

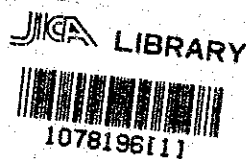
FEASIBILITY STUDY REPORT
ON
THE SECOND TV CHANNEL FOR EDUCATION
IN
THE ISLAMIC REPUBLIC OF PAKISTAN

SEPTEMBER, 1989

JAPAN INTERNATIONAL COOPERATION AGENCY

SDS
CR(5)
89-093

FEASIBILITY STUDY REPORT
ON
THE SECOND TV CHANNEL FOR EDUCATION
IN
THE ISLAMIC REPUBLIC OF PAKISTAN



20146

SEPTEMBER, 1989

JAPAN INTERNATIONAL COOPERATION AGENCY

国際協力事業団

20146

P R E F A C E

In response to a request from the Government of the Islamic Republic of Pakistan, the Japanese Government decided to conduct a study on the Second TV Channel for Education and entrusted the study to Japan International Cooperation Agency (JICA).

JICA sent to Pakistan a survey team headed by Mr. Toshinori Miura, ALL JAPAN RADIO & TELEVISION ENGINEERING SERVICES CO., LTD., composed of members from the said company and NIPPON SOGO ARCHITECTS & ENGINEERS from January to May, and June to July, 1989.

The team held discussions with concerned officials of the Government of Pakistan, and conducted field surveys. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincerest appreciation to the officials concerned of the Government of the Islamic Republic of Pakistan for their close cooperation extended to the team.

September, 1989



Kensuke Yanagiya

President

Japan International Cooperation Agency

LETTER OF TRANSMITTAL

September 1989

Mr. Kensuke YANAGIYA
President
Japan International Cooperation Agency

Dear Mr. President:

I have the honor to submit to you our final report of the Study on THE SECOND TV CHANNEL FOR EDUCATION IN THE ISLAMIC REPUBLIC OF PAKISTAN. It is our great pleasure to note that this assignment has been completed through the close cooperation between two governments of Japan and Pakistan.

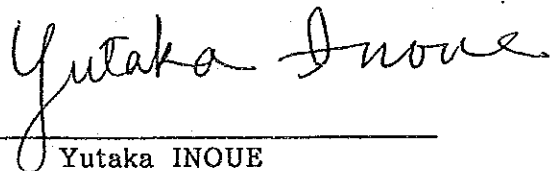
The final report was prepared during the past 9 months by the Study Team organized by members of ALL JAPAN RADIO & TELEVISION ENGINEERING SERVICES Co., Ltd. and NIPPON SOGO ARCHITECTS & ENGINEERS and headed by Mr. Toshinori MIURA. It comprises the Main Report composed of a Summary, 9 Chapters and the Annexes and Drawings.

In preparing this Report, our Team benefited by a great deal of the cooperation from officials and experts of Japan International Cooperation Agency and other authorities concerned of the Government of Japan.

On behalf of the Study Team, I would like to express my deepest appreciation to the Government of the Islamic Republic of Pakistan including PTV and to other related agencies of the Government for the unlimited cooperation and assistance and the warm hospitality extended to the Study Team members during their stay in Pakistan.








We sincerely hope that this Report will be an important basis for the development of the Islamic Republic of Pakistan.

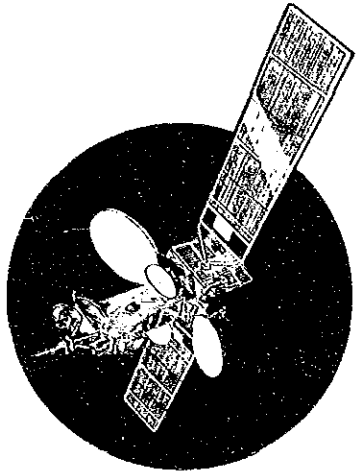
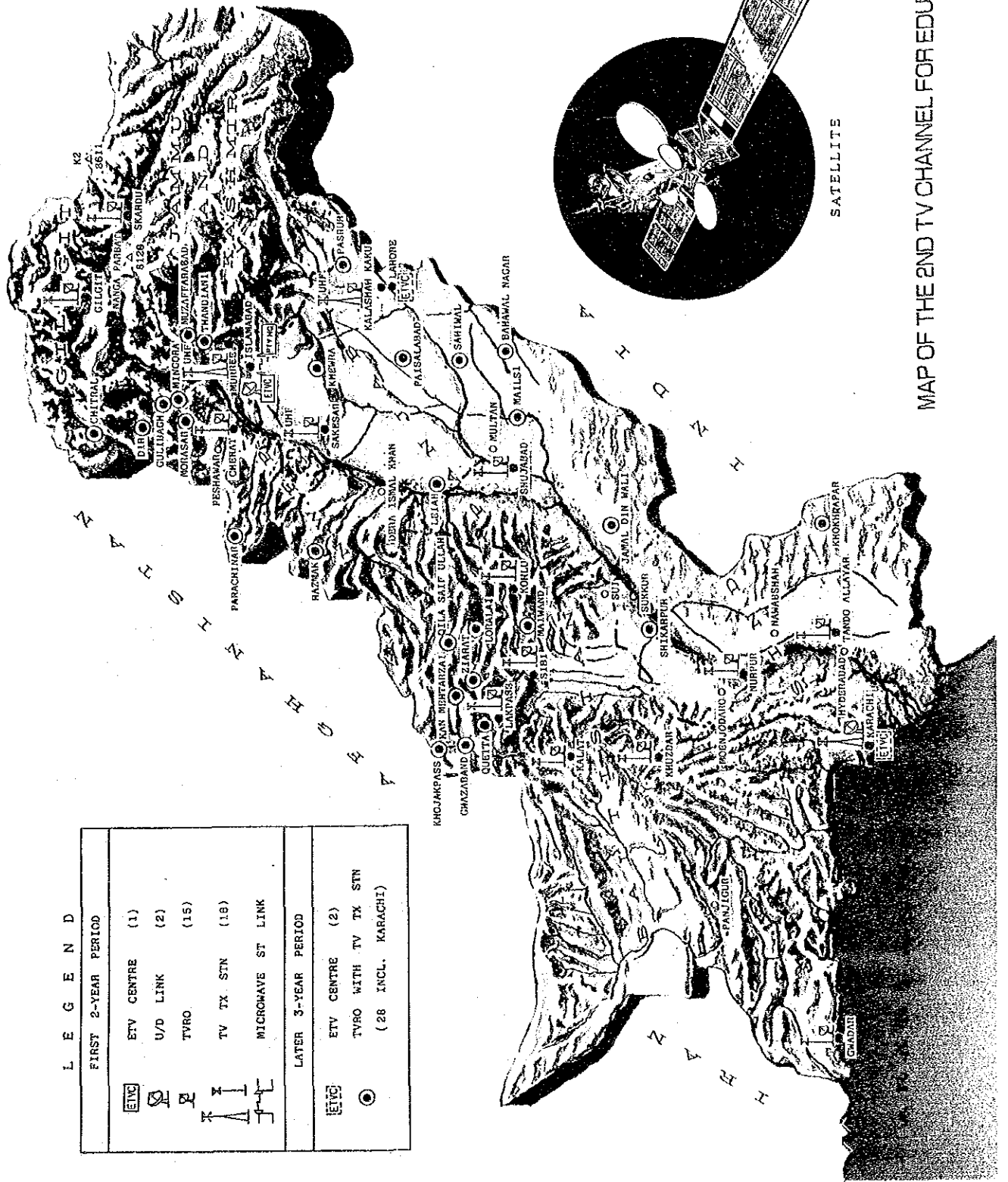
Yours truly,


Yutaka INOUE

Representative,
A Consortium for the
Study on the Second TV
Channel for Education

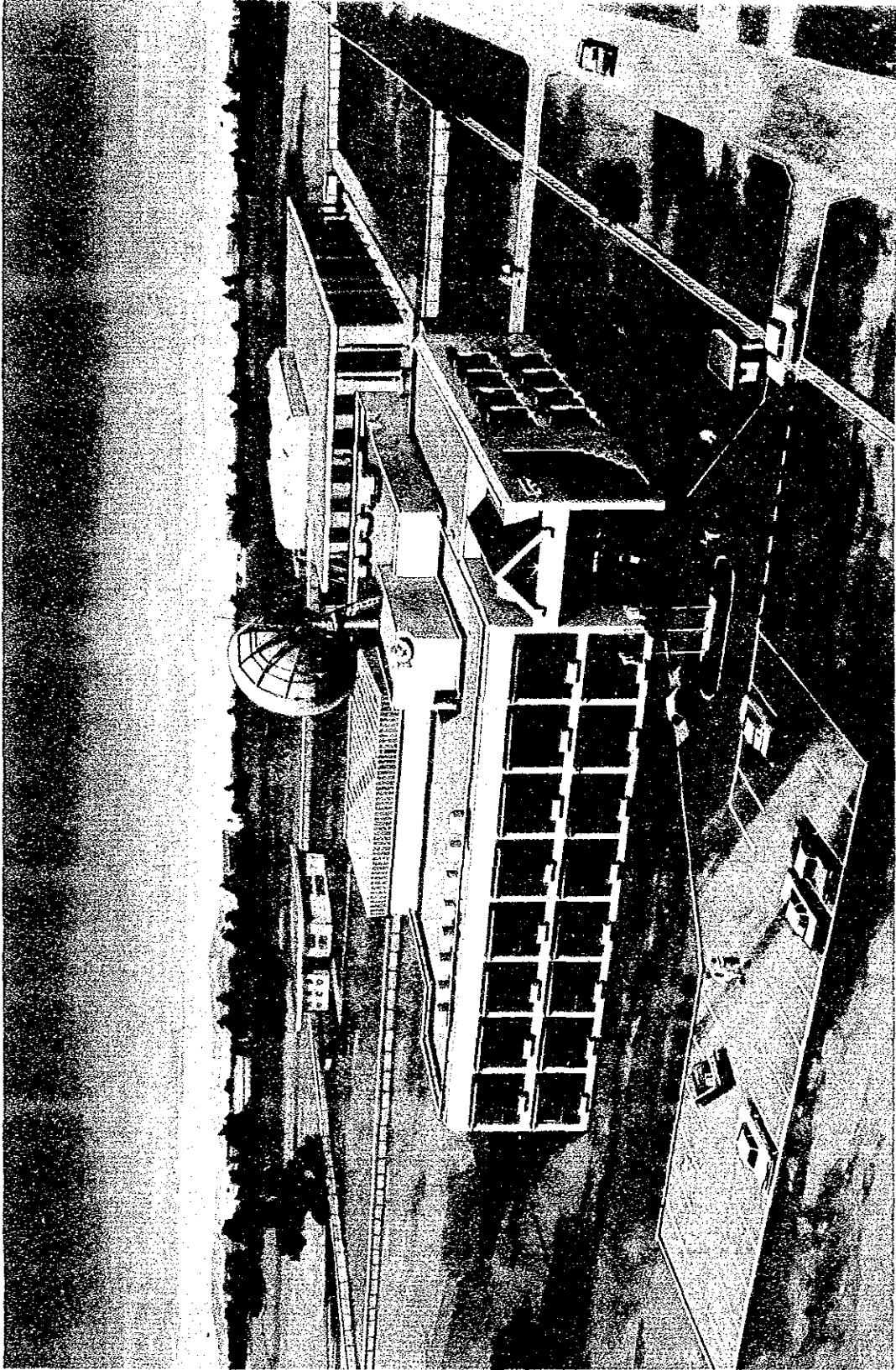
L E G E N D

FIRST 2-YEAR PERIOD	
	ETV CENTRE (1)
	U/D LINK (2)
	TVRO (15)
	TV TX STN (18)
	MICROWAVE ST LINK
LATER 3-YEAR PERIOD	
	ETV CENTRE (2)
	TVRO WITH TV TX STN (28 INCL. KARACHI)



SATELLITE

MAP OF THE 2ND TV CHANNEL FOR EDUCATION



ISLAMABAD ETV CENTRE

C O N T E N T S

	Page
PREFACE	
(Map of the 2nd TV Channel for Education)	
(Islamabad ETV Centre)	
SUMMARY	S-1
PART I INTRODUCTION	
1-1 Background of the Project	1
1-2 Objectives of the Study and the Survey Activities so far	2
1-3 Staffing of the Survey Team	3
1-4 Executive Management Staff Members of PTV	6
1-5 Survey Schedule	7
PART II PRESENT STATUS OF TV BROADCAST IN PAKISTAN AND THE NECESSITY, THE TARGET AND THE OUTLINE OF THE PROJECT	
CHAPTER 1 Broadcast in Pakistan	9
1-1 Broadcast Policy of Pakistan Government	9
1-2 Present Status of Broadcasting	11
1-3 Operation of PTV	16
1-4 Organization Chart of PTV and the Staff Number	20
CHAPTER 2 Necessity and Outline of the Project	22
2-1 Pakistan's National Development Plan and Role of Educational Television Broadcast	22
2-2 Necessity of This Project	28
2-3 Contents of the Original Project of the Government of Pakistan (PC-1 Form)	32

2-4	Targets of This Project and the Criteria	37
2-5	Main amendments of the PC-1 Form	40
2-6	Outline of the Project	45
PART III PLANS OF THE PROJECT		
CHAPTER 1 Programme Compilation Plan		49
1-1	Compilation Policies	49
1-2	Programme Compilation and Development Plans	50
1-3	Importance of EFP Programmes and the Equipment Required	52
1-4	Development Plan of ETV On-Air Time Table	54
1-5	Estimation of the Total Production Cost	57
1-6	Basic Resource Allocation Plan at Islamabad ETV Centre	59
1-7	Allama Iqbal Open University	64
CHAPTER 2 Studio Facilities Plans		70
2-1	Basic Policies Concerning Studio Facilities	70
2-2	Programme Production Facilities and Equipment	72
2-3	Installation Plan for the New Studios in Karachi and Lahore	76
2-4	Composition List (Initial 2-Year Plan)	77
2-5	Block Diagram Drawing	81
2-6	Practical Operation Plan for Audio Dubbing	95
CHAPTER 3 Building Plan		104
3-1	Outline of the Building Plan	104
3-2	Outline of the ETV Centres	106
3-3	Design Conditions of ETV Centre	118
3-4	Basic Design for ETV Centre	130

CHAPTER 4 Programme Transmission Plans	161
4-1 Transmission via Terrestrial Circuits	161
4-2 Transmission via Satellite	162
4-3 Advantages and Problems of Transmitting Programmes via Satellite	166
4-4 Satellite	170
4-5 Transponders and Up/Down Links	175
4-6 TVROs	177
4-7 STL	178
4-8 Composition List (Initial 2-Year Plan)	180
4-9 Composition Diagram	181
 CHAPTER 5 Plan of Rebroadcast Station Facilities	 182
5-1 Channel Planning	182
5-2 Rebroadcast Station Facilities Plans	185
5-3 Composition List (Initial 2-Year Plan)	206
 CHAPTER 6 Overall Operation Plans	 210
6-1 Organization and Operation	210
6-2 Organization and Work, and Plan for Necessary Personnel	210
6-3 Operation and Personnel Training	212
 CHAPTER 7 Spreading of TV Reception	 214
7-1 Current Condition of the Spread of TV Receivers in Pakistan	214
7-2 Community Viewing Centre (CVC)	218
 CHAPTER 8 Implementation Plans	 221
8-1 Construction Schedule for the Initial 2-Year Plan	221

8-2	Construction Schedule for the Later 3-Year Plan	222
8-3	Financing the Project	223
CHAPTER 9	Evaluation of the Project	225
9-1	General Social and Economic Conditions of Pakistan	225
9-2	Financial Status of PTV	232
9-3	Projection of Demands for Advertisement Broadcasts	234
9-4	Financial Analyses and Economic Evaluation	236
9-5	Conclusion and Recommendation	255

SUMMARY

SUMMARY

This Report gives the results of a study conducted on the plan to establish an Educational Television Channel in the Islamic Republic of Pakistan (hereafter called "Pakistan").

Pakistan has a total area of about 796,000km² (about double the size of Japan). It shares borders with India in the east, Afghanistan and Iran in the west and with China in the north bound as it is by the Karakorum mountain ranges. In the south, Pakistan has a coastline of about 750km facing the Arabian Sea, and the total length of the country from northeast to southwest is about 1,500km. Pakistan occupies an important geographical position linking the Middle East and the South Asian regions.

Right through the centre of this country from northeast to southwest flow the Indus and its tributaries, which pour into the Arabian Sea. The plain spreading in the Indus basin is a granary of Pakistan. Across this plain are located the two Provinces: Punjab and Sind, inhabited by some 65% of the total population of the country, approximately 105,000,000. The remaining 35% inhabit the North-West Frontier Province (and areas under direct jurisdiction of the federal government, occupied by various tribes people) and Baluchistan which, among the four Provinces of Pakistan, is the largest in area but the smallest in population. Thus, the people of Pakistan live on a land of great diversity in topographical and meteorological features, a country consisting of mountains, highlands and deserts and with vast climatic differences according to regions and altitudes. The residents of such remote areas of Pakistan are, in fact, living an extremely severe daily life, enduring all these climatic hardships of scarce rainfall, intense heat in summer and extreme cold in winter. In view of these physical backgrounds, it is no exaggeration to say that it has always been an essential aim for Pakistan to give equal benefits to the four Provinces despite their different environments and climates, and to bring about harmony among the different peoples that constitute this country.

Pakistan is a multi-racial and multi-lingual nation. Its industrial and social development and the enhancement of living standards have been hindered by factors such as the short time since national independence

(1947) and the very low literacy rate of the general public (about 29.6% as of 1988).

In order to overcome all these unfavorable conditions, to eradicate illiteracy along the lines of the Government's new educational policy and to reinforce school education and adult education, the Government of Pakistan established a plan to inaugurate an Educational Television Channel and requested Japan to assist in the planning and implementation of the project.

In the background of the plan lies the problem of Pakistan's population which, as of 1989, was about 105,000,000. Assuming that this population grows at the current annual rate of 3.1%, the total population in 20 years will be about double the present figure. And unless any appropriate educational measures are taken, the number of illiterates, which currently is estimated at over 70% of the population, will increase even further. That is why the Government of Pakistan, in implementing its Seventh 5-year (1988-1993) National Development Plan, has made it the highest priority to give the grass-roots general public knowledge about health, hygiene and population planning and to conduct social-vocational education to enhance the living standards of the people in general.

Meanwhile, the Government of Pakistan had felt that the current television service offered by a single channel (hereafter called "GTV", which is operated by PTV, the Pakistan Television Corporation) was not quite enough to provide satisfactory service to people living in different environments. Those living in the urban regions and in the remote mountain areas are quite different in their daily lives, and there should be differences in programme contents to serve different needs. Hence, the Government of Pakistan decided on its plan to establish an educational TV channel (hereafter called "ETV"), a plan to implement TV broadcasts exclusively as a means of carrying out the above-mentioned types of education, and a plan to spread the reception of such television broadcasts to the general public across the country. Based on its desire to incorporate this ETV plan into its Seventh 5-year Plan, the Government of Pakistan requested the Japanese Government in June 1988 to conduct this present study.

In response to this request, the Japanese Government, in September 1988, sent a preliminary study team to Pakistan and concluded a Scope of Work concerning this study. On that occasion, a request was made by Pakistan that, upon establishment of the 5-year implementation plan, Pakistan would like to continue to be assisted in the implementation of the plan by the Japanese government's grant aid cooperation. Thus, the Minutes were exchanged between the preliminary study team and the Pakistan officials concerned, expressing the understanding that once the present study will have been completed successfully, the Japanese government may consider providing grant aid assistance regarding the initial part of the 5-year plan.

As a result, it was assumed that, in carrying out the Feasibility Study of the 5-year implementation plan, the initial implementation plan should be the subject to grant aid. Thus, it became necessary to conduct a study on the initial plan to confirm the demarcation of the construction works to be undertaken by the two countries.

The study was started on January 31, 1989 and was continued until May 14 of the same year. The study, which began with an explanation and discussion on the Inception Report, was followed by field surveys of the H-9 projected site for the construction of the ETV Centre studio facilities in Islamabad, and of 16 transmitting station sites throughout the country where terrestrial TV transmitting facilities are expected to be installed. The field surveys also included the measuring of field intensity of TV radiowaves together with those from neighboring countries.

Meanwhile, in Japan, in parallel with the survey work going on in Pakistan, analysis was conducted based on field survey data. The results of the studies conducted both in Pakistan and Japan were compiled into an Interim Report on which explanations and discussions were conducted in Pakistan from May 14 to 18. The Report contained the basic subjects relating to the "Project to establish the Second TV Channel for Education in Pakistan", including Programme Compilation Plan, Studio Facilities Plan, ETV Centre Building Plan, Programme Transmission Plan, Rebroadcast Transmitting Facilities Plan, Spreading of TV Reception, Overall Operation Plan, Implementation Plan and Evaluation of the Project. On all of these, the two parties made discussions and confirmations and signed the Minutes.

After the Draft Final Report was prepared, the study team discussed it with the Pakistani side in Islamabad from June 24 to 30, and the two parties confirmed the contents of discussions. The two parties particularly discussed and confirmed the contents of a Supplementary Report, and signed the Minutes. The Supplementary Report deals with various items including the demarcation of the construction works to be undertaken by the Pakistani and Japanese sides, when the initial two-year plan is to be implemented with grant aid of the Japanese Government.

The present report has been prepared based on the above discussions and confirmations and will be submitted to the Pakistani Government as the Final Report in September 1989. The following is the outline of the results of study.

Regarding the annual implementation plan under this project, the entire 5-year project period has been divided into the initial two years and the later three years. Fiscal 1989-90 (Pakistan's fiscal year runs from July 1 to June 30 of the following year) will be the project's first year which corresponds to the second year of the Seventh National Development Plan of Pakistan.

Regarding the programme compilation plan, the daily broadcasting target on completion of this project is set at 10 hours, which will consist of 1 hour of adult-education programme from the Allama Iqbal Open University (AIOU), 6 hours of educational programmes produced at the Islamabad ETV Centre together with 4 provincial ETV Centres (Karachi, Lahore, Quetta and Peshawar), 1.5 hours of purchased foreign programmes and 1.5 hours of GTV rebroadcast programmes.

At the end of the initial 2 years of the project, a total of eight hours a day of ETV programming is envisaged, comprising 1 hour of AIOU programmes, 2 hours of programmes by the Islamabad ETV Centre, 1 hour of imported programmes and 4 hours of GTV rebroadcast programmes.

In the production of ETV programmes, EFP (Electronic Field Production) equipment will be made full use of.

As regards the population coverage of ETV broadcasting , the targets are 95% at the end of the 5-year project and 56.5% upon completion of the initial 2 years.

Regarding the programmes to be broadcast on ETV, it is proposed that the system of broadcasting the same pictures with four different regional languages simultaneously transmitted should be adopted, in view of the fact that the objective of ETV lies in mass education of people on the grass-roots level, with the aim of overcoming the difficulty of being a multi-lingual nation. When this system is put into operation, each of the terrestrial transmitting stations would select from the four languages transmitted the language that best suits the local audience, and retransmit the programme.

In carrying out the studio facilities plan, there will need to be two TV studios, one medium-size and one small, and three sets of EFP equipment in order to produce 2 hours of ETV programmes by the end of the initial 2 years of the project. For the dubbing into Urdu of imported programmes, the dubbing into 4 different regional languages and also for EFP programmes, one post production room is necessary. Furthermore, to send out the programmes to the satellite via up-link, a continuity room will be required. The following points have been given special consideration in drawing up this studio facilities plan:

- (1) CCD (Charge Coupled Device) cameras and 1/2-inch component type VTR for broadcasting use will be introduced as the basic ETV production system equipment, because both have recently been improved considerably in performance and have become easier to operate, are compact size, light in weight and low in cost;
- (2) The studio subcontrol room and the studio itself will be located on the same floor to give the production staff easier access to both the subcontrol and the studio;
- (3) The system of decentralizing production equipment has been adopted, whereby the equipment will be installed separately in the production subcontrol rooms rather than concentrating them in the central equipment room. This decentralized system would enhance the entire production efficiency and ensure higher investment effectiveness; and
- (4) Considerations will enable the production of commentaries in four

different regional languages to accompany a single series of pictures in the post production room.

With regard to the ETV Centre construction plan, a site of about 100m x 200m in area has already been purchased by PTV. The site is adjacent to the existing PTV Academy in the H-9 section of Islamabad. This site is ideally suited to this project, since it is in a suburban area, quite close to the Allama Iqbal Open University which is closely related with ETV.

On this site will be constructed a studio building with total floor space of 2,600m² accommodating the above-mentioned studio equipment and the following facilities necessary for programme production including a store-room for stage settings and properties, make-up and wardrobe room, waiting space and staff office, and building facilities such as air conditioning and electric power machinery room, the power receiver and generator room.

At the same time, at the inner part of the site, a group of administrative buildings will be constructed so that the Centre may serve as ETV Headquarters.

During the later three years of the project, an ETV Centre building containing a TV studio for ETV production will be constructed each at Karachi and Lahore, while at Quetta and Peshawar, additional construction or modification will be planned for the existing buildings.

Transmissions (distribution of signals) under this project are scheduled to be conducted by satellite, though the current GTV transmissions rely on terrestrial microwaves. The reason a satellite transmission system has been adopted is that the distribution of signals by means of satellite enables coverage of all of Pakistan at one time. As for the construction cost of ground installations, that of a satellite transmission system is much cheaper than the cost of additionally constructing terrestrial microwaves. Regarding the annual maintenance and operational expenses, those for satellite transmission are advantageous. Besides, satellite transmission is more reliable and provides pictures of

higher quality. It has many merits as mentioned above, in addition to enabling simultaneous distribution of signals in four different languages.

As for the satellite itself, use is planned of the INTELSAT's Indian Ocean Spare Satellite (66°E) or the ASIASAT which is scheduled to be launched by April 1990.

As to the up/down-link, in addition to the main U/D Link with 9m diameter parabolic antenna at Islamabad ETV Centre, the plan calls for installation of a sub up-link on the existing PTV station building in Karachi. (Plan for the initial 2 years.) A TVRO (TV Receive Only) will be installed at each terrestrial rebroadcasting station. This TVRO is a facility that receives signals from the satellite (transponder) and obtains input signals for the terrestrial retransmitter.

Terrestrial Transmission Facilities Plan

From the satellite, ETV programme signals will be showered all over Pakistan. But those signals cannot be directly received by general home TV receivers because the signals are too weak and are in a special modulation system. As a result, there will need to be rebroadcast transmitters installed across the country which rebroadcast the signals received from the satellite to the general viewers in the form of conventional terrestrial TV broadcast signals.

Heretofore, TV programme transmissions have been in VHF band (only 8 out of the 12 channels can be used) in Pakistan. However, in order to avoid signal interference from the existing GTV and from neighboring countries, there is inevitable need to adopt a UHF channel for some of the terrestrial rebroadcasting stations of ETV. For that reason, it has been decided that for ETV, a UHF station should be set up each at Murree and Sakesar stations, both of which cover the metropolitan area, and at Kala-Shah-Kaku station which covers Lahore.

As to the terrestrial ETV transmitting stations and their transmission scale (the transmitter output and its coverage), the planning principles were that they should be constructed on the same sites and

scale as the existing GTV transmitting stations (31 rebroadcasting stations and 12 low power boosters).

A total of 16 stations will be installed during the initial 2 years of the project at Karachi, Sakesar, Murree, Kala-Shah-Kaku, Cherat, Shujaabad, Noorpur, Tando Allahyar, Lakpass, Sibi, Kalat, Gilgit, Kohlu, Khuzdar, Gwadar and Skardu.

And for the later 3 years of the project, a plan has been made to install 28 stations including one to be transferred from the Karachi station.

Regarding the spreading of TV reception, Pakistan currently bans import of TV receivers but a local production system has been well established by more than 10 foreign manufacturers including those from Japan. (Total local production as of 1988 was over 350,000 sets.) The total number of TV receivers currently registered with PTV is 1,600,000 but the actual number of sets in use in Pakistan is estimated as being much more. The yearly average increase of the registered TV receivers has been 12% during the past ten years. Especially since 1983, the number has been increasing steadily and is estimated to exceed 2,500,000 sets by the year when the initial 2-year implementation of the project is completed (1992), and should exceed 3,000,000 by the time the 5-year project will have been completed.

On the other hand, of the 1,600,000 sets mentioned above, about half of them are old monochrome receivers incapable of receiving UHF broadcasts. However, since they are already more than 15 years old, these will probably have been replaced by around 1992 by all-channel sets capable of receiving UHF broadcasts as well.

Overall Operation Plans

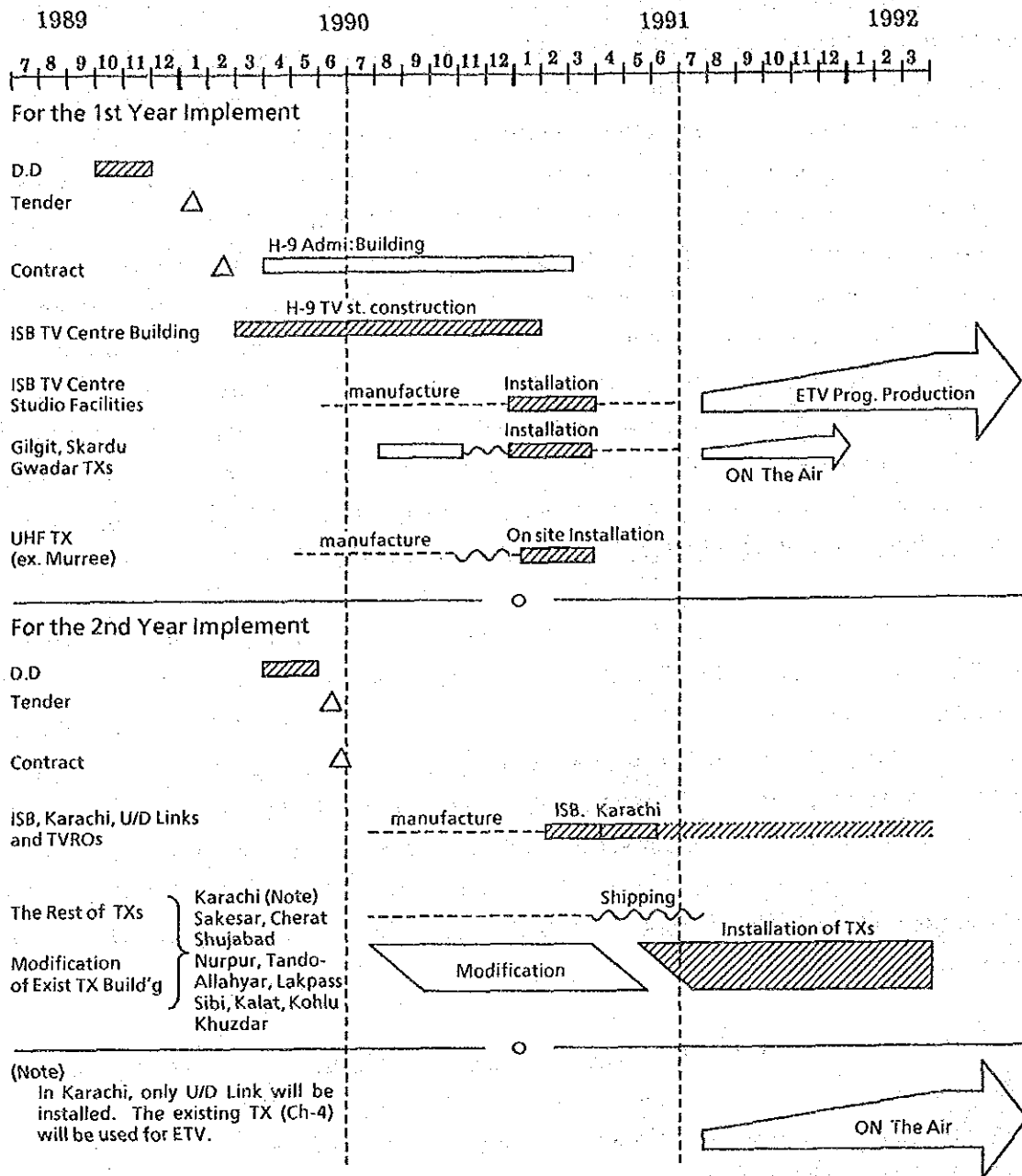
While the organization of the ETV channel is closely related with the existing PTV, the ETV is anticipated to become an independent operational body after the completion of the project. (The existing Chairman of PTV will concurrently hold the top position of ETV.) There are a number of reasons for such an arrangement. In the case of the existing TV channel

(GTV), the greater part of its income (54.3%, in 1988-1989) comes from advertisements, even though it has the revenue from license fee (21.4%, in 1988-89). In a way, PTV is virtually a commercial organization. In contrast to this, the 2nd-channel ETV is going to be a medium planned in line with Pakistan's national policy to enhance the living standards of the general public on the grass-roots level, many of whom are living in remote mountain regions. This means that ETV can not expect much income from advertisements. This, in turn, means that the ETV channel is going to be an operational body depending on government subsidy for the greater part of its revenue. However, this form of organization of the 2nd channel is, of course, subject to final Government approval after completion of the ETV, before the new 2nd channel eventually takes the form as envisaged by PTV. Still, the fact remains that until 1995-96, when the ETV will have stood up on its own feet, PTV will continue to be the mother entity in charge of implementation of the present project.

As to the required number of staff members, it has been estimated at 1,353 by the time the 5-year plan will have reached completion. The breakdown will be as follows: Islamabad (625), Lahore (153), Karachi (153), Quetta (111) and Peshawar (111), at their respective ETV Centres. Added to these, 200 to be assigned to the rebroadcasting stations and the total will be 1,353 as mentioned above. In 1992, at the time the initial 2 year-plan will have been completed, 700 will be required. This comprises 625 at the Islamabad ETV Centre plus 75 assigned to 16 regional transmitting stations.

As for the project implementation schedule, the 5-year plan with 1989-90 as the first project year will be divided into two parts, viz., the initial 2 years and later 3 years. The following chart shows the schedule for the initial 2 years.

Project Implementation Schedule for the Initial 2-year Period

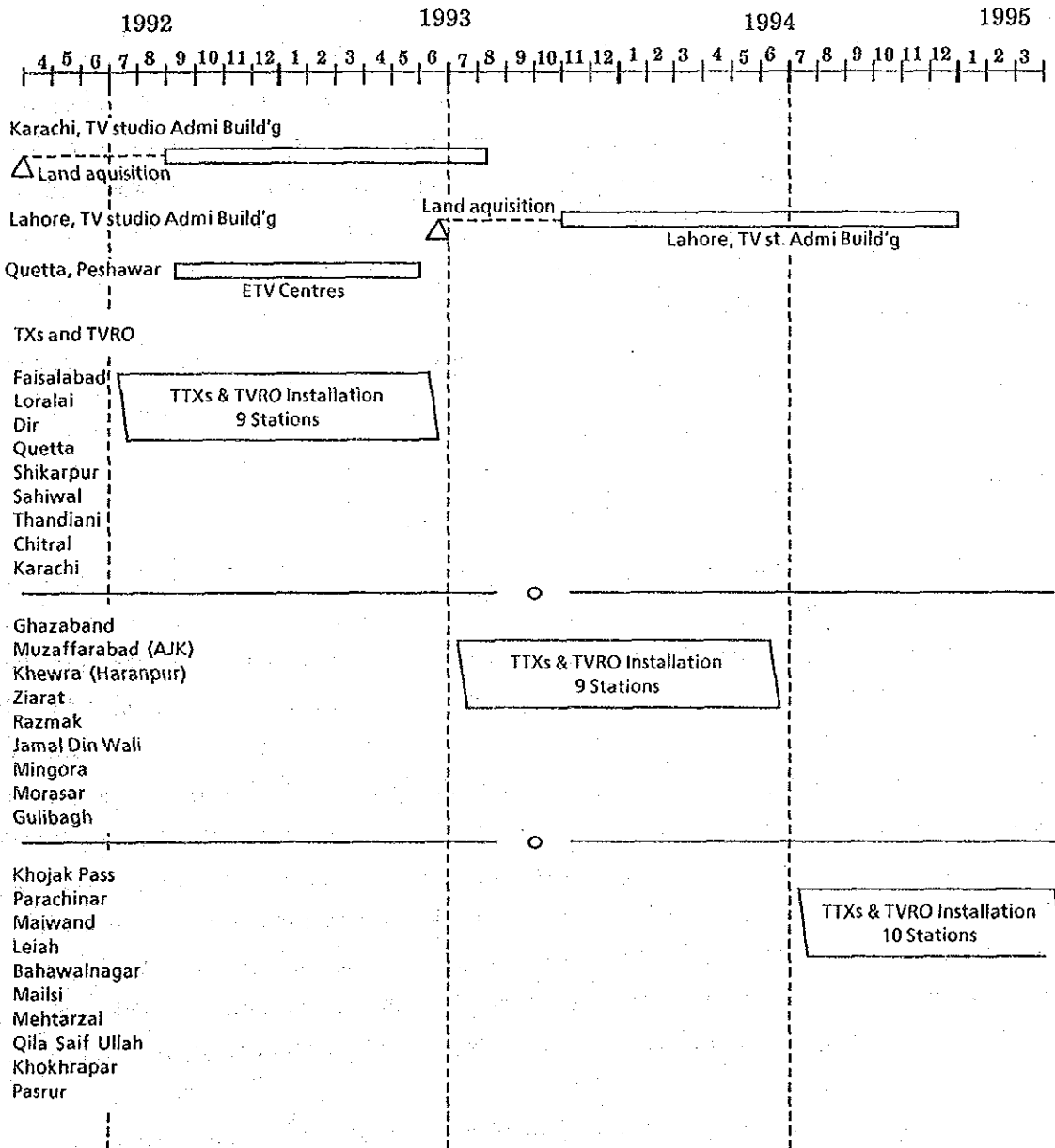


As can be seen from the schedule shown above, the plan for the 1st year calls for construction of an ETV studio building and an administration building at the H-9 section. In addition to these, during the first year, terrestrial rebroadcasting stations will be installed at Murree to cover the metropolitan area and also at three remote sites (Gilgit, Skardu and Gwadar). During the 2nd year, an up-link for satellite transmission will be installed at Islamabad ETV Centre as will a

sub up-link at the existing Karachi PTV Centre, plus the remainder of the 16 transmitting stations with a TVRO for each.

Under the plan for the later 3 years, an ETV Centre building containing a TV studio and administration offices will be constructed in Karachi and Lahore. Quetta and Peshawar ETV centres will be equipped each with EFP and post production equipment in existing GTV buildings after necessary modifications. At the same time, installation will be conducted of the remaining 28 rebroadcasting stations out of the 43.

Project Implementation Schedule for the Later 3-year Period



The anticipated grand total of investments for the 5-year plan is 2,563 million Rupees, of which 960 million Rupees is foreign currency. The construction cost during the initial 2 years is 1,139 million Rupees, of which 430 million Rupees is foreign currency. However, the exemption from payment of import duties will result in savings of 1,110 million Rupees.

Regarding the annual operational expenses, estimated expenditure of 329 million Rupees in fiscal 1992-93 will increase to 618 million Rupees in fiscal 1996-97.

The deficit balance (399 MRs in 1996-97) to be calculated by deducting a certain estimated amount of income from the total of estimated programme production and programme transmission expenses will represent the amount of budget to be allocated by the Ministry of Information and Broadcasting to PTV (ETV) as a subsidy. However, the amount of this subsidy in fiscal 1996-97 will have been reduced to 335 million Rupees in case of exemption from payment of import duties, which will result in savings of depreciation cost and reduction in the amount of annual expenditure.

Evaluation of the Project

In making financial analysis of the project, PTV intends to separate ETV finances from GTV finances. As mentioned earlier, ETV is designed, in line with the national policy of Pakistan, as a medium to enhance the living standard of the grass-roots general public, many of whom live in the mountains and other remote regions. The profit ETV may make by broadcasting commercials, etc., would be so small that ETV will inevitably operate at a total deficit. The average annual 5-year deficit of during 1992-1996 in ETV's operational expenditure is estimated at about 329 million Rupees. In fact, PTV needs to look to the Government for subsidy to cover this deficit. However, such a subsidy could perhaps be considered as a necessary social expense for the Government of Pakistan to conduct educational broadcasting as a priority of socio-economic policy.

Meanwhile, according to socio-economic evaluation and analysis, the home-viewing of ETV broadcasts by primary and secondary school students

and illiterate adults is expected to result in saving of Government expenditures for school education and adult education. This is an economic benefit of ETV.

In this connection, PTV, with assistance from UNICEF and the World Bank, conducted a series of practical educational broadcasts over a period of 7 years from 1975 to 1982, made a survey concerning effects of the broadcasts, and obtained objective statistical data of adult literacy educational broadcasts.

Based on the data thus compiled, JICA Team carried out a quantitative-economic analysis, and obtained an EIRR (Economic Internal Rate of Return) of 15.26% for this project. This is the result of an evaluation based on a number of estimations, but can be used to evaluate economic appropriateness of this project. For example, if the project goes smoothly, it is expected that from 1992-93, when ETV is to begin formal broadcasting, as many as 700,000 people will be gaining literacy through ETV home-viewing.

Needless to say, the benefits from ETV will not be confined to the aspect of literacy enhancement.

By viewing programmes full of educational content, the students will be gaining a great deal of help in their studies. ETV can also directly contribute to the improvement of living standards by offering practical knowledge on population planning, nutrition and health-care to the general public, particularly the residents of remote regions (71% of the total population; 1981) who tend to lack necessary information.

Furthermore, PTV can urge people to positively take part in national and social developments. This can happen through PTV's efforts to speed up the conveying of information necessary for completion of the 5-year National Development Plan of Pakistan, to spread the technical knowledge concerning agricultural and industrial production and to effectively convey information to residents of remote regions in their own languages.

ETV is indeed the most effective, fastest and only means to realize rapid development of Pakistani society as a whole. The Government of

Pakistan, too, positions the implementation of this project as one of its top priorities.

PART I INTRODUCTION

PART I INTRODUCTION

1-1 Background of the Project

As of April 1989, the total population of Pakistan is approximately 105 million.*1 If it continues to grow at the present annual rate of 3.1%, it will double in a little more than 20 years. If immediate arrangements for mass education are not made, the number of illiterates would adversely affect social, political and economic life.

The Pakistan Government is now carrying out its 7th 5 year (1988~1993) National Development Plan. Considering the urgency of Mass Education to stem the tide of illiteracy, for improving standards of health and nutrition and social, vocational education, the government is trying to formulate an implementation plan to establish the Second TV Channel (the Educational TV Broadcasting nationwide network, hereafter called ETV: Educational TV) during the current 5 year National Development Plan, and to broadcast mass educational programmes during optimum reception time which the existing TV channel (hereafter called GTV: General TV) can not cover.

For that purpose, the Government of Pakistan requested the Japanese Government for the formulation of the ETV project implementation plan in June 1988.

In response to the request, the Government of Japan dispatched the preliminary JICA Study Team to Pakistan in September 1988. The Team had a series of discussions with the PTV officials concerned, both parties agreed on the Scope of Work of the Study and exchanged "The Minutes of Meeting" signed in Islamabad on 25th September, 1988.

*1 Quoted from "ECONOMIC SURVEY 1987~88, Statistical Supplement. Since 1961 the National Censuses were held in 1961, 1972 and 1981 and in 1988 the population was 103.82 Million with a growth rate of 3.10%/Year. The present population is estimated based on the 1988 figure.

1-2 Objectives of the Study and the Survey Activities so Far

The objectives of the Study are to review on the basis of the Scope of Work and the Minutes of meeting, the Project Plan (PC-1) prepared by PTV, and to draw up a feasibility plan for the Establishment of nation-wide ETV Network within 5 years.

Especially regarding the initial stage (the first 2 years) of the Project, the Study has to be practical enough and precise both in the design and cost estimation, because the Government of Pakistan has requested the Grant Aid as a part of the follow up of the Study.

The details of the research were as follows:

On January 30th, the first mission was dispatched to Pakistan, the Inception Report was submitted and explained to PTV. Then the survey continued until middle of May 1989.

Meanwhile, in Japan, in parallel with the survey work going on in Pakistan, analysis was conducted based on field survey data. The results of the studies conducted both in Pakistan and Japan were compiled into an Interim Report on which explanations and discussions were conducted in Pakistan from May 14 to 18. The Report contained the basic subjects relating to the "Project to establish the Second TV Channel for Education in Pakistan", including Programme Compilation Plan, Studio Facilities Plan, ETV Centre Building Plan, Programme Transmission Plan, Rebroadcast TXs Facilities Plan, Spreading of TV Reception, Overall Operation Plan, Implementation Plan and Evaluation of the Project. On all of these, the two parties made discussions and confirmations and signed the Minutes.

After the Draft Final Report was prepared, the study team discussed it with the Pakistani side in Islamabad from June 24 to 30, and the two parties confirmed the contents of discussions. The two parties particularly discussed and confirmed the contents of a Supplementary Report, and signed the Minutes. The Supplementary Report deals with various items including the demarcation of the construction works to be undertaken by the Pakistani and Japanese sides, when the initial two-year plan is to be implemented with grant aid of the Japanese Government.

The present report has been prepared based on the above discussions and confirmations and will be submitted to the Pakistani Government as the Final Report in September 1989.

1-3 Staffing of the Survey Team

In order to smoothly execute the survey, two groups were formed in JICA. One is the Study Team, and the another is the Advisory Committee to the Study Team. The Study was conducted by the personnel of the Study Team and the PTV Counterparts.

The list of members of the Study Team with the relevant Pakistani Counter parts and the Advisory Committee are as follows:

JICA Study Team

Name	Duty-in charge	PTV Counterparts
Toshinori MIURA	Leader Over all Operational System	Mr. Fazal Kamaal Director International Relations Mr. Ehsan-ul-Haq Director Engineering
Shoichi TAKASHIMA	Programme Compilation	Mr. Ishrat Ansari Controller Educational Television
Takashi HANAI	Studio Facilities System	Mr. Rais Abbas Rivi Assist. Controller Engineering
Osamu KARASAKI	Programme Transmission System	Mr. M. Abbas Chohan Assist. Controller Engineering Planning
Fumio SATO	Broadcasting Network System	
Shunro TAKAGI	Transmitting Facilities System	Mr. Nasir Sajjad Dy. Controller Engineering Planning & Procurement-1
Toushu FUJITA	Transmitter station's Facilities	
Takehiko WATANABE	Architectural Planning in chief	Mr. Asghar Ali Executive Engineering Mr. Ishaque Choudhry
Hiromu KAMIJO	Architectural Design	
Hideaki OTA	ditto	
Yoshishige NAGANO	Building Electrical Equipment Design	Mr. Anis Hussain
Katsuhiro AOKI	Building Mechanical Equipment Design	
Sumio MORITA	Building Cost Estimation	Mr. Asghar Ali Executive Engineering Mr. Masud Farooqi
Shozo NAKANO	Financial & Economic Analysis	Mr. Mazhar Hosain Dy. Controller Development

JICA Advisory Committee

Name	Duty-in charge	Affiliated to
Junichi AOKI	Chairman	Ministry of Posts & Telecommunications Special Advisor for International Cooperation
Takamichi KAJIWARA	Member	Ministry of Posts & Telecommunications Frequency planning Division Radio Department
Yasuhiro GOTO	Member	Japan Broadcasting Corporation (NHK) Systems Engineering Div. Engineering Administration Dept.

JICA Coordinator

Name	Duty-in charge	Affiliated to
Ken-ichi UMEYA	Coordinator	Japan International Cooperation Agency (JICA) Social Development Cooperation Dept.

1-4 Executive Management Staff Members of PTV

The Board Members who are in charge of PTV management and its operations are as shown below.

BOARD OF DIRECTORS

Mr. Aslam Azhar	Chairman
Mr. Hamid Ahmed Qureshi	Managing Director
Mr. Irshad Rao	Consultant
WHOLE TIME DIRECTORS	
Mr. Fazal Kamaal	Director, International Relations
Mr. Muslehuddin	Director, News
Mr. Mutee-ur-Rehman Mirza	Director, Finance
Mr. Anwar Hussain	Director, Current Affairs
Mr. Burhanuddin Hasan	Director, Administration and Personnel
Mr. Nisar Hussain	Director, Educational Television
Mr. Zaman Ali Khan	Director, PTV Academy
Mr. Zaheer-uddin Bhatti	Director, Programmes
Mr. Majid Khan	Director, Sports
Mr. Ehsan-ul-Haq	Director, Engineering
EX-OFFICIO DIRECTOR	
Mr. Agha Nasir	Director General, Pakistan Broadcasting Corporation

1-5 Survey Schedule

Term Work Item	1989							
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.
Preparation Work in Japan	□							
First Site Survey in Pakistan	1/30 ▽ ICR	■		4/2				
First Analysis Work			□					
Second Site Survey in Pakistan				IT/R ▽ 5/23				
Second Analysis Work					□			
Submit & Explanation of DF/R						6/23 ▽ DF/R	7/2	F/R △

■ Site Survey in Pakistan

□ Work in Japan

▽ Submit & Explanation of Report

△ Submit Final Report

PART II

**PRESENT STATUS OF TV BROADCAST IN PAKISTAN
AND THE NECESSITY, THE TARGET AND THE OUTLINE
OF THE PROJECT**

PART II PRESENT STATUS OF TV BROADCAST IN PAKISTAN AND THE NECESSITY, THE TARGET AND THE OUTLINE OF THE PROJECT

CHAPTER 1 Broadcast in Pakistan

1-1 Broadcast Policy of Pakistan Government

Pakistan became independent in 1947 at the time of separation of India and Pakistan; the production ability which Pakistan attained was low compared with that of India. During the British possession of India before the separation of the two countries, Pakistan was in the developing industrial region of the Indian continent. As for agricultural production, it produced quality cotton, while it was the major production site of wheat and rice. However, the majority of residents in Pakistan were poor lower class farmers engaged in raising and cultivating these crops, with the exception of a few landlords. Distribution of agricultural products were controlled by Hindu merchants, and the few existing industrial corporations were also in the hands of Hindu merchants. What Pakistan had gained from its independence were 20% of the population of British India and 10% of industrial production facilities; the industrial production ability it inherited was too small compared with that of India.

Pakistan has been through a very complicated process since its independence, and is a multi-ethnic, multi-lingual nation. The major ethnic groups can be divided among four, each making up its own state (Punjab, Sind, NWFP, and Baluchistan). However, the geographical distribution of these ethnic groups is not necessarily divided into the four administrative Provinces and are scattered throughout each province.

The economy of Pakistan centers around agriculture, which is greatly influenced by natural conditions. 71.7% of the population lives in the agricultural/mountain villages, and 55.5% of the laboring population engages in agriculture or forestry/marine industries. The share of GDP of agriculture has rapidly gone down from 53.2% at the time of independence; it still occupies 24.4% in fiscal 83-84 topping the 19.9%, which is industry's share. In terms of the make-up of trade, the most export goods

consist of primary products such as cotton and rice; when processed items of agricultural products such as spun cotton and industrial products such as cloth and carpet are added into this, approximately 60% of total exports are primary products and their processed goods. (The figures according to "Pakistan : The Land and the Market 1985" published by The Science News Co. Ltd.,)

In this way, development of agriculture is the key to the development of the whole economy, and the government encourages it - its expenditure occupies the second largest share, following energy development.

Pakistan is making efforts to reform citizens' consciousness, develop modernization ventures and expand productivity and maintenance of social infrastructure in order to alleviate poverty like the other developing countries.

With regard to education, much effort has been made for wide reform and expansion from nationalistic positions taken since independence in 1947. In particular, the aim has been set to make the primary education compulsory. At the time of independence, only 20% of children went to school and the literacy rate was only 10%; with the government's efforts, the percentage of children going to school grew to 63.5% (1988) and literacy rate increased to 29.6%, although the figures still remain low.

Others :

- Expedite information transmission
- Campaigns for sanitary thoughts, population planning, nursing infants
- Publicity and communicating national policy and various information
- Promotion of harmony and understanding between different ethnic groups

The government of Pakistan is enthusiastically promoting the use of broadcast media as a solution for the above problems. Literacy education, adult education, and social vocational training have been introduced on radio and Television, and Allama Iqbal Open University is making efforts in the production of such programmes. However, there is a concern over a

scramble for the most appropriate time slot for broadcasting each programme.

Therefore, the Pakistan government is now carrying out the 7th 5-year (1988-1993) National Development Plan. Considering the urgent importance of national Mass Education to stem the growing tide of illiteracy, for improving standards of health and nutrition and social, vocational education, the government is trying to formulate an implementation plan which establishes the Second TV Channel within the 5-year National Development Plan, and to broadcast such mass educational programmes during optimum reception time which the existing TV channel cannot cover.

1-2 Present status of Broadcasting

In Pakistan, Pakistan Broadcasting Corporation began its radio broadcasts in 1947; at present, there are major radio stations in seven cities in addition to the capital. The programmes are broadcast in Urdu (standard language), English, and other languages appropriate to each region.

TV started experimental broadcasts under the supervision of the Ministry of Information and Broadcasting in 1964, and its full-scale broadcast started in 1965. In 1967, Pakistan Television Corporation Ltd. was established - it is the only national TV channel in Pakistan. There is no other commercial TV channel. Programme centres are located in Lahore, Karachi, Islamabad, Peshawar, and Quetta, and are producing programmes. There are 4-8 transmission centres under each programme centre. (total of 27)

Transmission of programmes between stations utilizes a microwave network operated by Telephone and Telegraph Department of the Government of Pakistan, but there is only one TV programme transmission system; for the transmission of another TV channel, microwave transmission system of a new channel must be added, or satellite, as another transmission method, must be utilized. PTV broadcasts at each area with one TV channel, and competition among various programmes has been seen in prime time. Therefore, it is impossible to broadcast programmes to viewers to meet

their different demands, and program desirable on-air times according to the different needs of groups, unless there is a second channel.

In the following pages, Table 1-1 Weekly Broadcasting Programme, Table 1-2 PTV Centres and Transmitting Stations and Fig. 1-1 PTV Coverage Map are shown.

Table 1-1 Weekly Broadcasting Programme (Jan. ~ Mar. '89)

<APR, '89>

AM	FRI	SAT	SUN	MON	TUE	WED	THU
7:00	7:00 Bismillah 7:02 AAJ-Short skits, CARTOONS and News						
8:15							
9:00	AIOU Programmes						
9:25							
PM	On Friday, live sports broadcasts of Cricket, Hockey and the like.						
4:05	ETV (Environment, Preschool Reading and Writing, etc) started since April.						
4:30	Bismillah				CARTOONS		
5:00	Regional and National News in URDU						
	IQRA-QURAN						
	CARTOONS						
6:00	NEWS IN URDU						
	Quran lecture 50'	Encyclopedia 20'	Game	GUINNESS RECORDS 20'	TV Clinic	Islama Story	ENGLISH COMEDY
7:00	NEWS IN ENGLISH						
	ENGLISH FILM	Music 50'⊗	ENGLISH COMEDY	Quiz ⊗	Stage Show 50'⊗	ENGLISH FILM	Drama 100'
8:00	Drama 50'⊗	Music 25'			Music Play ⊗	Drama Comedy⊗ 50'	Quiz 50'⊗
9:00	NEWS IN URDU						
	ENGLISH FEATURE FILM	ENGLISH Version	ENGLISH Version	MIDWEEK SPECIAL 50'	ENGLISH COMEDY	University Challenge 50'	Book Review PTV SPECIAL 90'
10:00	Current Topics						
	News Headlines URDU						
11:00	Close Down						
11:30							

<⊗ KARACHI ⊙ LAHORE ⊙ PESHAWAR>

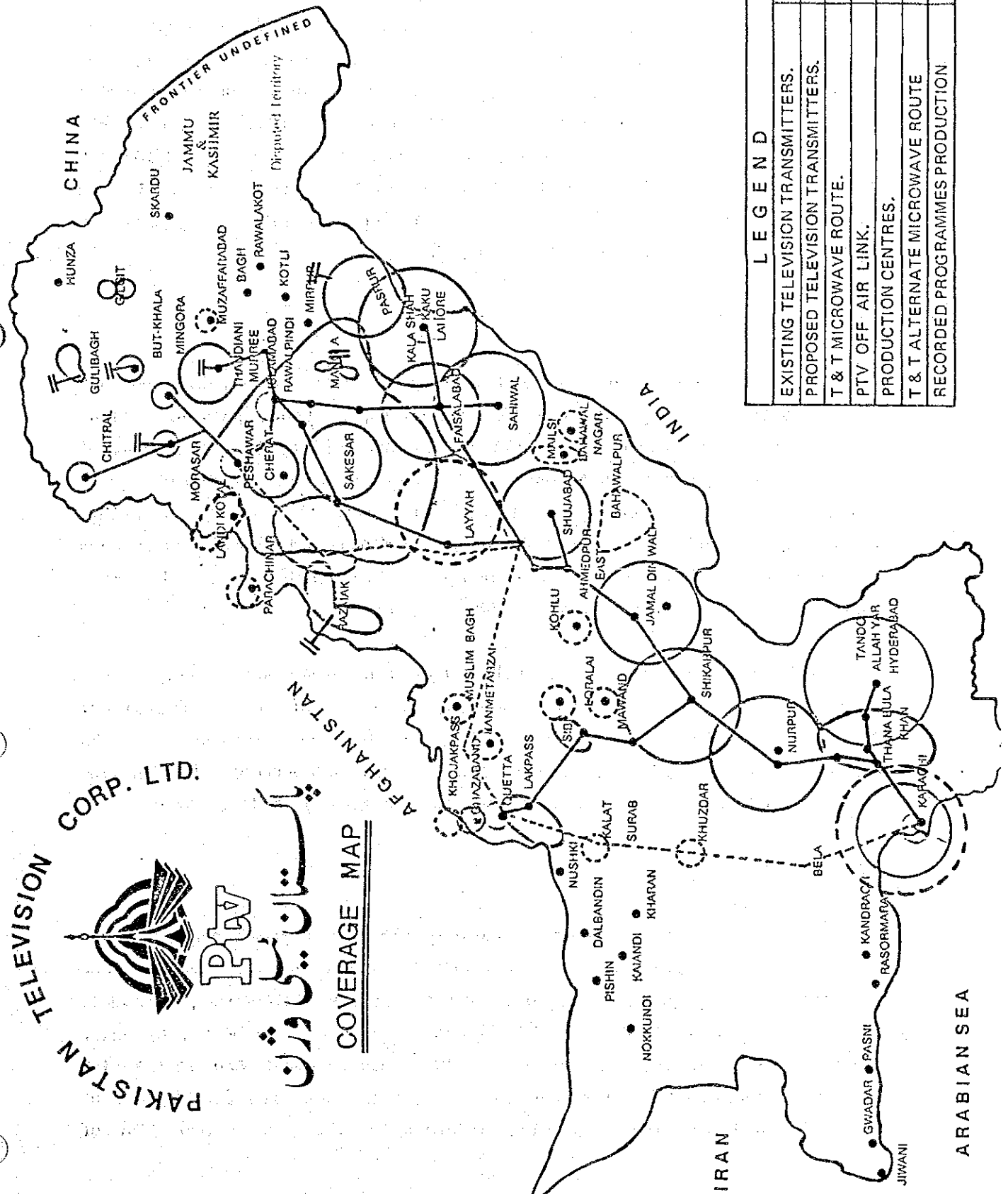
Table 1-2 PTV Centres and Transmitting Stations

PTV-CENTRES AND TRANSMITTERS	POWER OUTPUT (Kw) ERP	CHANNEL NUMBER	DATE OF ENTRY INTO SERVICE	POPULATION COVERED I, II (Million)	AREA COVERED (Sq. Km.)	TV SET COUNT III	AVERAGE TOTAL VIEWERSHIP
PTV-LAHORE CENTRE			26-11-64*	39.03	98,614	581,110	4,648,880
Lahore Transmitter	100	5	29-12-68	09.16	10,780	306,550	2,452,400
Kala Shah Kaku Transmitter	400	5	02-07-88	*****	*****	*****	*****
Shuja'abad Transmitter	178	8	23-03-75	07.06	14,000	75,900	607,200
Sahiwal Transmitter	277	10	05-03-77	05.67	19,700	35,600	284,800
Jamal Din Wali Transmitter	200	10	01-03-79	04.29	20,700	15,420	123,360
Faisalabad Transmitter	20	6	25-03-80	08.70	18,234	100,340	802,720
Pasrur Transmitter	6.80	10	20-03-83	04.15	15,200	47,300	378,400
PTV-ISLAMABAD**			15-01-67*	22.74	69,632	311,950	2,495,600
Murree Transmitter**	180	8	23-03-69	11.86	43,000	258,300	2,066,400
Sakesar Transmitter	114	4	08-07-73	10.720	43,000	37,550	300,400
Thandiani Transmitter	5	6	07-08-76	00.1566	3,625	15,700	125,600
Mangla Transmitter	0.02	6	15-09-83	00.0041	07	400	3,200
PTV-KARACHI CENTRE			02-11-67*	20.12	76,124	544,045	4,352,360
Karachi Transmitter	60	4	02-11-67	06.46	10,360	427,600	3,420,800
Thana Bola Khan Transmitter	205	9	02-06-73	01.97	6,250	66,015	528,120
Shikarpur Transmitter	213	8	14-06-76	04.29	19,700	36,045	288,360
Nurpur Transmitter	170	5	06-06-78	03.09	19,700	14,385	115,080
Tando Allah Yar Transmitter	10	11	23-03-86	04.31	20,114	*****	*****
PTV-QUETTA CENTRE			26-11-74*	00.957	12,026	17,130	37,040
Quetta Transmitter	1.25	5	26-11-74	00.422	2,600	12,250	98,000
Lak Pass Transmitter	8	4	02-03-77	00.278	3,367	2,200	17,600
Sibi Transmitter	6	6	18-03-82	00.154	3,239	2,470	19,760
Ghazaband Transmitter	10	5	21-11-85	00.103	2,820	210	1,680
PTV-PESHAWA CENTRE**			05-12-74*	06.14	19,330	49,965	399,720
Cherat Transmitter**	170	10	25-08-73	04.72	14,500	47,855	382,840
Razmak Transmitter	0.05	6	02-12-81	00.298	4,600	2,000	16,000
Mangora Transmitter	10	7	25-08-85	00.154	07	60	480
Morasar Transmitter	0.20	5	17-10-85	00.844	170	10	80
Chitral Transmitter	0.04	9	29-10-85	00.0309	18	40	320
Guli Bagh Transmitter	0.50	9	07-07-87	00.0206	5	*****	*****
But Khela Transmitter	0.04	9	11-10-87	00.0103	30	*****	*****
Gilgit Transmitter***	0.40	5	14-08-87	00.0618	180	*****	*****
Total:				88.987	295,906		

5 Production Centres and 28 Transmitters

- | | | | | | |
|------|--|---|--|-----------|------------|
| i. | The total coverage is not the sum total of figure against each transmitter as there is some overlapping in coverage. | 88.987 millions or 86.395% of the total population of the country | 295,906 Sq. Km. or 35.47% of the total area of the country (excluding the disputed territory of Jammu & Kashmir) | 1,504,200 | 12,033,600 |
| ii. | Based on 1981 Population Census Report plus 3% rate per annum upto mid 1988 | | | | |
| iii. | Estimated setcount as on 30-6-1988 | | | | |
| ° | The TV Centre's inauguration date | | | | |
| ** | Connected by S.T. Link | | | | |
| *** | Transmitting recorded programmes of PTV-Islamabad Centre | | | | |
| | Note: PTV-Islamabad Centre's permanent studios were inaugurated on 30-3-1987 | | | | |

Fig. 1-1 PTV Coverage Map



1-3 Operation of PTV

Pakistan Television, now in its 25th year covers 86.3% of total population and 37.1% of the total area of Pakistan. Its five production centres, one each at the Federal Capital and provincial metropolis, through 27 Rebroadcasting Centres provides almost 10 hours transmission daily to 12 million viewers. Sind, NWFP and Baluchistan provinces are receiving special attention for enhancing area of coverage by adding new Rebroadcasting Centres. Special attention is being given to update the existing and new Television Centres by adding the latest equipment in order to introduce new production techniques.

1-3-1 Management

The most popular medium of Pakistan, PTV, is run by a public company with an authorized capital of 2,000 million Rupees and a paid up capital of 690.781 million Rupees. All its shares are held by the Government of Pakistan. The Corporation's Board of Directors comprises 14 members, with a full time chairman under the Ministry of Information and Broadcasting. The Executive Head of the Corporation is the Managing Director, while each of the 5 Television Centres is headed by a General Manager. The total number of Corporation employees in 1989 is 5,101.

PTV's Headquarters in Islamabad has ten Divisions: Programmes, International Relations, News, Sports, Current Affairs, Educational Television, Engineering, Finance, Administration and Personnel and PTV Academy. Each Division is headed by a Director who advises the Managing Director on formulation of policies and its day-to-day implementation.

1-3-2 Programming

Being of a single-channel operation, PTV has a great challenge and responsibility to provide an ideal blend of entertainment, education and information. PTV has produced more than 33% of its indigenous programmes. The total transmission during 1987-88 came to about 3,000 hours, of which about 16% were imported programmes. PTV entertainment and information programmes continued to bring increased clientele into its fold by way of innovative and creative production techniques. There is a long list of

popular dramatic, music and information programmes produced by PTV which have an international appeal. In 1988 alone, three ABU awards were acquired by PTV.

1-3-3 News

PTV News has been the most important source of information to viewers since the inception of PTV service in 1964. The national language news bulletin "Khabarnama", English News and Arabic News are transmitted centrally by National News Bureau, Islamabad functioning since 1978 on National Network. The National News Bureau is supported by four News Centres at Lahore, Peshawar, Quetta and Karachi which also produce bulletins in the regional languages. The far-flung areas are covered by Regional Bureaus at Multan, Faisalabad, Hyderabad, Sukkur, Muzaffarabad and Abottabad. PTV stringers are posted throughout the country for collection of news. The National News Bureau can mobilise its teams to cover any National or International event at a very short notice.

PTV News' international news agencies, and daily satellite feeds are received from VISNEWS and ASIAVISION.

1-3-4 Current Affairs

Varied programmes of different durations, frequency and nature are produced on National and International Current Affairs themes. Roo Baroo (Face to Face), Hafta-e-Rafta (The Week that was), and Haft Roza (Weekly Digest) are some of the popular Current Affairs programmes. Short documentaries depicting national development, projecting the priorities and policies of the Government in rural areas, are also quite popular. Special reports based on state functions, press conferences and engagements of visiting Dignitaries, statesmen and scholars are also televised.

1-3-5 Sports

PTV Sports is one of the most popular segments of programmes. It provides healthy and non-controversial entertainment to all groups of audiences. PTV Sports coverage of national and international events has

gone a long way in popularising different sports in Pakistan. All major national and international events are telecast either live or recorded.

PTV Sports over the years has added regular coverage of international sports events to the transmission - Asian Games, Olympics, World Cup Hockey and World Cup Football besides Tennis and Squash to name a few.

In addition to the live telecast, PTV Sports contributes three weekly sports programmes of one hour duration each in the regular transmission.

1-3-6 International Relations

PTV has a close liaison with all international television networks and other agencies related to the communication trade. PTV has attracted many international production and news teams to work on projects in Pakistan. PTV has also participated in all significant International Festivals and Conferences by sending delegates and programmes. Various categories of programmes have brought home International Prizes. Collaborative productions with other International Agencies resulted in famous works like : "Double Happiness", "A Ball Named Tango", "House Without Foundation", "Courage is our Weapon" and "To Peace and Progress".

Television Networks in Japan, China, USA, England, Canada and some African countries have bought PTV Programmes for their local consumption. To meet the ever-increasing demand of PTV Programmes at home and abroad, PTV has made arrangements with the Shalimar Recording Company to produce and market its programmes on VHS cassettes.

1-3-7 Educational Television

Responding to the compelling need of the country to promote adult literacy and objectives of National Education Policy, PTV devised and televised seven major educational programmes, covering adult functional literacy and formal school/college education. PTV continued to produce/telecast programmes for Allama Iqbal Open University in its distance teaching approach. These programmes were on such subjects as Pakistan Studies, Islamiyat, Iqbaliyat, Export Promotion and Management, Electrical Wiring etc. Literacy and Mass Education Commission of Pakistan

seeks help from PTV for imparting functional literacy skills to illiterate men and women, especially in the rural areas.

1-3-8 Income and Expenditure

The total revenue income of the Pakistan Television Corporation for the year 1987-88 amounted to Rs. 860 million, against revenue expenditure of Rs. 569 million, resulting in a net operating profit of Rs. 291 million, and representing thereby an increase of 5.1 percent in the net profit over the previous year, which amounted to Rs. 14 million.

The advertising income of Rs. 441 million showed an increase of 8.0 percent over the previous year. The revenue from TV licence fees, at Rs. 200 per year per set, amounted to Rs. 190 million, thus showing an increase of 8.7 percent. PTV repaid loans amounting to Rs. 76.361 million, thus discharging all its liabilities in terms of principal amounts until 2010-11. The Corporation also saved an interest payment of Rs. 152.861 million by premature repayment of loans. The revenue of the Corporation increased by 17.52 percent, whereas increase in expenditure was 18.94 percent over the previous year.

1-4 Organization Chart of PTV and the Staff Number

Fig. 1-2 PTV Organization Chart

PAKISTAN TELEVISION CORPORATION LIMITED
ORGANISATION CHART

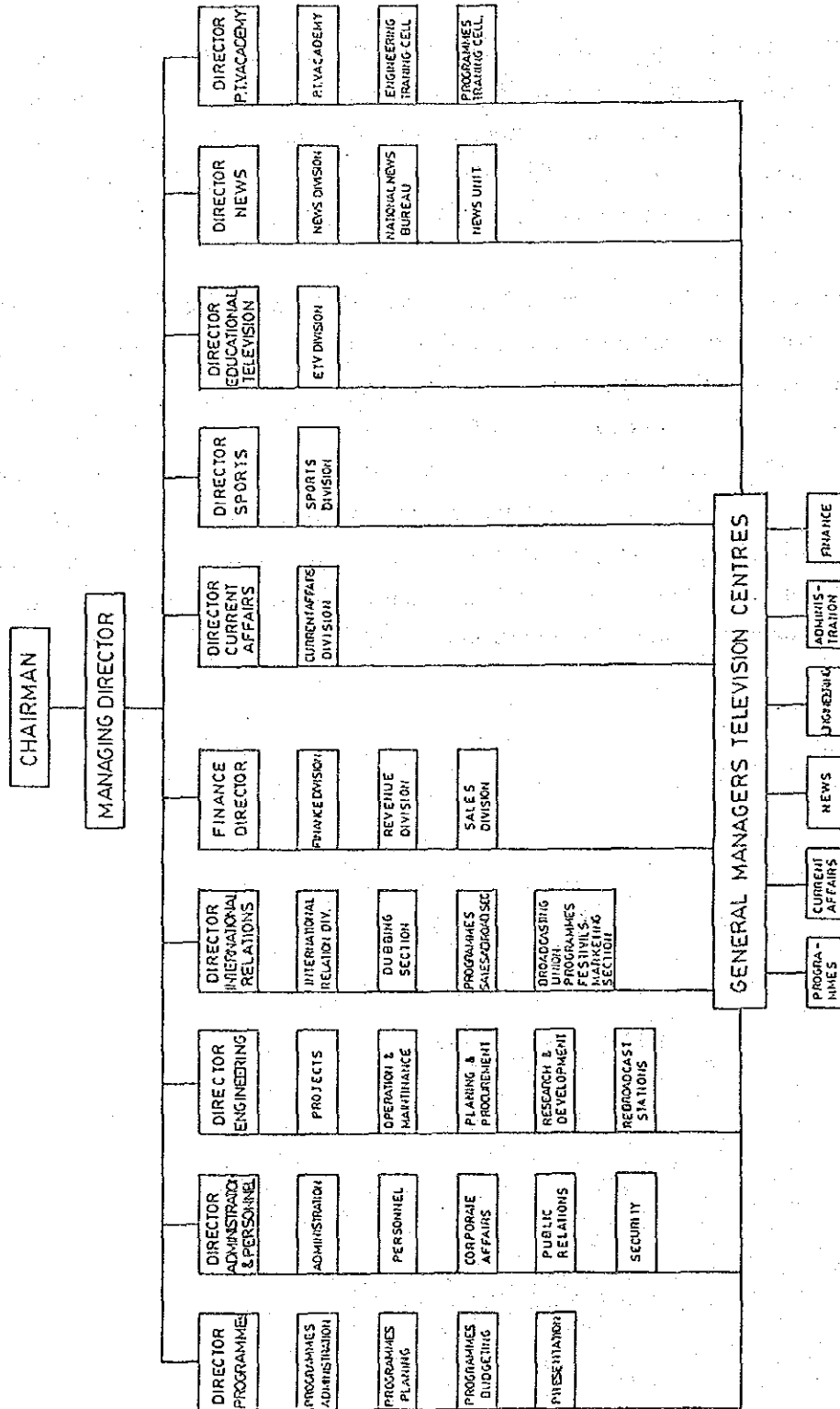


Fig. 1-3 Manpower of PTV Centres & HQ

MANPOWER OF PTV CENTRES & HQ

20. MAR. 1989

	SANCTIONED STAFF STRENGTH OF CENTRES					SANCTIONED STAFF STRENGTH OF HEADQUARTERS OFFICE
	Karachi	Lahore	Islamabad	Peshawar	Quetta	
ETV	Nil	12	Nil	Nil	Nil	47
Programmes	235	204	150	142	183	23
News	53	38	133	30	22	13
Camera Facilities	61	56	55	37	31	9
Engineering Department	235	213	198	152	182	9
Finance	29	36	29	21	22	9
Administration & Personnel	182	172	156	150	150	190
Current Affairs	13	15	22	6	5	281
Sales	Nil	24	8	5	4	9
Total	808	770	751	543	599	590

CHAPTER 2 Necessity and Outline of the Project

2-1 Pakistan's National Development Plan and Role of Educational Television Broadcast

2-1-1 Contribution of TV to Educational Field

A major characteristic of broadcast is that the residents of remote agricultural areas who do not have access to entertainment or education can experience and share the same opportunity with the residents of urban areas.

"Foundation of building a country lies in education" - this is an important element in the history of developed and developing countries.

In order to promote development of a nation, efforts towards self-reliance is inevitable - its motivating force is the citizens consciousness and educational standards that hold the key to development. TV broadcasts reaching hundreds of thousands of viewers regardless of their living standard via transmission from one station is an exceptional medium for developing countries development aims. It is encouraging that the government of a developing country is enthusiastic about TV broadcast.

Among assistance given to the developing countries, much of it is immediately effective (such as sending foodstuffs) or can be seen in tangible results (such as training a particular number of technical staff at a vocational training centre, or achieving a certain tonnage of fishery products, etc.). On the other hand, broadcasting does not give anything in material or monetary form to the citizens, and its effects cannot be seen immediately. However, it has a wide-reaching function of information transmission, and it shows a great potential in contributing to the development of the country and appealing equally to all citizens. Moreover, while school or book learning formulates intelligence through stimulating perceptions and repetition, TV appeals directly to the viewers' senses and information informs intelligence.

School broadcast of educational television is utilized in Japan, because it has been determined that educational programmes can directly

and visually support the intelligence formulated by everyday school education, and that supplementary information given by a teacher enhances educational results.

Broadcast waves can be picked up throughout the country, transcending living standards, and it has been determined in a number of developed countries including Japan, that this medium educates citizens including preschoolers, students and adults.

After completion of broadcast projects in various developing countries assisted by Japan, the projects have rapidly expanded and developed. Today, broadcast has become familiar in every country; it is an important source of information, and at the same time, it is a must in everyday life as a source of education and entertainment.

2-1-2 Objectives and Strategy of the Seventh Plan

(1) The major thrust of the Seventh Plan is on the twin objectives of achieving efficient growth of output on the one hand, and improving the quality of life on the other. This has to be achieved within an overall economic framework which encourages the private sector and maximizes employment generation. The quality of life during the Seventh Plan will be further improved by providing infrastructure in the rural areas, public services, like education and health to all sections of the society, and providing employment opportunities and special provisions for the weakest groups of the population.

(2) Macroeconomic Framework for the Seventh Plan

The focus of the Seventh Plan continues to be on achieving a high rate of economic growth within an overall policy framework of a better distribution of the benefits of growth. A rural development programme will be complemented by an emphasis on employment and poverty alleviation.

At the same time, the Seventh Plan will give special consideration to concrete measures for the mobilization of domestic resources to restore the viability of domestic and external finances. Monetary policy would be

used both to direct credit to priority sectors and to ensure that inflation remains moderate.

The basic aims of the Seventh Plan are as follows:-

- movement towards full employment, especially of the educated;
- provision of adequate nutrition, shelter, health, education, transport and other public services;
- development of human resources, with emphasis on education and training of manpower;
- progressive achievement of self-reliance in all spheres of life, including the gradual reduction of dependence on foreign loans, technology and know-how;
- promotion of the private sector through further deregulation of the economy to transfer financial burden of investment and growth from the government's budgetary resources to private sector resources;
- restoration of equilibrium in public finances by a concrete programme of balancing the revenue budget, and eliminating the imbalance between the government's expenditure requirements and its revenue raising capacity;
- strengthening of the balance of payments by the aggressive promotion of exports, through industrial, commercial and exchange rate policies, and achievement of a better balance between imports and exports; and
- pursuit of a restrained monetary policy to ensure continued price stability.

(3) Social Framework of the Seventh Plan

The Seventh Plan seeks to improve the quality of life and raise the living standards of the majority of the population. The main instrument for achieving this will be the widespread provision of public services, particularly education and health, to all sections of society. Accordingly, social sector allocations have been raised from 15 percent during the Sixth Plan almost 22 percent of the total Public Sector Development Programme (PSDP) during the Seventh Plan.

By the end of the Seventh Plan period, electricity will be available in 55 percent of the total villages containing nearly 75 percent of the total rural population. The network of rural roads will be increased to 69,457 Km compared to 60,957 Km during the Sixth Plan period. The percentage of rural population served by clean drinking water will be raised from the present 40 percent to about 75 percent, and those with sewage facilities, from 10 percent to 30 percent. The proportion of the primary school-age children enrolled in rural schools will be increased from below 50 percent to 80 percent.

(4) Economic Framework of the Seventh Plan

With an annual increase of 6.5 percent in GDP and around 3 percent in population, the average income per family (in 1987~88 prices) which increased by Rs. 400 and Rs. 466 during the Fifth and Sixth Plan periods, would further increase by about Rs. 536 during the Seventh Plan. Development of GDP, Family Income and other items are shown below.

GROSS DOMESTIC PRODUCT AT 1987~88 PRICES

(Rs. Billion)

Particulars	1977~78	1982~83	1987~88	1992~93
Agriculture.	97.3	119.2	143.9	181.4
	(29.8)	(26.5)	(23.28)	(21.42GDP)
Industry	76.4	118.1	176.0	259.9
Manufacturing	46.5	74.5	108.1	159.6
Others	152.0	211.7	298.1	405.5
GDP (Billion Rs)	325.7	449.0	618.0	846.8

Memo:

No. of Families (mln)	12.6	14.6	17.0	19.8
Family Income (Rs/Month)	2,160	2,560	3,026	3,562
Increase (Rs)	-	400	466	536

2-1-3 Extracted Key Policies of the 7th Plan Relating to this project (extracted from Chapter 13 Poverty Alleviation Strategy)

(1) Developing Human Resources

Development of human resources leads to higher levels of human capabilities, which in turn contributes to the community and national development. This is achieved through improved nutrition, greater health care, population planning, better education and higher skills. Although the socio-economic programme implemented during the last two years of the Sixth Plan led to concerned efforts in this direction, much more remains to be done.

(2) nutrition

Nutrition is an important development concern. It is closely related to the improvement of health standards, and can be regarded as a major preventive measure since a high nutrition level enables people to resist diseases.

(3) Health

Health care is receiving particular attention with emphasis on rural areas. So, in order to maintain health, special stress will be placed on spreading basic knowledge about preventing diseases.

(4) Population Planning

The population growth rate (presently estimated at 3.1 percent per annum) appears to have increased in recent years as the death rate, particularly the infant mortality rate, has fallen because of effective health policies, while birth rates have not responded as well to population planning measures. Therefore, it has become imperative to restrain population growth and adopt population planning as a major means of poverty alleviation.

(5) Education

In education, emphasis will be shifted from higher education to literacy, and toward primary education and vocational training. Manpower is a resource rather than a burden on society. It should be trained according to the requirements of the economy so that absorption is ensured.

The Seventh Plan envisages a more than 50 percent increase over the Sixth Plan in public sector development outlays on education, a major portion of which will be earmarked for primary and secondary education.

(6) Participation at the Grass Roots

The mass media will be mobilized for motivating the public to participate in the development process at the grass roots level. A motivation programme will be designed to inform, educate and motivate people to help themselves. This would be done through an integrated community development programme. Basic institutional changes and streamlining of administrative procedures are required, however, in order to fully utilise the potential of the masses.

(7) Programme Components

There is a poverty alleviation objective in many of the policies and programmes of the Seventh Plan. The federally-funded poverty alleviation programme will be an additional effort over and above the normal programmes included in the Seventh Plan. It will consist of (a) information services, (b) education, (c) nutrition and health care, (d) housing, water supply and sanitation, (e) physical infrastructure, and (f) employment generation. These components are discussed below.

The paucity of information plays a dominant role in the backward state of the economically poor. The poverty should be alleviated by extensive use of the mass media-radio, television, etc. The rural population in particular is highly ill-informed. Health, education and nutrition information will be provided.

There will be motivational programmes for planned parenthood, immunisation and education, particularly of girls.

These programmes will also educate the people against social

prejudices.

The information system will also be used to publicise investment opportunities, extending abroad for the benefit of overseas Pakistanis.

In short, there will be programmes designed to inform, educate, and motivate people to help themselves by active participation in the social, political and economic process of national development.

2-2 Necessity of This Project

(1) In order to realize the 7th five-year national development plan

As mentioned in the preceding paragraph, this project is one on which great expectations are placed as a most effective and efficient means of mass education. Under this project, it is hoped that the enhancement of the living standards of the people and further development of the nation as a whole will be brought to reality. During the project period of five years from 1990 to 1994, efforts will be made to promote mass education, which Pakistan needs most at the present time, on all levels including the grass-root people living in the mountains and other remote regions as well as the low-income residents of the urban areas. Such education will enhance literacy, spread knowledge about the minimum nutritional intake, especially will provide knowledge to women on hygiene, child-rearing and population planning, and will give occupational training to women as well as to men.

The importance of this project is already clear from the new educational policy declared in 1980 under the Presidential Order No. 648, the establishment of LAMEC, and from the contents of the 7th Five-year Plan as mentioned in the preceding paragraph.

(2) In order to supplement the current General TV Network, which is still inadequate

1) TV Service for Mountainous and Other Remote Areas

As mentioned earlier, in Pakistan, TV broadcasting is presently conducted solely by the PTV on a single General TV channel. Unlike other countries, Pakistan has no private or commercial TV network. Thus, the TV viewers in this country have no choice in their TV viewing. At present, GTV's population coverage is 86.3 percent (1988-89) and area coverage is 37.1 percent.

Geographically, Pakistan has a mountainous region in the northwestern territory which is sparsely inhabited, while the Province of Sind (capital-Karachi) consists largely of deserts which also are sparsely inhabited by people forming small villages outside the urban regions. In a country with such topographical features, what matters is not the area coverage of broadcasts but the population coverage which should be total.

In the present project, it would be a big step forward if the stage could be reached where the educational TV programmes can be transmitted to all parts of the country via satellite. At present, people living in the mountains and other remote regions are not able to receive the GTV service. Those people have no newspapers to read, nor have they access to any kinds of entertainment. While constantly having difficulty even in obtaining water for daily use, those people, most of whom are engaged in mineral mining in the mountain regions, fishing on the Sind Province sea coast, or farming in the central and southern regions, are actually supporting Pakistan from its very bottom. So, in view of their importance, the Government of Pakistan has been giving one of the top priorities to the provision of information to those people regarding national policies.

2) Differences between the residents of the urban regions and those of the rural or remote regions in the way they spend time each day

Quite naturally, there are some differences in life-style between the residents of the rural or remote regions (71% of the total population, according to the 1981 census) where the infrastructure required for daily life (water, gas, electricity, transportation, information, etc.) is still inadequate, and the residents of the urban regions such as Karachi, Lahore and Islamabad, where the infrastructure is quite well established (29% of the total population, according to the 1981 census).

As a result, there are considerable differences in the kinds of broadcast programmes the people want or need, depending on how they spend their time each day or on the conditions of the district they live in.

Generally speaking, since a single programme is broadcast at a time to the entire country in all of its diversity, it is quite normal to want to ensure that in the scheduling of GTV broadcasts, maximum effects are achieved, even though a certain level of compromise is inevitable because of such regional differences.

However, such efforts as mentioned above are still not successful. In fact, both from the rural and urban regions, voices have been raised more and more for TV programmes that will satisfy regional needs to be broadcast on an additional channel.

3) Differences in Language, Customs and Manners, and the Necessity of Educational TV Broadcasting

Pakistan is a multi-lingual (12 languages) country. Four languages, viz., Punjabi, Sindhi, Baluchi and Pashto, are currently used. English, which used to be Pakistan's official language during the British colonial years, continues to be used in government offices and in business circles. Higher education, too, is conducted in English. Meanwhile, as a common language for the entire country, Urdu has been established and is actually used in the urban regions and has already come to be widely understood in the provinces as well. Muslims are obligated to chant Koran in Arabic, and, as far as Koran is concerned, there are many people that understand Arabic.

For the reasons mentioned above, the educated people of Pakistan are trilingual, and understand Urdu and English as well as the

language of the region in which they have been brought up.

The existing GTV broadcasts are almost entirely conducted in either Urdu or English, including dramas and news. In fact, those who can afford a TV set are, on the whole, capable of understanding both Urdu and English. So, as far as those people who can afford owning a TV set are concerned, there is practically no problem. However, the particular social class of people whom ETV considers as being the targets of literacy education, adult education and general education, understand neither Urdu nor English. Regarding education, what is of utmost importance is to arouse children's interest in learning about and understanding things. Hence, this issue of language is of utmost importance. In other words, it is of great significance for broadcasts to be conducted in the particular regional language concerned.

When a certain language is not understood in a region, this means that a different kind of language, rather than a different dialect, is spoken in that region. This, at the same time, means that different tribesmen are living in different regions of this country. This is clear from the great variety of costumes worn by people in different regions other than urban areas. In other words, there are considerable differences in customs and manners, and it is quite likely that people living in different regions differ from one another in various aspects, such as the problems they are interested in, the way they interpret various questions and so on. Consequently, the national network broadcasts with uniform contents and simultaneously transmitted on the existing GTV channel would not be adequate for the different regional TV viewers.

At present in Pakistan, some programmes, such as Open University programmes, child-care and computer mechanism programmes, and vocational training and agricultural programmes, are broadcast in four languages to the respective regions where those languages are spoken, although the TV programmes broadcast the same picture. Each programme is broadcast, then repeated once, twice or even three times in different languages. So, the broadcasting station is more or less obliged to operate rather inefficiently.

As will be mentioned later, the new educational TV broadcasting service will be conducted with the satellite as the means of transmission. A single TV programme can be transmitted in up to four

languages, so that at each transmitter station, the TVRO can receive the broadcasts with a satellite-broadcast in the particular language selected for the different region. Therefore, even though it is within the same nationwide TV service, the new educational satellite TV broadcasting service will be able to avert the same kind of inefficient operation that the existing GTV has put up with.

In this way, the new educational TV broadcasting service is expected to contribute dramatically to the literacy of the social class currently incapable of understanding either Urdu or English.

2-3 Contents of the Original Project of the Government of Pakistan (PC-1 Form)

The Government of Pakistan requested the Government of Japan to conduct a Feasibility Study to review the PC-1 Form (1988) on the Second TV Channel for Education, which had been submitted to the Planning Commission by PTV. The outline of the project, the PC-1 Form, is as follows.

(1) Objectives of the Project

- 1) The project proposes the establishment of a second TV channel for providing the people formal and non-formal education, including eradication of illiteracy. The project is to promote nationwide adult education needed by the public through an adequate TV medium in 5 years from 1988 to 1993. It is especially to give women equal opportunity of education with men.

This second channel would also provide facilities to meet expanded requirements of the Allama Iqbal Open University (AIQU) and other development agencies, in addition to literacy education, adult education and vocational training.

- 2) At present, the total population of Pakistan is approximately 105 million. If it continues to grow at the present rate of 3% annual growth, it will be twice as large in a little more than 20 years. If immediate arrangements of mass education of the people are not

made, the number of illiterates would further increase having its all adverse social, political and economic effects.

- 3) The implementation of the proposed project would make a major contribution to stemming the tide of currently increasing number of illiterates; to improving standards of health and nutrition, child care, civic responsibility and cooperative enterprise; to increasing productivity through more organized utilization of available resources and modern methods in agriculture; to enriching the teaching of science at middle and high school levels; to generally improve the quality of life; to make population planning more effective; and, far from least, to give young women and men a second chance to improve their academic qualifications.
- 4) The project would comprise the establishment of one studio each at TV Centres Islamabad, Karachi and Lahore, and the provision of EFP and dubbing facilities at 5 Centres including Quetta and Peshawar.
- 5) The project would establish 31 Rebroadcast Stations (Note 1) and 10 Low Power Boosters (Note 2). These Centres, Stations and Boosters will be receiving and broadcasting programmes through satellite to be purchased/leased with initial investment.

Note 1:

Sakesar, Karachi, Murree, Kala Shah Kaku, Cherat, Shujaabad, Shikarpur, Nurpur, Sahiwal, Jamal Din Wali, Tando Allah Yar, Lakpass, Thandiani, Sibi, Mangora, Pasrur, Faisalabad, Kohlu, Maiwand, Kalat, Leiah, Bahawalnagar, Mailsi, Motharzai, Qila Saifullah, Loralai, Ghazaband, Khojakpass, Parachinar, Quetta, Azad Jammu & Kashmir.

Note 2:

Low Power Boosters will be installed to cover thin and scattered population of Baluchistan and hilly terrain of NWFP. Tribal and Northern Areas, Azad Jammu & Kashmir and uncovered pockets in Sind and Punjab.

- 6) On completion, the project will be capable of originating 6 hours daily programmes including one and half hours imported educational programmes and transmitting 10 hours programmes daily, mainly comprising educational programmes, public service programmes, regional programmes, sports programmes and repeat telecast of popular programmes of first channel.
- 7) The production and transmission facilities will be administered by PTV.

(2) Project Digest

1) Name of the Project

Second TV Channel for Education

2) Relation to the National Development Plan

The Second TV Channel is expected to be included in the Seventh 5 Year Plan 1988-93.

3) Administrative Authorities

- a) Sponsoring Authority. Pakistan Television Corporation Limited.
- b) Federal Ministry concerned. Ministry of Information and Broadcasting.

4) Project Sites

- a) TV Centres: 5 (Islamabad, Karachi, Lahore, Quetta & Peshawar)
- b) Rebroadcast Stations: 31
- c) Low Power Boosters: 10

6) Annual Recurring Expenditure after Completion

The annual recurring expenditure of the Second TV Channel after completion in the year 1994-95 will amount to Rs. 401.875 million and the recurring deficit which is to be provided by the Government to PTV amounting to Rs. 258.975 million as annual subsidy. The broad detail of expenses is given here under:

<u>Transmitting End Expenses:</u>	<u>Rs. in Million</u>
1. Production Expenses.	256.930
2. Transmission Expenses.	<u>144.945</u>
	401.875
Less Income.	<u>142.900</u>
Net Deficit.	<u><u>258.975</u></u>

7) Proposed Dates of Commencement and Completion

<u>Name of Project</u>	<u>Commencement</u>	<u>Completion</u>
<u>TV Centres:</u>		
Islamabad.	July 1988	June 1990
Karachi.	July 1988	June 1990
Lahore.	July 1990	June 1992
Quetta.	July 1990	June 1991
Peshawar.	July 1990	June 1991
<u>RB Stations and</u>		
<u>Low Power Boosters:</u>	July 1988	June 1993
<u>Transponders:</u>	July 1988	June 1990
<u>U/D Links:</u>	July 1988	June 1990
<u>TVROs:</u>	July 1988	June 1993

2-4 Targets of This Project and the Criteria

(1) Broadcast Coverage

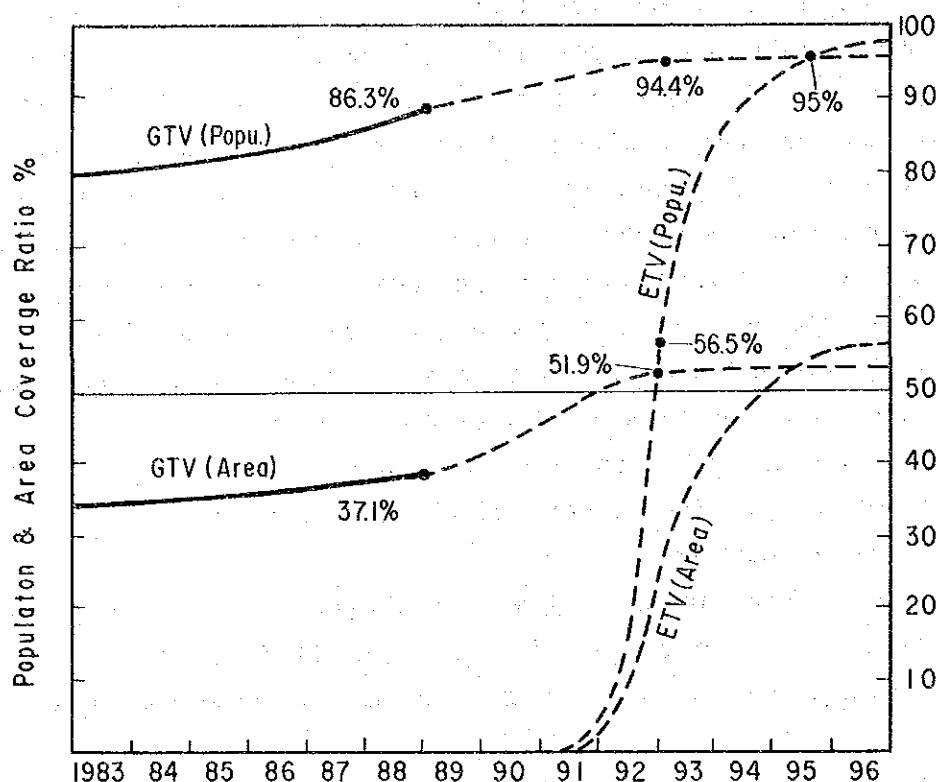
As mentioned earlier, in a country like Pakistan, which consists of mountainous regions such as those in the North-west Frontier Province and a Province like Baluchistan with its desolate deserts where small hamlets are scattered sporadically, it is not the total area but the total population covered that is important when one discusses the ultimate objective of attaining 100% broadcast coverage. However, when considering the question of coverage by terrestrial rebroadcasting and low power booster transmitters, the unit cost of the transmitter per receiver must be considered.

In the case of GTV, whose transmission depends on a terrestrial microwave network, the unit cost of transmission naturally becomes higher than in ETV's satellite transmission.

Under the 7th Plan, the population coverage and area coverage in terms of GTV for fiscal 1992-93 have been projected at 94.9% and 51.9%, respectively.

Therefore, in this plan, the target for ETV population coverage shall be the same, or slightly higher at 95%. The target for area coverage will be 52%. Both aims are targeted for this 5 year ETV project.

In the following graph, the estimated curves of increase with regard to ETV are shown.



In establishing ETV coverage as the target, any TV viewer in a district where GTV can be received should be able to receive ETV, too.

In the case of ETV, for which a satellite is used for transmission of programmes, the ETV broadcasts can be received anywhere in the country as long as a TVRO is installed. Besides, with the unit cost of transmission proportionately lower (refer to Part III, 4-3-1), the saturation value can more easily approach 100% than with GTV. It is expected in the future that TVROs will increasingly be manufactured domestically on a mass production basis, and that their unit cost will eventually be reduced to 10,000 Rs. (About half of the present

cost of 1,000 US\$ per one set of consumer use TVRO when locally made). As a result, it is quite possible that ETV broadcasts will be received by communities directly from satellite. Thus, the ultimate saturation value for coverage of ETV is estimated at 97-98%. However, as for the target values for this 5-year project, 95% for population coverage and 52% for area coverage shall be the targets for the implementation, both of which are just about the same as, or a bit higher than, the saturation values of GTV in 1995.

(2) Contents of Programmes

While the question of programming will be discussed in detail in Part III, Chapter 1 Programme Compilation Plan, the target for broadcasting time shall be set at 10 hours a day.

Of these 10 hours, it is appropriate that the domestically produced programmes total 7 hours (70%), the programmes imported from foreign countries account for 1.5 hours (15%), and rebroadcasts of GTV programmes account for 1.5 hours (15%).

The criteria are as follows.

Although the programmes to be broadcast should naturally consist mainly of those produced by Pakistanis for Pakistanis, it is equally necessary to select excellent foreign programmes and broadcast them in a timely way. Such programmes will help people open their eyes to life outside of the country and, of course, should be harmonious with the conditions of Pakistan. Furthermore, broadcasts are essentially ephemeral, so it is not always possible for the viewers to watch programmes when they want to. As a result, rebroadcasts of programmes become inevitable.

(3) Broadcasting of Programmes in Different Languages

TV broadcasting is a powerful means of eliminating language barriers. As mentioned earlier, Pakistan is a multilingual (12 languages) country where four main languages (Punjabi, Sindhi, Baluchi and Pashto) are spoken. The main objective of this project lies in providing literacy education, adult education and general education to those people who are unable to either read or write because of language barriers. For such people, the first thing to be done is to help them take interest in and understand the contents of the programmes broadcast. The project will make it possible to

conduct broadcasting of programmes (with the same pictures) in different languages so as to suit the respective target regions.

So, the system to be established shall be the system which broadcasts programmes of the same pictures with the four main languages.

2-5 Main Amendments of the PC-1 Form

(1) Satellite Transmission

The PC-1 Form plans to purchase/lease 1 KU-Band and 2 C-Band transponders with initial investment. But in actuality there is no satellite available to meet the needs.

In addition, ETV would require 5 times as much capacity of programme production as GTV, if ETV should adopt 5-channel simultaneous transmission system. Otherwise, the transponders can not be used effectively.

In place of the 5-channel system, PTV agreed to lease 24 hours daily 1 transponder of the INTELSAT Indian Ocean Spare (66°E) in orbit or the ASIASAT which is scheduled to be launched in April 1990. PTV also agreed to establish the main U/D link at Islamabad ETV Centre, and the sub-U/D link at Karachi for programme material transmission to Islamabad as well as for Islamabad's backup.

Consequently satellite expenditure will be counted in annual operational expenses, not in construction cost.

(2) ETV Centres at Islamabad, Karachi & Lahore

The PC-1 Form plans to establish Karachi Centre at the same time as Islamabad Centre (July 1988-June 1990). But delays in selecting the construction sites at Karachi and Lahore have made it rather difficult to start the Project in 1989 as planned.

In addition, the construction cost of the Initial 2 year plan will be too much if the Centres at Karachi and Lahore should be constructed in the initial 2 years.

Thus PTV agreed to include construction of 2 Centres in the later 3 year plan.

Incidentally PC-1 Form stipulates to set up 1 large studio at Islamabad. The F/S plan, however, does to set up 2 studios, medium-sized and small.

(3) Selection of Rebroadcast Stations and Low Power Boosters Established

PTV presented the JICA Study Team in February 1989 with a list (Table 2-1) showing priority of establishing Stations and Boosters, based on a concept that the Project's chief aim is especially to provide literacy education for the people in remote areas cut off from information and so residents in small villages in the NWF, Baluchistan and Sind Provinces are to be given equal care with those in large cities like Islamabad, Karachi and Lahore.

The Team reviewed the list, while respecting PTV's intentions, on condition that

- population and area coverages would become as much as possible.
- PTV is to fill implementation requisites like land, buildings and power.
- there would be no hasty push in construction schedule.

As indicated in the list, among stations ranked priority I, there are 5 stations with Status F (Kohlu, Khuzdar, Gwadar, Dir & Skardu) and 1 station with Status ONG (Kalat). The Study Team decided to first conduct their field surveys and later re-examine the list, considering the Project's chief aim.

The surveys revealed,

- 1) Skardu Station can use a vacant building of Radio Pakistan Station situated on the central heights (20m) in the city, its power and the existing tower.
- 2) Gwadar Station can use a vacant room of T&T office in the city, its power and the tower.

3) Kohlu Station can use part of the city office and its power.

4) Khuzdar Station can use facilities of Radio Pakistan Station in the city.

5) As for Kalat Station, PTV is constructing GTV Station to be completed within 1 year and so there would be no problem.

Incidentally Dir Station was excluded from survey works by agreement with PTV and shifted to the Priority II group.

Consequently 16 stations among 17 Priority I stations have been selected to be established in the initial 2 year period.

In the 1st year of the period, 4 stations at Murree, Gilgit, Skardu and Gwadar will be established, reflecting the Project's chief aim to give equal care to residents both in large cities and small villages.

In the 2nd year, the remaining 12 stations will be established by agreement with PTV.

The Priority II stations will be established in the later 3 year period, in consideration of equal location of stations all over the country.

Table 2-1 LIST OF EXISTING & FUTURE PLANNED TV TRANSMITTERS

Sl. No.	PTV Centres & Transmitters	Status	Power (KW)	Channel #	Population (Million)	Area (Sq. KM)	Priority
1.	Karachi	OP	20	7	6.46	10360	I
2.	Quetta	OP	0.5	8	0.422	2600	II
3.	Sakesar	OP	10+10	4&7	10.720	43000	I
4.	Murree	OP	1-0	8	11.86	43000	I
5.	Kala Shah Kaku	OP	20	5	9.16	10780	I
6.	Cherat	OP	10	10	4.72	14500	I
	Razmak	OP	0.025	6	0.298	4600	
7.	Shujabad	OP	10	8	7.06	14000	I
8.	Shikarapur	OP	10	8	4.29	19700	II
9.	Noorpur	OP	10	5	3.09	19700	I
10.	Sahiwal	OP	10	10	5.67	19700	II
11.	Jamal Din Wali	OP	10	10	4.29	20700	II
12.	Tando Allahyar	OP	20	11	4.31	20114	I
13.	Lakpass	OP	1	4	0.278	3367	I
14.	Thandiani	OP	0.5	6	0.156	3625	II
15.	Sibi	OP	0.5	6	0.154	3229	I
16.	Magnora	OP	1	7	0.154	7	II
	Butkhela	OP	0.01	9	0.010	30	II
	Morasar	OP	0.05	5	0.844	170	II
	Gulibagh	OP	0.01	9	0.0206	5	II
	Chitral	OP	0.100	9	0.0309	18	II
17.	Pasrur	OP	0.5	10	4.15	15200	II
18.	Faisalabad	OP	1	6	8.70	18235	II
19.	Ghazaband	OP	1	5	0.103	2820	II
20.	Kalat	ONG	0.5	9	0.030	2547	I
21.	Khojak Pass	OP	1	7	0.050	8000	II
22.	Parachinar	OP	1	7	0.280	3380	II
	Samana		1	5			II
23.	Muzaffarabad (AJK)	OP	0.100		0.523	1173	II
24.	Gilgit (Low Power)	OP	0.100	5	0.01618	180	I

OP : Operative
ONG : On-going

: 2 :

Sl. No.	PTV Centres & Transmitters	Sta-tus	Power (KW)	Channel #	Population (Million)	Area (Sq. KM)	Priority
25.	Koholu	F					I
26.	Maiwand	F					II
27.	Leiah	F					II
28	Bahawalnagar	F					II
29.	Mailsi	F					II
30.	Loralai	F					II
31.	Mehtarzai Qila Saifullah	F					II
32.	Khuzdar (Lwpower) (Zard)	F					I
33.	Khokhrapar (Low Power)	F					II
34.	Haranpur (Khewera) (Low Power)	F					II
35.	Ziarat (Lowpower)	F					II
36.	Gawadar (Lowpower)	F					I
37.	Landi Kotal	F	10	11	0.050	90	II
38.	Mansehra (pw[per)	F					II
39.	Bela (Lowpower)	F					II
40.	Ahamadpur East	F					II
41.	Dir (Low Power)	F					I
42.	Sakurdu (Lowpower)	F					I

F : Future

2-6 Outline of the Project

2-4-1 Contents of the 1st 2-year Plan

(1) Buildings

Construction of the ETV Centre, on the Site H-9 Islamabad with a total floor area of 2,600 m².

Construction of ETV Headquarters Office Building together with such annexed buildings as canteen, police dormitory, guard house and garage.

(2) Broadcasting Equipment

1) Programme production equipment for Islamabad ETV Centre containing 2 TV studios, one post production room, one continuity studio with Master Control room and EFP equipment.

2) Programme Transmission Facilities

Main U/D Link at Islamabad TV Centre for the Satellite Transmission. A set of STL (See p. 145) between the New ETV Centre at H-9 and PTV H.Q. Building. Sub U/D Link at Karachi TV Centre (Existing Building).

TVROs for the TXs listed below.

3) Rebroadcast Transmitters (incl. Low power Booster) (16 stations)
Shown in the next table.

(3) Rebroadcast Transmitters (incl. Low Power Booster) (16 stations)

Rebroadcasting TXs (incl. L.P. Booster)
implemented during the 1st 2 years

Transmitters	GTV		ETV		Population (Million)	Area (Sq. km)
	Pwr (Kw)	Channel	Pwr (Kw)	Channel		
Karachi	20	7	10	4	6.46	10,360
Sakesar	10+10	4 & 7	30	23	10.72	43,000
Murree	10	8	30	21	11.86	43,000
Kala Shah Kaku	20	5	30	22	9.16	10,780
Cherat	10	10	10	5	4.72	14,500
Shujabad	10	8 → 7	10	9	7.06	14,000
Nurpur	10	5 → 6	10	10	3.09	19,700
Tando Allahyar	20	11	20	9	4.31	20,114
Lakpass	1	4	1	11	0.278	3,367
Sibi	0.5	6	1	10	0.154	3,229
Kalat	0.05	9	0.05	7	0.030	2,547
Gilgit	0.1	5	0.1	7	0.0618	180
Kohlu	0.03	7	0.03	5	0.025	(2,500)
Khuzdar	0.1	9	0.1	11	0.038	(1,000)
Gwadar	0.01	7	0.01	5	0.022	(100)
Skardu	0.03	7	0.03	5	0.238	(50)

Total 58.227 (188,427)

56.5% (23.6%)

2-6-2 Contents of the later 3-year Plan

(1) Buildings

Construction of ETV Centre building in Lahore and Karachi, in which a TV studio and related production facilities together with administrative facilities are accommodated.

(2) Broadcasting Equipment

1) Programme production equipment for Karachi and Lahore ETV Centres, each containing one TV studio, one post production room and EFP

equipment

EFP equipment for Quetta and Peshawar ETV Centres

2) Programme Transmission Facilities

TVROs for the TXs listed below.

3) Rebroadcast Transmitters (incl. Low Power Booster) (28 stations)

Shown in the next table.

(3) Rebroadcast Transmitters (incl. Low Power Booster) (28 stations)

**Rebroadcasting TXs (incl. L.P. Booster)
implemented during the later 3 years**

	Power (Kw)	Channel # (GTV)	Channel # (ETV)	Population (Million)	Area (Sq. km)
Faisalabad	1	6	Undecided	8.70	18,234
Ghazaband	1	5	"	0.103	2,820
Khojak Pass	1	7	"	0.050	8,000
Parachinar	1	7	"	0.280	3,380
Muzaffarabad (AJK)	0.1	To be decided	"	0.523	1,173
Maiwand	0.1	"	"	0.007	(500)
Leiah	10	5	11	0.075	(10,000)
Bahawalnagar	1	To be decided	Undecided	0.310	(5,000)
Mailsi	1	"	"	0.025	(5,000)
Loralai	0.1	"	"	(0.020)	(1,000)
Mehtarzai	0.1	"	"	(0.030)	(500)
Qila Saifullah	0.1	"	"	0.040	(500)
Khokhrapar	0.1	"	"	0.013	(500)
Haranpur (Khewra)	1	"	"	0.510	(2,000)
Ziarat	0.1	"	"	0.038	(500)
Razmak	0.025	6	"	0.298	4,600
Jamal Din Wali	10	10	8	4.29	20,700
Dir	(0.1)	To be decided	Undecided	0.055	(100)
Quetta	0.5	8	10	0.422	2,600
Shikarpur	10	8 → 7	5	4.29	19,700
Sahiwal	10	10	8	5.67	19,700
Thandiani	0.5	6	Undecided	0.156	3,625
Mingora	1	7	"	0.154	7
Morasar	0.05	5 → 6	"	0.844	170
Gulibagh	0.01	9	"	0.0206	5
Chitral	0.1	9	"	0.0309	18
Pasrur	0.5	10	"	4.15	15,200
Karachi	20	7 → 8	6	6.46 *	10,360 *

Grand Total (89.332) (333,459)

* will increase at the new site (86.6%) (41.8%)

PART III PLANS OF THE PROJECT

PART III PLANS OF THE PROJECT

CHAPTER 1 Programme Compilation Plan

1-1 Compilation Policies

It is recommended that the Government of Pakistan, in line with Presidential Order No. 648 issued in 1980 and the Government's new education policies, will promote expansion in TV programming. National broadcasting services may play a greater role in the provision of school education and adult education in response to the needs of the entire nation. For that purpose, it will be essential to expand programming in different regional languages and to broadcast the programmes in such a way as to serve the following purposes, in cooperation with other organizations, such as the AIOU.

- Effective population planning
- Improvement of literacy
- Improvement of health, hygiene and child-care
- Enhancement of productivity of agricultural resources by means of modern farming methods
- Provision of richer volume of science-education materials to junior and senior high school students
- Qualitative improvement of people's living standards

In order to fulfill the policy requirements mentioned above, it is suggested that programmes capable of promoting the following purposes should be produced and broadcast:

- (1) Enhancement of literacy by means of adult education (especially women and residents of rural regions) through television.
- (2) Strengthening of efforts made by the AIOU to achieve its objectives.
- (3) Enhancement of the levels of science education at colleges and universities and provision to students of information and education on new science and technologies, such as optical fiber, superconductivity and communication development.
- (4) Offering of guidance to agricultural and industrial workers, and improvement of productivity.

- (5) Education to parents in childcare.
- (6) Education in population problems.
- (7) Reinforcement of TV programming in local languages and strengthening of information exchanges between people, and between Government and people.

1-2 Programme Compilation and Development Plans

In accordance with the programming policies and the educational guidelines prepared by the Ministry of Education, various kinds of education programmes, public-service programmes, local programmes, sports programmes and rebroadcast programmes will be produced. What are envisaged after completion of the present project are broadcasts of programmes ultimately totalling ten hours a day, including six hours of its own ETV programmes, one hour of AIOU programmes, one-and-a-half hours of imported foreign programmes and one-and-a-half hours of rebroadcasts of some popular GTV programmes.

Final Programme Compilation plan of the ETV after 5 year Project

	Origination Programmes	AIOU Programmes	Import Programmes	Repeat Programmes	Total
ETV Programmes	6.0 hrs	1.0 hr	1.5 hrs	1.5 hrs	10.0 hrs

It is practically impossible to achieve the above-mentioned objectives at a stroke, serving some 100 million people of Pakistan. Essentially, there should be a plan of achieving the objectives step by step, by setting up interim targets by stages.

As for the TV studios used in producing the ETV programmes, the construction plans should start with site selection and acquisition. A large amount of investment would be required, so the present plan calls for construction of one TV studio Centre in Islamabad during the first two years, and then during the later three years of the project, the construction is planned of a TV Centre each in Lahore and Karachi, each containing a TV studio.

1-3 Importance of EFP Programmes and the Equipment Required

- (1) There are two types of TV programme production methods: Studio production and EFP which is videotaped outdoors. EFP conveys in a realistic way how people in different regions live, and how they are endeavoring to improve their living standards by making effective use of their wisdom in daily life.

Since the present project attaches major importance to the education and enlightenment of people on a grass-roots level, the utility of EFP programmes should be great.

In the early years of television broadcasting, such outdoor TV programme production entirely depended on shooting scenes on film. Recently, as a result of the remarkable progress made in electronic technologies, the film cameras have been quickly replaced by EFP equipment consisting of a TV camera and compact VTR in one body, which not only produces higher-quality pictures than film, but also has high mobility.

Whereas the production of a studio programme requires setting up background stage props and elaborately adjusting the lighting to make the scenes look real, all at great time and cost, the production of EFP programmes would be much more economical since natural landscapes can be used as the background of scenes being videotaped. Thus, in recent years broadcasting organizations in every country are producing a higher ratio of EFP programmes. There are, however, some disadvantages in EFP as follows:

When shooting:

- 1) the entire staff has to go to the location site;
- 2) production schedules tend to be affected by weather, duration of sunshine, and other natural factors;
- 3) it is not possible to shoot what must not actually exist; for example, a scene of the past for use in a TV drama;
- 4) an EFP programme becomes a complete programme only after it is put through the process of post-production, that is, editing the programme materials videotaped on location, adding narration and BGM (Back Ground Music), superimposing titles and "framing" the programme by adding cuts to the beginning and end of the programme.

For reasons mentioned above, whereas a studio programme may be completed in a day, an EFP programme may take three, four, or many more days to complete.

(2) Calculation of Number of Required EFP Equipment

The required numbers of EFP camera-VTR would depend on the number of days estimated to shoot the particular video location.

In this estimation, it can be assumed that, EFP location in Islamabad would require an average of three days and an average of four days in Lahore or Karachi, in view of the fact that the former is the center of education and the latter, the center of economy.

The following rotation may be applicable to an Islamabad production:

EFP Prog. Name	day	day	day	day	day	day	day	day	day
A	1-1	1-2	1-3	Edit	P.P				
B		2-1	2-2	2-3	Edit	P.P			
C			3-1	3-2	3-3	Edit	P.P		
D				1-1	1-2	1-3	Edit	P.P	
E					2-1	2-2	2-3	Edit	P.P
F						3-1	3-2	3-3	Edit
G							1-1	1-2	1-3

In this case, three sets of EFP would be required on the same day.

Similarly, one set of editing equipment seems to be sufficient but, actually, most editing work would not be finished in a day. So normally, the relationship between the required numbers of sets of editing and EFP equipment would be as follows:

M = Number of editing sets

N = Number of EFP sets

$$0.5N < M < N$$

Since Islamabad centre is the mainstay of programme production and will also play a backup role for the other centres, the centre will be provided with 2 sets of editing equipment.