging and oneness. As long as the programme is concern TVRI now broadcast 80% of its own production and only 20% imported production. Most of its own production consist of drama, cultural programme and entertainments. Most of the import programme comes from United States.

Meanwhile, each region's demand to be exposed through television has increased. But, at present, no more new stations can be build due to the high cost of construction and the shortage of skilled technicians. New technological findings, including portable electronic cameras such as the Electronic News Gathering (ENG), the Electronic Field Production (EFP), VTR, the B and C formats, the VTR 1 inch BCN - Bosch Fernscheh and the U-Matic 3/4 inch Sonny, has helped in changing the country's approach to the development of television system.

In 1979, in line with the 9th SEA GAMES in Jakarta, TVRI bought 4 sets of EFP Mini OB Vans, Bosch Fernscheh and 20 BCN - ENG camera sets. This addition has increased equipment mobility from one area to another.

Mini OB Vans can enter small roads in villages without encountering many difficulties, and if necessary, can be transported by Hercules planes to remote islands. Television programs are then made on location, in pretty villages, fields, beaches or river banks. Thus, the artists are no longer brought to the studio, but the studio is brought to them, and they can sing, dance and act in their natural setting.

In 1981, Subrata, then the Director of Television, developed the concept of Archipelago Approach. Principally, it stated that no more television stations will be built (due to the high cost of construction and the need to employ more crews), but to use mobile production station units.

Each unit is equiped with a mini OB Van which has 2 EFP cameras and an ENG camera completed with video and audio controls and editing facilities, a power generator and a mini bus for crew transportation. A small production unit (SPU) is manned by 12 persons, including cameramen, audiomen, lightingmen, switchers, a program director (PD), an assistant PD, technical director (TD) and maintenance. SPU can also easily move from one place to another.

In 1982, 10 SPUs were purchased and sent to 10 provinces. Through coordination from Jakarta, SPUs make production packets which are then delivered to Jakarta to be broadcast nationally.

Characteristics of the Archipelago Approach :

- (1) To use SPUs which are sent to remote areas and not build new television studios. SPUs are more easy to operate and to maintain, and less crew are needed for its management.
- (2) Stressing on the artists' activities outside the studio. This is very appropriate, as Indonesia is divers in its cultures and traditions. Thus, recording can be carried out naturally, with traditional dancers in their natural setting and also with original decorations.
- (3) The ENG camera which is part of SPU, can be used seperately to cover development projects in various parts of the country. It can also be used as a news correspondent if any important event should arise.
- (4) The usage of SPUs overcomes the problem of having to build new studios with their expensive equipment and facilities. Due to SPU's limited capabilities, specific supportive measures should be taken by central and regional television stations.
- (5) The Archipelago concept has allowed greater mobility. By using the domestic satelite, each SPU can be connected to the satelite through the ground station's mobile up-link equipment. Thus, live programs can be broadcast from remote areas.
- (6) The concept of the Archipelago Approach is based on the idea of taking the camera out of the studio, and in very suitable for Indonesia which has a tropical climate and does not depend on the weather. Thus, production efficiency is very high.

THE IMPLICATIONS OF ADVANCED TECHNOLOGY ON THE INDONESIA TELEVISION SYSTEM :

Indonesia has chosen to use the domestic satelite Palapa, a modern step in technology. This technology has united the country, and provided a fast central channel of information.

Several implications can be concluded :

The positive impact :

- (1) The information flow, specifically top-down, will flow without special or time limitations.
- (2) With the installment of the portable up-link antennae unit, live programs can be carried out from and to any area.
- (3) Bureaucracy efficiency can be increased. For instance, by using the facsimile (long distance photo copying) which is now attainable at a relatively low price, would enable correspondency and administrative bureaucracy will be more efficient.
- (4) Central computerization have been carried out, and computer terminals have been connected to the central computer in Jakarta. This has been used in carrying out family - planning, agricultural and population programs.
- (5) The Palapa satellite has enabled Indonesia to establish an Open University and broadcast education programs in the mornings.
- (6) The satellite has also been used to cover sports events, and to exchange news and cultural programs in the ASEAN region.
- (7) The satellite technology has incited the development of hardware technology in Indonesia, such as the building of ground stations, link stations, etc.

The negative impact :

- (1) The usage of satellite have increased the demand for more television programs. Demands to have more ground and transmission stations built in regional areas have also increased.
- (2) The satellite technology has made the Indonesian communication system very much dependent on the satellite system.
- (3) The usage of modern technology has caused Indonesia to be involved in a competition of technological jumps which is expensive and difficult to follow.
- (4) Indonesia receives the spill over of programs which is broadcasted by neighboring countries using the Palapa.

In Jakarta and other big cities, mini parabolic antennae are already made available, which enables the owner to receive broadcasts from Thailand, Malaysia and the Phillipines.

THE POSSIBILITIES OF USING THE DIRECT BROADCASTING SATELLITE

Japan began using the Direct Broadcasting Satellite DD II earlier this year, which was launched to a position of 110 degrees east longitude. Australia will launch its satellite - Aussat - in the near future.

The DBS (Direct Broadcasting Satellite), the latest satellite technology, will soon become publicly popular.

Indonesia is in the process of studying the DBS system. Specifically for the third generation of Palapa (Palapa C) in 8 years to come.

Two symposiums on DBS were held in Jakarta last year, participated by experts from the fields of communication, engineering and social studies.

Several issues were raised during the symposium :

- (1) The usage of the DBS system will create the possibility of a greater spill over.
- (2) On one hand, consumerism will be increased especially in the urge to buy expensive receiving antennae, and on the other hand, it will also create a gap between those capable and not, to attain the antennae.
- (3) Technically, there will be technological jumps difficult to keep up with by Indonesian technicians.
- (4) Link, relay and mini ground stations which are used in connection with the Palapa, will go to waste.
- (5) Unlike the Palapa satellite, DBS will be difficult to use jointly with other ASEAN nations.

On the other hand, DBS does bring strategic advantages, in the sense that the government no longer has to build expensive ground stations and transmitters.

Hundreds of ground stations are needed to connect Palapa with various isolated areas. Areas which can receive the Palapa signal are still concentrated in the provincial capitals and other densely populated areas.

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From this line of thought, it can be concluded that :

The domestic satellite technology has made a jump in the communications field, including the television broadcasting in Indonesia.

Questions raised and will always be debated over are :

Is the domestic satellite the most advanced technology which can still be used effectively in Indonesia ?

Does Indonesia have to "enter" further into the more sophisticated DBS technology ?

Should Indonesia freeze and stop technological development ?

Would the application of a more advanced technology prove to be inefficient for Indonesia ?

These are questions almost unanswerable, the same questions faced eight years when we were first confronted by the domestic satellite.

History will repeat itself, only cautious and careful calculations will enable us to face these historical repetitions wisely.

Jakarta, October 20, 1984.

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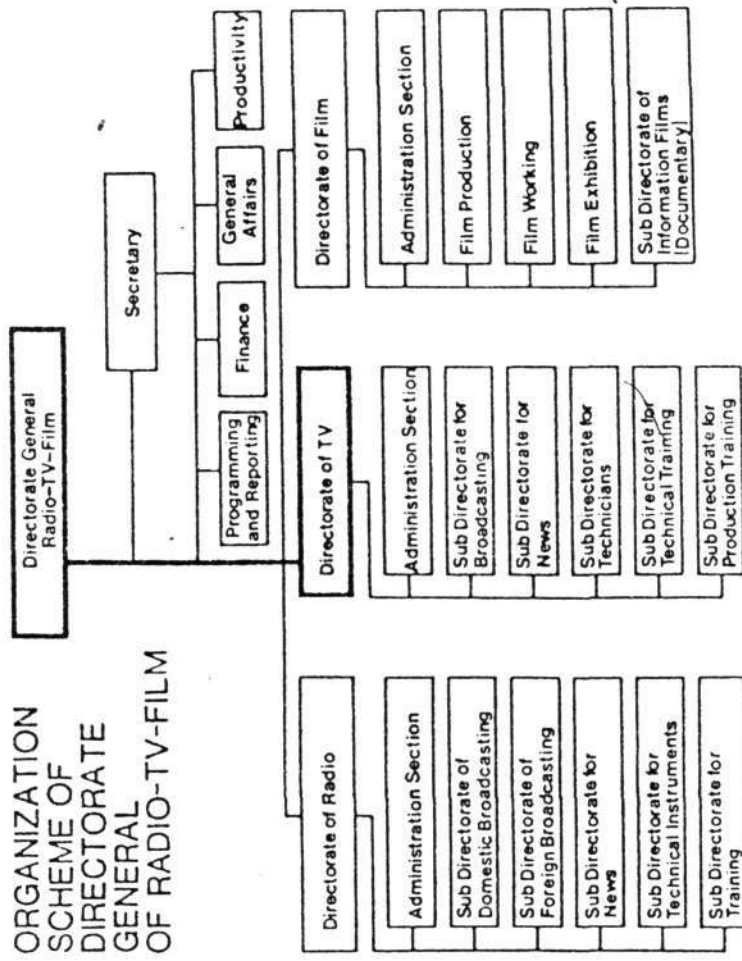


Figure 3-5

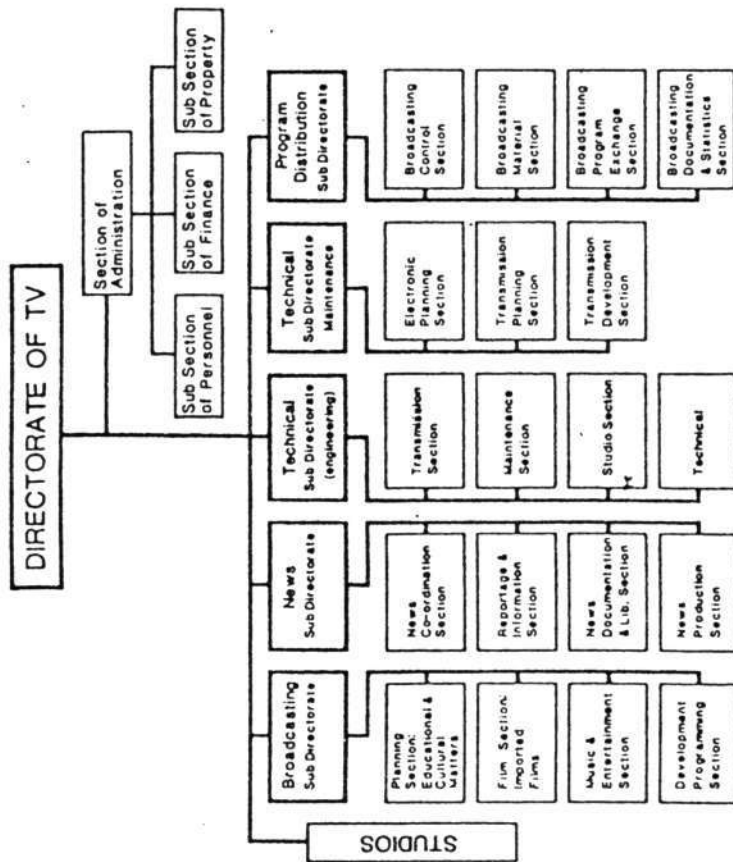


Figure 3-6

JAKARTA STUDIO

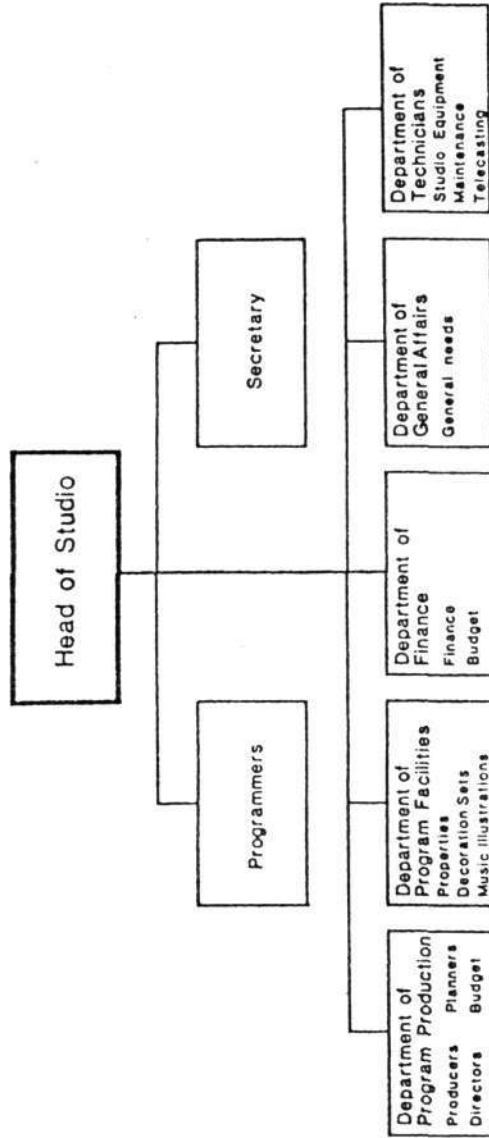


Figure 3-7

APPENDIX

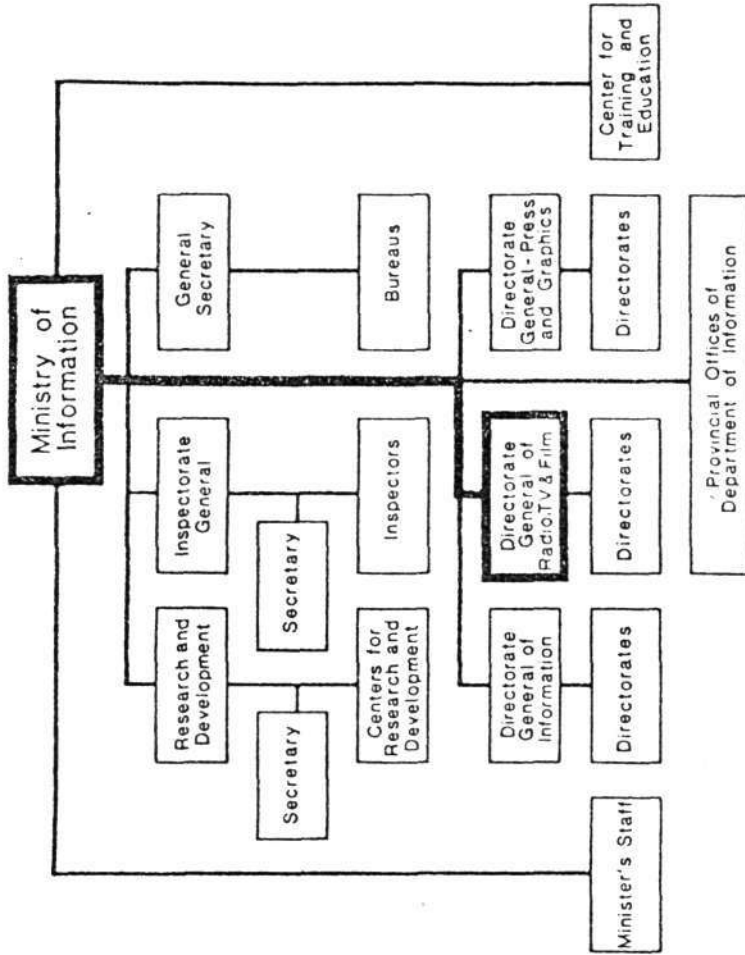


Figure 3-8

*SOURCE : ALFIAN, C.Hu. Goldwin ed. : "Satellite Television in Indonesia" - Honolulu : East West Center, 1981.

**NUMBER OF HOURS OF DAILY
BROADCASTING (on an average basis)
in 1978**



*New Stations, most programs come from Jakarta. As of 1 Oct 1978, one more hour of broadcasting is planned for Jakarta station.

Figure 5-1

**BASIC POLICY GUIDELINES REGARDING TV
BROADCASTING FROM MINISTRY OF INFORMATION**

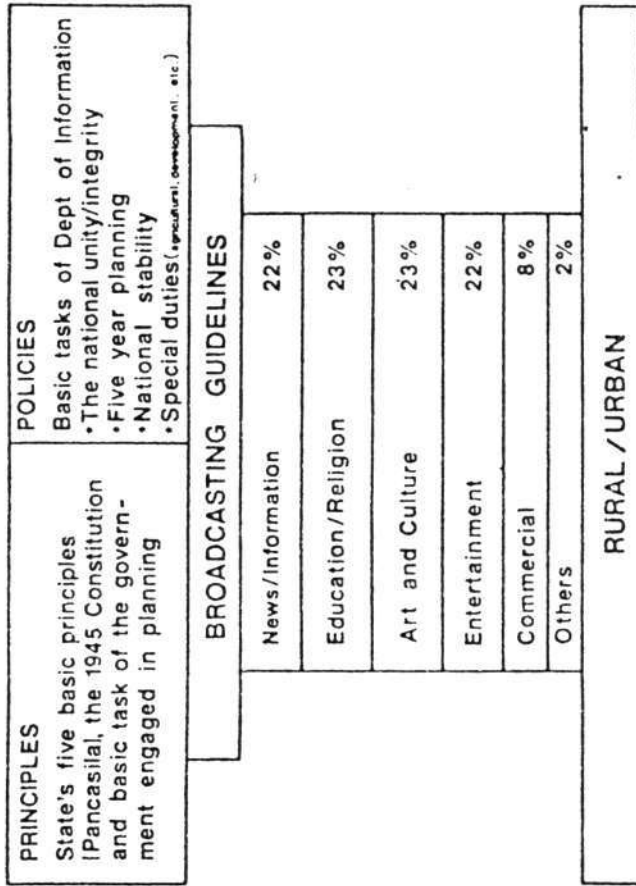


Figure 5-2

NUMBER OF RECEIVERS IN INDONESIA FROM 1971-72 UNTIL 1977-78

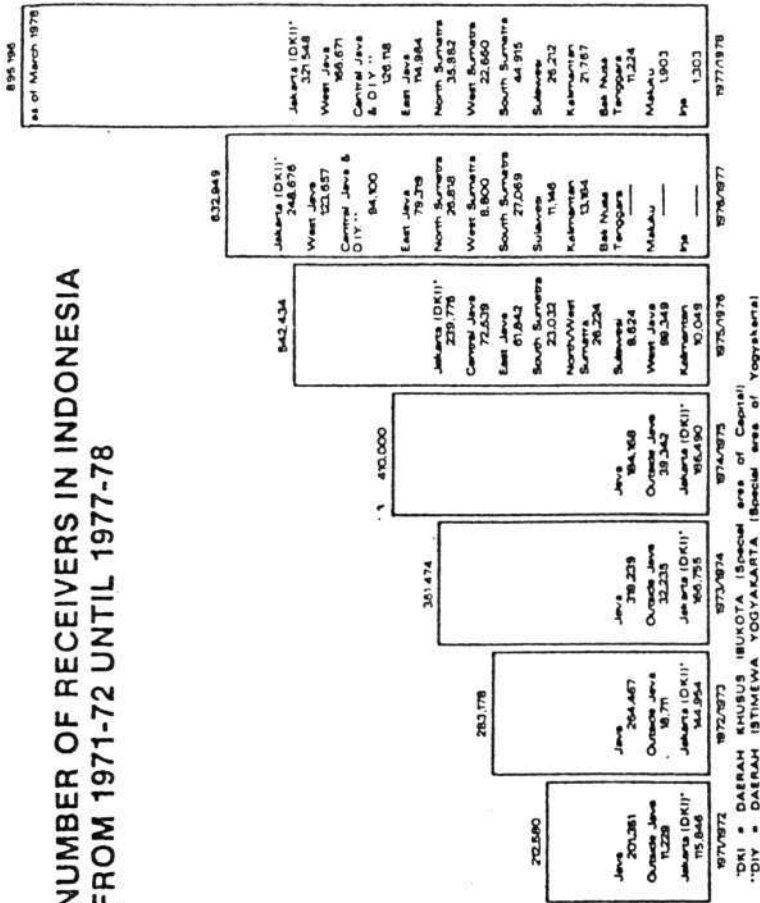


Figure 2-1

**DKI = DAERAH KHUSUS IBUKOTA (Special area of Capital)
**DIY = DAERAH ISTIMEWA YOGYAKARTA (Special area of Yogyakarta)

Table 5-1

Minutes of Broadcasting: Jakarta Station
Total Minutes of Broadcast Week: 2880

Day	Children's Programs		Personal Skill and Education		Higher Education		Religions and Defense		Development Sports		Com-mercials		Entertainment		Daily Program Schedules and Weather		Totals
	News	Programs	Public Affairs	Education	Higher Education	Religions	Defense	Sports	Com-mercials	Entertainment	Weather	Totals					
Sun	45	65	0	45	0	25	10	60	60	260	15	585					
Mon	45	55	40	25	0	0	10	0	60	125	15	375					
Tues	45	55	0	12	33	20	10	0	60	125	15	375					
Wed	45	55	40	25	0	0	10	0	60	125	15	375					
Thurs	70	55	0	6	0	40	29	0	60	100	15	375					
Fri	45	55	0	38	0	0	22	15	60	125	15	375					
Sat	70	55	45	10	0	0	10	0	60	155	15	420					
Total	365	395	125	161	33	85	101	75	420	1015	105	2880					
Percent of Total	12.67	13.72	4.34	5.59	1.15	2.95	3.51	2.60	14.58	35.24	3.65	100.00					

Table 11-5
Age and Popular Television Program Preferences*

Rank and Program	15-19	20-29	30-39	40-49	50-59	60+	Total
1 National news	17	125	133	114	50	42	481
2 World news	10	84	92	71	37	18	312
3 General news	—	58	96	60	38	29	281
4 Sports news	13	53	53	50	30	17	216
5 National development news	—	36	61	47	33	27	204
6 Late afternoon music	17	55	40	26	6	—	144
7 Modern plays	—	42	35	38	20	—	135
8 Early evening music	10	40	46	27	9	—	132
9 Selected popular songs	16	45	25	28	15	—	129
10 International sports event	—	41	58	27	—	—	126
11 National sports event	—	36	57	27	—	—	120
12 Religious forum (Islam)	—	26	32	27	9	—	94
13 Religious forum (Christianity)	—	25	19	34	9	—	87
14 Comedy and music show	—	39	22	9	6	—	76
15 Al Quran recital	—	27	20	22	6	—	75

*The frequencies were program choices. Each viewer was asked to name up to 5 choices.