(viii) まとめ

ＰＴＴでは、Divisional Engineer 以上は線路分野以外にも多くの方面に従事するよう配置転換を行っている。海外での研修は最低１回は参加できる権利であり、現在従事している分野及び将来従事する分野において、有益になる知識・技術（線路分野の場合光ファイバー技術等）を見聞し、経験を積むという性格のものといえる。

日本での研修は、言葉の問題がある。

(c) フィリピン

① ＰＬＤＴ

(i) 研修に対する意見要望

ＰＬＤＴはフィリピン最大の電気通信運営会社であるのに、民間企業であるため、政府機関のＢＵＴＥＬに対し、優先順位２位となり、研修受入人数が少いので、今後は増やしてほしいとしている。

(ii) 研修員の選抜方法

ＰＬＤＴではＭＯＴＣ（運輸通信省）より研修の案内をうけると社内の選考委員会で候補者を選抜している。研修参加の条件は、５年以上の勤務経験があること、エンジニアであること、線路分野に従事していることである。また、帰国後２～３年はＰＬＤＴで働くことが義務づけられている。

要請書の流れは ＴＴＩ→ＰＬＤＴ→ＢＵＴＥＬ→ＭＯＴＣ→ＮＥＤＡ（国家経済開発庁）→ＪＩＣＡフィリピン事務所となっている。

(iii) 帰国後の配属

帰国後も研修前と同じ部署に配置される。研修と昇進は無関係である。

(iv) 定着率と理由

ＰＬＤＴでの転職率は平均７％である。特に線路分野のエンジニア、cable jointer は特殊技能者であるため、高給を求めて中近東へ出稼ぎに行くため、転職率は５０％となっている。中堅技術者の頭脳流出が問題となっている。

(v) 職員の採用方法

フィリピンにおいては、工学系大卒者は Board Examination（国家試験）の受験結果により、Professional, Associate, Register の３ランクに分けられ、このうち、Professional のみが Engineer になる。Engineer になれるのは年に 2,000 人～3,000 人のみである。

ＰＬＤＴでは、選考により Engineer を採用する。Technician は２年の 研修後採用する。現在線路分野の Engineer は約９０名である。Engineer は採用後８週間 の導入研修を受ける。

(vi) 職員の人事基準

Engineer のレベルまでは同じ分野に従来するが、Manager のレベル以上は 幅広い分野を統轄する必要があるため、他の分野に転属する。

(vii) 日本以外の研修先と日本の研修との比較

ＰＬＤＴでは海外研修として主に西独、次に日本、ＡＰＴ、米国、イタリアに研修員を送っている。西独ではSiemens で年間８人が２３ヶ月の研修（６ヶ月独語、１７ヶ月技術研修）を受けている。研修員の希望に応じた個別研修が実施されており、有益であるという。

イタリアでの研修では、イタリア語の修得が義務づけられている。

日本の研修は言葉の問題があるという。

② BUTEL

(i) 研修に対する意見・要望

BUTELは研修員の受入人数、特に光ファイバー技術の研修員受入人数を増やしてはしいとしている。

(ii) 研修員の選抜方法

BUTELでは、候補者はBUTEL内の選考委員会（人事部と他部のDirector 及び ＭＯＴＣの代表から成る）によって選考される。その際には学歴、職種、地位、能力等が勘案される。研修後３年はBUTELで働く義務があるが、研修費用を返済すれば３年未満でもやめることができ、実際、３年未満で退職する例もみられるという。

海外研修に参加できるのはEngineerだけであり、TechnicianはＴＴＩで研修を行う。

(iii) 帰国後の配属

BUTELでは帰国後、ポストに空きがあれば、通常、昇進が行われる。これは離職者を少くするためにとられているシステムである。しかしこの措置にもかかわらず、帰国後３年で退職する者が多い。

(iv) 定着率と理由

BUTELの転職率は５０％以上である。退職者はＰＬＤＴへ転職するか、あるいはサウジアラビア等の中東方面へ出稼ぎに出ている。この理由としては、政府機関であるためBUTELの給与が民間企業あるいは外国企業に比べ極端に低いということがあげられる。（ＰＬＤＴはBUTELの３～５倍、サウジアラビアでは１０倍の給与）また、フィリピン政府も外貨獲得の方策の一つとして外国への出稼ぎを奨励していることも指摘できる。

このように高い転職率のため、BUTELでは少数の上級管理職と、経験の短い若年技術者層のみが残り、中堅技術者層が欠落しているという状態になっている。転職者の大

半は、海外研修によって技術を身につけるとその身につけた技術をもとに他へ転出しており、まるで転職させるために研修を受けさせているような状況であるという。また、職員の意識の上でも、BUTELへ就職するのはＰＬＤＴなど民間企業へ就職できなかった者であり、BUTELに残っているのは他所へ転職することができなかった者だ、という考えがみられる。

一般にフィリピンにおいては民間企業の方が政府機関よりも給与等待遇が良く、民間企業への就職を希望する者が多い。しかし、遠隔地への電話の普及など、公共性の高い事業を推進するためには、政府機関であるBUTELが適切に運営される必要がある。職員の意欲を高め、転職を防ぐためには、給与等の待遇改善が必須と思われる。

(v) 職員の採用方法

BUTELでは一部を推せんにより採用、他は学歴、適性、Board Exam、専門分野等の条件を満たす申込者の中から選考して採用している。

(vi) 職員の人事基準

職員は経験と資格があれば他の分野へかわることは可能である。Technician は Supervisor 以上には昇進できない。

(vii) 日本以外の研修先と日本の研修との比較、BUTELでは日本に送る研修員が最も多い。他に米国、オランダ、オーストラリア、フランス、タイ（ＡＰＴ）、インドなどに研修員を出している。

日本、米国、その他アジア諸国での研修はレベル、内容、期間とも大差ないという。しかし、各国で使用している機種が異なるため、比較は難しい、としている。

③ ＴＴＩ

(i) 研修に対する意見・要望

特になかった。

(ii) 研修員の選抜方法

ＴＴＩではカウンターパートの選考は所長のMr. Cordero が行っている。選考にあたっては、学歴、職位、勤勉さ講師としての能力を勘案し、選考するが、日本人専門家の心情をよく理解していて、日本側の要望ともほぼ一致する人選を行っているという。ＴＴＩで選考された候補者は、BUTEL、MOTC の承認を得て、日本側に要請される。Technician でも海外研修に参加できる。

なお、研修後３年はＴＴＩに所属する義務がある。

(iii) 帰国後の配属

ＴＴＩでは、帰国後も原則としては同じポストに戻る。もしポストがある場合には昇進することは可能である。また、研修によって新しい技能を得ていれば、他の分野の講

義が、現在の仕事に加わる可能性もある。

(Ⅳ) 定着率と理由

ＴＴＩでの転職者は１年に４名である。（４％）。ＴＴＩの給与が低いため（１ケ月千ペソ）、他の民間企業または海外への出稼ぎへと転職している。また、職員も他の学校の講師等のアルバイトを行っている。

(Ⅴ) 職員の採用方法

ＴＴＩでは、ＩＴＵ時代には試験制で職員を採用していた。（現在の100名中８５名はＩＴＵ時代からの職員。）ＪＩＣＡの協力開始後は、所長のMr. Cordero がBUTEL からや縁故によって職員を採用している。概してＩＴＵ時代からの職員よりも新しい職員の方が資格、能力、意欲の点で優れているという。（ＩＴＵ時代からの講師はTechnician が多いが、Mr. Cordero の関係の講師はEngineer である。）

現在、ＴＴＩはBUTELに所属しているが、将来フィリピン大学の下に移す計画がある。（現在はＭＯＴＣの管轄下にあるが、これを教育省の下に移す計画である。）これが実現された場合には採用方法も、おそらく変わると予想される。

(Ⅵ) 職員の人事基準

ＴＴＩでは原則として職員は同じ分野に所属しているが、本人の能力、資格により他分野へ異動する可能性もある。また、無線と搬送や搬送と電力のように類似している分野の間では異動の可能性がある。

(Ⅶ) 日本以外の研修先と日本の研修との比較

ＴＴＩでは海外研修の機会は多くない。（日本の研修はカウンターパート研修のみ。）アメリカの短期間のセミナーに所長・副所長クラスが参加することはあるという。

(Ⅷ) まとめ

本コースの帰国研修員１７名のうち、１２名はBUTELであり、大半を成しているが、現実にはＰＬＤＴがフィリピンの最大の電気通信運営体であり、職員数、設備、財政状況、職員の定着率などの点でＰＬＤＴはBUTELをしのいでいる。従来政府機関という理由からBUTEL中心の研修員受入れを行ってきたが、BUTELにおける転職率の高さをみた場合、今後はＰＬＤＴからの受入重視の方針に転換した方が、研修の効果上のぞましいのではないか、と思われる。

一般にフィリピンでは個人主義的な傾向が強く、組織に忠誠を行うよりも、自らのもつ技能をもとにより有利な職場へ転職することが普通に行なわれる社会である。その中で電気通信エンジニアは数が少いため、社会的地位が高いが、一方で、これらエンジニアを高い俸給で吸収できる職場はフィリピン社会全体の財政難のため、ごく限られている。（ＰＬＤＴなど）そのため、海外へ流出するエンジニアがあとをたたない。

こうした状況で、エンジニアにとって海外の研修はよりよい職場へ転職するために必要な技能修得の道具という意義をもっているといえる。これに対し、所属組織の側では帰国研修員の離職を防ぐため、最低3年のボンドをかけたり、BUTELでは昇進も行っているが、現状では大きな効果は果していないといえる。エンジニアの社会的地位と技能にみあうだけの待遇改善が成されない限り、頭脳流出をくいとめることは難しいと思われる。

4 関係省庁調査結果

(1) 調査方法

関係省庁担当者宛に事前にQuestionnaireを配布し、記入を依頼した上で面談で確認する方法をとった。しかし、技術協力窓口では3ケ国ともQuestionnaireを事前に記入しておらず、回収できなかった。

(2) 関係省庁調査結果

(a) ネパール

① 通信省（MOC, Ministry of Communication）

(i) 電気通信政策と問題点

MOCによると、同国は国土面積は小さいながら、急峻な山岳地帯を擁する山国であり、今まで、有効な通信手段を持たなかった。国家の重要政策としては、全国に電気通信設備を普及すること及び地方と首都カトマンドゥ間に信頼性の高い通信手段を確保することが挙げられている。現在、日本政府の経済援助により、地方電気通信網の整備を進めている。

(ii) 電話線路行政の重要度

ネパールの線路分野の予算は、電気通信部門の60%を占めている。そのため、線路分野の管理運営を質・量ともに改善することが望まれている。

(iii) 電話線路建設にかかる問題点

問題点としては、熟練技術者の不足、資機材の不足、正しい設置と保全手法が不足していることが挙げられる。

(iv) 日本での研修に重きをおく分野

ネパールでは、地方電気通信網整備計画プロジェクトの推進にあたり、設計及び保全部門の質の高い技術者の養成に力を入れている。

また、管理運営部門の人材も不可欠であり、日本を含めた先進国の現状の視察等が可能であれば、ぜひ受け入れてほしい旨、要望があった。

② NPC, National Planning Commission

ＮＰＣはネパールの技術協力窓口機関である。

ＮＰＣによるとネパールが海外研修で重きをおく分野は農業であり、研修員の大半を占めている。次いで工業であり、電気通信もこの部門に含まれている。さらに、林業、科学、医療の順に重要であるという。

１９８５年には約830人が海外研修に送られた。研修先では１位がインド（150人）、２位ソ連（101人）、３位日本（７５人）であった。

電気通信分野では、１９８５年には７人が海外で研修を受けた。研修先はインドネシア（３人）、シンガポール（２人）、日本（２人）であった。

ＮＰＣは、研修員のノミネートを行うだけであり、研修成果については報告を得ていない。１９８５年より電気通信分野の帰国研修員についてはＮＴＣへのレポート提出を義務づけたという。

(b) パキスタン

① ＥＡＤ, Economic Affairs Division

ＥＡＤはパキスタンの技術協力窓口機関である。ＥＡＤからは、光ファイバー技術の研修を行ってほしい旨、要望が出された。

(c) フィリピン

① 国家経済開発庁（ＮＥＤＡ, National Economic and Development Authority）

ＮＥＤＡはフィリピンの技術協力窓口機関である。研修員の選考のシステムは、①毎年ＪＩＣＡから研修コース一覧表を受けとる→②ＮＥＤＡを議長とする各省会議によって、研修員の募集先となる機関を決定する→③各機関に募集案内を出す→④各機関内で候補者を選考→⑤各管轄省庁で審査→⑥ＮＥＤＡからＪＩＣＡ事務所へ要請書提出となっている。研修終了後はＮＥＤＡへ報告書を提出することとなっている。

電気通信関係の研修コースの場合は、ＮＥＤＡからＭＴＯＣに募集案内が送られ、ＭＯＴＣからＰＬＤＴとBUTELに案内が送られる。各機関の候補者はＭＯＴＣで優先順位を付し、ＮＥＤＡへ提出される。

ＮＥＤＡによるとフィリピンが最も重視している分野は農業であり、海外研修の約８０％を占めるという。次いで林業が多い。

１９８４年に海外で研修を受けた者は1,651人である。研修先としては、１位が日本（約260人）、２位以下オーストラリア（約250人）、オランダ（約200人）、西独（約５０人）、British Counsil（１７人）、ニュージーランド（１０人）、シンガポールの順であった。（この人数には米国での研修は含まれていない。米国はプロジェクトのカウンターパート受入れのみを行っており、ＮＥＤＡは管轄していない。）

日本の研修は、ＪＩＣＡ研修では問題ないが、文部省の国費留学生の場合、１２年間の

教育期間を必要としており、１１年間の教育制度しかないフィリピンでは大学に留学できないという。大学への留学は米国、オーストラリアが主である。

日本の研修は他国と比べて言葉の問題がある。来日前に日本語の教科書を入手できれば、状況を改善できるので検討してほしい、という要望が出された。

Ⅲ セミナー概要

1 目的

帰国研修員を中心に、電気通信の意義と当該分野の最新技術である光ファイバー技術を講義する事を目的とした。なお、講義の理解を容易にするため一部ＶＴＲ、ＯＨＰの視聴覚教材を使用した。

2 概要

(1) " The Significance of Telecommunications "

講師：松尾孝人団員

所要時間：３０分

原稿：別添のとおり

内容：開発途上国において電気通信は、主要なインフラの一つであり、電気通信が社会・経済開発に大きく寄与すること等、電気通信の果す役割をといた。さらに電気通信分野での我が国の国際協力のあり方として、地方通信網整備を重視すべきであること、等を講義した。

(2) " New Technology of Optical Fibre "

講師：平沢 勝団長

所要時間：140分

内容：(i) " Telecommunication Services in NTT "
（ＶＴＲ）（４０分）

(ii) " New Technology of Optical Fibre "
（ＶＴＲ）（３０分）

(iii) " Record of Training Course in Japan "
（ＶＴＲ）（２０分）

(iv) " Optical Fibre Cable Technology "
（講義 ＯＨＰ使用）（５０分）

ＶＴＲによってＮＴＴの事業内容及び光ファイバーケーブル技術を紹介した上で、光ファイバーの特徴、適用分野、製法、設置法、接続法等についてＯＨＰを併用して講義した。また、日本での研修風景の記録をＶＴＲで紹介した。

(3) 出席者

ネパール（１０月１０日：於ＮＴＣ電気通信訓練センター）：２２名

パキスタン（１０月１７日：於ＪＩＣＡパキスタン事務所）：３２名

フィリピン（１０月２５日：於Hotel Mandarin）：２３名

(4) セミナー開催結果

セミナーでは、視聴覚教材を使用したせいもあり、おおむね好評であり、各国とも帰国研修員を中心にかなりの出席者があった。

なお、出席者の側から講義の内容のレジュメを配布してほしい、という要望が出されたので、今後は事前に作成し、配布するよう改善すべきと思われる。

各国毎の反応は以下のとうり。

(a) ネパール

現在、地方通信網整備計画プロジェクトを実施する予定であり、また光ファイバーの導入は当分ない見込みであるという通信事情を反映して、「電気通信の意義」に対する関心は高かったが、「光ファイバー」については、他の２ケ国に比べやや関心が低かった。

質疑応答では、光ファイバーの欠点、光ファイバーと無線の経済比較、屋内配線と屋外配線の接続方法等について質問が出された。

(b) パキスタン

現在、光ファイバーケーブルのイスラマバードーカラチ間での設置を計画中であるため、光ファイバーの講義は時機を得ており、関心は高かった。

質疑応答では、光ファイバーは侵水しても大丈夫なのではないか、という質問に対し、長い間には故障が生じると回答した。また、光ファイバーと同軸ケーブルの比較について質問が出された。

(c) フィリピン

フィリピンでは現在マニラ市にて試験的に光ファイバーを導入しており、今後拡張を計画しているため、光ファイバーの講義に対する関心は高かった。

質疑応答では、ＴＴＩの速水専門家より、光ファイバーの耐用年数は６年とまだ短いため、経済性に欠けるのではないか、という指摘がなされた。これに対し、講師より最新技術の導入は不可欠であり、かつ光ファイバー技術はまだ開発の途上にあり、今後より経済性の高いケーブルが開発されるだろう、と回答した。

Ⅳ Questionnaire原文

1 所属機関宛

QUESTIONNAIRE

1. Do you have any request and /or suggestion to the Telecommunication Outside Plant Engineering Course organized by Japan International Cooperation Agency (JICA)?

2. How do you select the candidates of the training course in your organization?
(The way of the selection of the candidates)

3. After they come back to your country, what position the ex-participants will take?
And are there any personnel promotion after the participants come back from Japan?
(Personnel changes after the participants come back to home country)

4. How many staff change their occupation per year?
And why do they change it?
(The rate of changing occupation in your organization and its reason)

5. Is the status of the staff who engage in Telephone Outside Plant Engineering higher than the staff in other field of telecommunications?
(The status of the staff member engaging in Telephone Outside Plant Engineering)

6. How do you employ the staff members in your organization?
(The way of employment of the staff in your organization)

7. How do you change the position of staff members in your organization?
Do you change one's position from Telephone Outside Plant Engineering field to the other field?
(The standard of personnel change in your organization)

8. How many people participate in the courses in the countries other than Japan?
To compare the training in Japan with one in other countries, are there any difference in level, content, duration and so on?
Are there any difference in personnel promotion after they come back to home country?
(The comparison between the training in Japan and the training in other countries)

9. What kind of equipments do you use now in the field of Cable and the Jointing Machine?
(The kind of equipments which your organization use in the field of Cable and Jointing Machine)

2　管轄官庁宛

QUESTIONNAIRE

1.　What is the policy and the problem of telecommunications in your country?

2.　How important the Telephone Outside Plant Administration is?

And what kind of the future plan does your country have in this field?

3.　What is the main problem encountered in the construction of Telephone Outside Plant?

4.　Which technical training in Japan do you regard as important?

5.　How do you select the candidates of the training courses?

3　技術協力窓口機関宛

QUESTIONNAIRE

1.　How many people participate in the training courses in the field of telecommunication?

2.　How many trainees participate in the courses organized by Japan and other countries?

To compare the training in Japan with one in other countries, are there any difference?

V 英 文 所 見

BRIEF REPORT OF THE FOLLOW-UP TEAM FOR EX-PARTICIPANTS IN THE COURSE OF TELECOMMUNICATION OUTSIDE PLANT ENGINEERING

1. Introduction

It is our great pleasure to have the opportunity to visit Nepal as Technical Follow-up Team for ex-participants of the group training course in telecommunication outside plant engineering.

As is well known, Japan International Cooperation Agency (JICA) has been conducting a number of training programmes in various kinds of fields, and JICA has been sending follow-up team to the participated countries in order to improve this programme.

This group training course organized in 1964, and participants from 54 different countries including 8 participants from Nepal have attended the training course.

Before leaving this country, we submit a brief report based on our activities for 7 days.

2. Objectives of our visit

The team primarily aims at reviewing and evaluating of the results of the training in Japan by visiting the organizations to which the ex-participants belong, as well as through the personal interviews with ex-participants and their superiors.

The second aim is to have a discussion meeting in order to find out their needs, effectiveness and evaluation of the said training programmes, and to make further improvement for the training course.

3. Team Members

1 Mr. Masaru Hirasawa
Senior Staff Engineer of International Training Section,
Planning Department,
Central Training Institute,
Nippon Telegraph and Telephone Corporation

2 Mr. Takato Matsuo
International Cooperation Division,
Communication Policys Bureau,
Ministry of Posts and Telecommunications

3 Miss Ieko Kakuta
Second Training Division,
Training Affairs Department,
Japan International Cooperation Agency

4. Name of the people and date we met

During this stay from October 8, 1985 to October 14, 1985, we were able to see many ex-participants and a number of people concerned.

(As for the name of the people and the date we met, see the list that is attached in the last part of this report.)

5. Important finding and opinions from ex-participants and people concerned

1. In 1985, Nepal Government sends 830 participants to the training held at foreign countries, and 7 participants (2 to Japan) in the field of telecommunications.
(from Mr. S.N.Shresta, Under Secretary, NPC)

2. Since Nepal is the mountainnous country, it is a big problem to connect capital with the rural areas. Therefore it is very important to arrange rural telecommunication network.

3. MOC needs the training for policy-making officers in which participants can observe the telecommunication facilities in Japan.
(from Mr. T.B.Khatri, Secretary, MOC)

4. JICA should introduce the examination system during the training so that the participants study hard.
Moreover NTC wants to be reported the evaluation of the performance by JICA or NTT so that NTC could select more suitable candidates next time.

5. It is a problem that generally NTC staff have a tendency to prefer office work (inside work) to outside work. Shortage of skilled manpower is one of the main problem in the construction of telephone outside plant.

6. Since rural telecommunication project begins soon, NTC needs more training in the field of outside plant.

7. In the training, NTC feels some of engineers should be given detail knowledge on maintenance of outside plant.
(from Mr. S.K.Pndasaini, General Manager, NTC)

8. Training in Japan is high level and useful.
Especially line design in lecture and design exercise, outside plant maintenance, engineering economy, network planning are important subject because they are most needed technics in the present daily job.
Also practical training in CTI and Tsukuba is very useful.

9. Since NTC uses several kinds of equipments made in various countries (Sweden, Spain, Japan, France, Italy and in the future Denmark), training in those countries is available. Participants can compare one country's equipment with the others, and also they come to learn about the equipment itself.

10. As for the follow-up service, new technical information in the field of outside plant is most needed. Also, re-training in the field of planning is needed.

11. As proposals, duration of the course especially practical training is short. (It needs two or three days more.) Season should not be in the hot season. Number of the participants should be within 10. English speaking ability of the instructors and participants is sometimes not good. Finally, training should be related to participants country's problem.
(from ex-participants)

6. Conclusion Remarks

Our meeting with ex-participants and government officials were cordial, frank and deep enough to find many constructive comments and suggestions.

We are very happy that we could know this course has been appraised by the people in this country.

We hope that these suggestions and comments will be given due consideration by both the Nepal and Japanese authorities so that steps to the better course.

We would like to express our deepest gratitude to the people we met and authorities concerned for the warm welcome and kind cooperation with us during the period of our stay in Nepal.

Nepal
October 14, 1985

Masaru Hirasawa
Team Leader,
Follow-up Team for Ex-participants
in Telecommunication Outside Plant
Engineering

NAME OF THE PEOPLE AND THE DATE WE MET

date	name of the people
October 9	Mr. S.K.Pudasaini General Manager, Nepal Telecommunication Corporation (NTC)
	Mr. S.N.Shresta Under Secretary, National Planning Commision
	Mr. T.B.Khatri Secretary, Ministry of Communication
	Mr. S.Pradhananga Director, NTC
October 10	*At Seminar Mr. S.Pradhananga Director, NTC and 21 persons
	*At Party Mr. T.B.Khatri Secretary, Ministry of Communication
	Mr. S.K.Pudasaini General Manager, NTC
	Mr. S Pradhananga Director, NTC
	Mr. G.S.Bohra Chief Engineer, NTC
	Mr. C.P.Bhattarai Regional Director, NTC
	Mr. R.K.Tuladhar Manager, Maintenance & Operation, NTC
	Mr. R.L.Shrestha Project Manager, NTC
	Mr. B.R.Pradhananga Financial Control, NTC
	Mr. V.Bajracharya International System Manager, Tripurewor
	Mr. S.R.Kansakar Executive Engineer, NTC
	Mr. K.B.Nakarmi Assistant Engineer, NTC

Mr. A.N.Singh
Executive Engineer, NTC

Mr. A.K.Khadgi
Supervisor, NTC

Mr. A.Shah
Assistant Executive Engineer, NTC

Mr. S.P.Thike
Assistant Executive Engineer, NTC

October 11 *At Discussion
Mr. S.R.Kansakar

Mr. K.B.Nakarmi

Mr. A.N.Singh

Mr. A.K.Khadgi

Mr. A.Shah

Mr. S.P.Thike

*At Observation
Mr. R.L.Shrestha

Mr. Shakyea
Executive Engineer, NTC

Mr. A.N.Singh

Mr. B.M.Shrestha
Assistant Engineer, NTC

BRIEF REPORT OF THE FOLLOW-UP TEAM FOR EX-PARTICIPANTS IN THE COURSE OF TELECOMMUNICATION OUTSIDE PLANT ENGINEERING

1 Introduction

It is our great pleasure to have the opportunity to visit Pakistan as Technical Follow-up Team for ex-participants of the group training course in telecommunication outside plant engineering.

As is well known, Japan International Cooperation Agency (JICA) has been conducting a number of training courses in various kinds of fields, and JICA has been sending follow-up team to the participated countries in order to improve this programme.

This group training course organized in 1964, and participants from 54 different countries including 10 participants from Pakistan have attended the training course.

Before leaving this country, we submit a brief report based on our activities for 6 days.

2. Objectives of our visit

The team primarily aims at reviewing and evaluating of the results of the training in Japan by visiting the organizations to which the ex-participants belong, as well as through the personal interviews with ex-participants and their superiors.

The second aim is to have a discussion meeting in order to find out their needs, effectiveness and evaluation of the said training course, and to make further improvement for the training course.

3. Team Members

1 Mr. Masaru Hirasawa
Senior Staff Engineer of International Training Section,
Planning Department,
Central Training Institute,
Nippon Telegraph and Telephone Corporation

2 Mr. Takato Matsuo
International Cooperation Division,
Communications Policys Bureau,
Ministry of Posts and Telecommunications

3 Miss Ieko Kakuta
Second Training Division,
Training Affairs Department,
Japan International Cooperation Agency

4. Name of the people and the date we met

During this stay from October 15, 1985 to October 20, 1985 we were able to see many ex-participants and a number of people concerned.

(As for the name of the people and the date we met, see the list that is attached in the last part of this report.)

5. Important findings and opinions from ex-participants and people concerned

(1) Since in Japan most of the technical literatures are written in Japanese, participants of the trainings can not easily get the enough technical imformations. T&T requests Japanese government to make some improvements in this point.

(2) T&T would like to request JICA to dispatch 6 experts in the field of outside plant engineering to Pakistan because Pakistan needs practical knowledge and technics of instalation and maintenance of outside plants.

(from Brig. Mansoor-Ul-Haq Malik, Director General, T&T)

(3) As the suggestion to the training course, training period may be increased from 3 months to 4 months.

Training should not be held in summer.

Since optical fibre is a new technology, such special attention may be given on this subject.

(4) There is no relation with the promotion system of T&T engineers and the participants in the training in Japan.

(5) At T&T 60% of engineers are recruited from open market through Federal Public Service Commission those who have engineering degrees in Electrical/Electronic, 40% of engineers are promoted from Asstt. Engineers who have sufficient experience in telecommunications in accordance with seniority fitness.

(6) As for the personnel change at T&T, Technicians/ Engineering Supervisors/Asstt. Engineers are strictly posted in outside plant field, but Divisional Engineers and higher officers change the position to other than outside plant.

(7) To compare the training in Japan with one in Sweden, contents or scope of the training is more or less same. Regarding level of the course, Ericsson in Sweden has maintained a good level. It can be said that there will be language problem in Japan. Duration of the course is almost same.

(8) At present T&T uses following equipment for cable laying.

a) Pulling Jeep and Land Rover along with winch and pulling accessories. (Ericsson)

b) Trailors (Ericsson) 3000; 5000; 10,000Kg

c) Pressurization Equipment along with distribution panel and accessories (Ericsson)

(from Mr. Zafarul Haq, Deputy Chief Engineer (Training), T&T)

(9) At T&T following equipments are used in this field other than cable laying.

a) Exchange machine imported from Siemens in West Germany

b) Steel pole made in Pakistan factory

c) Distribution cabinet & MDF made in Swedish Ericsson

d) Cable from many countries (Korea, Sweden, England, Japan etc.)

(10) Most useful technique or knowledge gained by the course are Cable fault location, Overhead Line Design, Optical Fibre.

(11) T&T staff feel that from now on necessary technique are Outside Plant Maintenance, Optical Fibre Cable Technique, PCM System.

Concerning with this view, they feel necessary subjects in the training are Optical fibre Cable Design, Outside Plant Maintenance, Practical Training in CTI, Practical Training in Tsukuba, Observation of such as telephone office and outside plant facilities, Outside Plant Design Exercise (Junction Cable, PCM system).

Moreover if JICA adds two more topics to the course, they think Shifting method of Overhead Cable to Underground Cable and Tunnel Construction are needed.

(12) At T&T Director Training is concerned with the trainings in foreign countries. His section considers the trainee's level and experience, and sends him to the appropriate training. T&T sends 100 persons per year to Sweden, England, West Germany, Japan, USA, Canada, Italy, Holland, France and Korea. Within them 4-5 persons are sent to Japan. The conditions of the participants are as follows.

a) Have 5-10 years work experience at T&T.
b) Be university graduate. (Telecommunication Staff College in Halipur is considered as equivalent to university.)

Average age of the participants is around 35. Every Engineer can attend a training at least once and sometimes 3 or 4 times. However they can not go abroad for three years after they come back to Pakistan.

(13) At T&T there are several training school for the staff. After they are employed by T&T, they have maximam 2 years training at Telecommunication Staff College in Halipur. Also there are 5 Region Technical Training School (RTTS) in Karachi, Sukkur, Lahore, Rwarpindi and Peshwar for technicians and higher engineers. Moreover there are 10 Divisional Technical Training Centre (DTTC) for junior staff. T&T wants to attach importance to practical study in those trainings, but lack of the equipments is a problem now.

(14) As for the follow-up service, T&T staff want to get latest technical information and literature. Besides they want to get general information and literature concerning with Japan as much as possible.

JTR (Japan Technical Review) which is published and circulated by NTT is very helpful for them.

They want to get high technical equipment from the view point of staff training. (Computer, Video Cassete, Digital Insulation Tester etc.)

They would like to visit Japan once in five years to see the developments that have taken place in the field of telecommunications.

(15) As the suggestions, the duration of the course is short. Particularly practical study is too short.

The season for outside plant engineering course should be spring or autumn.

Information on the course contents and life in Japan should be supplied in advance.

(from the ex-participants)

6. Conclusion Remarks

Our meeting with ex-participants and government officers were cordial, frank and deep enough to find many constructive comments and suggestions.

We are very happy that we could know this course has been appraised by the people in this country.

We hope that these suggestions and comments will be given due consideration by both the Pakistan and Japanese authorities so that steps to the better course.

We would like to express our deepest gratitude to the people we met and authorities concerned for the warm welcome and kind cooperation with us during the period of our stay in Pakistan.

Pakistan
October 20, 1985

Masaru Hirasawa
Team Leader,
Follow-up Team for Ex-participants
in Telecommunication Outside Plant
Engineering

NAME OF THE PEOPLE AND THE DATE WE MET

date	name of the people
October 16	*Visit Pakistan Telegraphs& Telephones Brig. Mansoor-Ul-Haq Malik Director General, Pakistan Telegraphs & Telephones
	Mr. Lal Khan Malik Director Training Unit, T&T
	*Observation of Islamabad Regional Office and Outside Plant in Islamabad Mr. Syed Aftab Afmed Director Telephones (Development), Islamabad Telecommunication Region, T&T
	Mr. Nazir Gill Asstt. Divisional Engineer (Development), T&T
	*Visit Economic Affairs Division Mr. Mahfooz-Ur-Rahman Deputy Secretary, EAD
	Mr. S.M.Hassan Zaidi Section Officer, EAD
	*Observation of City Telephone Office Rwarpindi and Outside Plant in Rwarpindi Mr. Nazir Ahmad Fida Divisonal Engineer, Cable Development, T&T
October 17	*Discussion with the ex-participants Mr. Masood Ahmed General Manager (ITR), T&T
	Mr. Tanveer Ahmad Director, Telephone II, T&T
	Mr. Lal Khan Malik Director Training Unit, T&T
	Mr. Nasir Iqbal Divisional Engineer (Development), T&T
	Mr. Mohammad Idrees Divisional Engineer Telegraph (Railway), T&T
	Mr. Asmat Ullah Khan Divisional Engineer Co-ordination, T&T
	Mr. Hamid Mohiuddin Farooqi Asstt. Engineer Telex, T&T
	Mr. Asghar Ali Sub Divisional Officer, T&T

Mr. Abdul Rashid Qureshi
Engineering Supervisor, CTRL, T&T

*Seminar
Mr. A.R.Quereshi
General Manager (Training), T&T and 31 persons

*Reception hosted by Ambassador of Japan
Brig. Mansoor-Ul-Haq Mslik,
Director General, T&T and 50 persons

October 19

*Observation of Outside Plant in Karachi
Mr. Muhammad Ikram Khan
Director Telephone Zone II, Karachi
Telecommunication Region, T&T

Mr. Sheikh Nizam Uddin
Divisional Engineer Joint Cable & Ducts
Maintenance, Karachi Telecommunication
Region, T&T

BRIEF REPORT OF THE FOLLOW-UP TEAM FOR EX-PARTICIPANTS IN THE COURSE OF TELECOMMUNICATION OUTSIDE PLANT ENGINEERING

1. Introduction

It is our great pleasure to have the opportunity to visit Philippines as Technical Follow-up Team for ex-participants of the group training course in Telecommunication outside plant engineering.

As is well known, Japan International Cooperation Agency (JICA) has been conducting a number of training programs in various kinds of fields, and JICA has been sending follow-up team to the participated countries in order to improve this program.

This group training course organized in 1964, and participants from 54 different countries including 17 participants from Philippines have attneded the training course.

Before leaving this country, we submit a brief report based on our activities for 7 days.

2. Objectives of our visit

The Team primarily aims at reviewing and evaluating

of the results of the training in Japan by visiting the organizations to which the ex-participants belong, as well as through the personal interviews with ex-participants and their superiors.

The second aim is to have a discussion meeting in order to find out their needs, effectiveness and evaluation of the said training programs, and to make further improvement for the training course.

3. Team Members

1. Mr. MASAHARU HIRASAWA
   Senior Staff Engineer of International
   Training Section,
   Planning Department,
   General Training Institute,
   Nippon Telegraph and Telephone Corporation

2. Mr. TAKATO MATSUO
   International Cooperation Division,
   Communications Policys Bureau,
   Ministry of Posts and Telecommunications

3. Miss IEKO KAKUTA
   Second Training Division,
   Training Affairs Department,
   Japan International Cooperation Agency

4. Name of people and the date we met

During this stay from October 20, 1985 to October 26, 1985, we were able to see many ex-participants and a number of people concerned.

(As for the name of the people and the date we met, see the list that is attached in the last part of this report).

5. Important findings and opinions from ex-participants and people concerned.

(1) In 1984 Philippine Government sent 1651 trainees to foreign countries. The order of the number of the participants is: Japan, Australia, Netherland, Germany, England, New Zealand, Singapore. (U.S.A. is not included since the training in U.S.A. is not concerned with NEDA).

(2) Philippine Government sends most of the trainees to the training in the field of agriculture because of the importance of this field.

(3) Compared with the training in other countries, training in Japan has language problem. If the participants could receive Japanese language text books before they went to Japan, it would improve

this situation.

(from Ms. SOLEDAD V. UBALDO, Executive Officer. Special Committee on Scholarships and Chief, Scholarship Affairs Secretaria, NEDA)

(4) Now PLDT has introduced optical fibre from Makati to San Paulo District (6 km.) in Manila. As the technical problem, power induction and pole decay are problems now.

(5) As the suggestion to the course, PLDT would like to request to increase the number of the participants. Although PLDT is the largest company in the field of telecommunications, the number of the participants is just a little.

(6) To select the candidates of the training course, PLDT holds a selection committee after they receive the invitation letter from Ministry of Transportation and Communications. The conditions of the candidates are: to have 5 years job experience in PLDT, to be an engineer, to be engaging in the field of outside plant engineering. After they come back home, they must work in PLDT for 2-3 years.

(7) Training has no connection with promotion. PLDT has their own promotion criteria.

(8) At present 7% of staff change their job in PLDT. Especially in the field of operation and outside plant, about 50% of staff change their job and go abroad. (In most of the case to Middle East). Many outside engineers and cable jointers have changed their job and go abroad to get higher sallary. Drain of brain has now become the big problem.

(9) As the personnel change, in engineer level staff stay in the same field of outside plant. But in manager level they move to several fields because they need general knowledge in telecommunications.

(10) PLDT send the trainees to West Germany (Siemens), Japan, APT, USA, Italy and so on. Since PLDT has imported most of the equipments from Siemens, most of the trainees have training at Siemens. (from Mr. ANTONIO O. DIANGSON, Manager, TTC, PLDT).

(11) BUTEL would like to request JICA to accept more participants especially in the training of optical fibre.

(12) To select the candidates, BUTEL hodls the screening committee with the presence of the representatives from MOTC.

(13) At BUTEL, technicians have training at Telecommunica-

tion Training Institute (TTI). On the other hand, engineers go abroad for training in Japan, U.S.A., Netherland, Australia, France and so on. Within these countries, Japan is most popular for trainings.

(14) After the participation of the training abroad, BUTEL Staff are given preference for promotion.

(15) After the training, BUTEL staff need to work at BUTEL at least 3 years, but after that most of the staff retire BUTEL. The rate of staff changing their occupation per year is very high (more than 50%) because they seek better employment opportunities to help to improve their economic status. Many staff find employment abroad (ex.: Saudi Arabia).

(16) Recruitment are through recommendations or through selection from applicants.

(17) Changes of position from one field (ex.: outside plant) to the other field is possible at BUTEL.

(18) The kinds of equipment used in this field of cable at BUTEL is as follows.

a. Measuring Set (Wheatstone Bridge)
b. Capacity Coupling Measuring Set
c. Echo Pulse Tester

d. Cable Fault Localizer

BUTEL and TTI do not have machine for cable jointing. The equipment requested from JICA have not yet arrived.

(from Mr. MIGUEL O. CORDERO, Chief of TTI, BUTEL)

(19) At TTI, after staff come back from the training, they take the same position. Sometimes if there is an available higher position which is vacant, they are recommended for promotion. After the training they need to stay at TTI at least 3 years.

(20) The rate of staff changing their occupation is 4 staff per year because they seek better employment opportunities to help improve their economic status.

(21) Recruitment are through recommendation, others are selected from applicants at TTI.

(22) Change of position of staff members from one field to the other is not possible in principle, but sometimes is is possible depending upon the qualification and capabilities of the staff, and also it is possible when the fields are allied like Radio and Carrier vice versa Carrier and Power.

(from Mr. MIGUEL O. CORDERO, Chief of TTI, BUTEL)

(23) Kinds of equipment using in PLDT, BUTEL are as

follows:

a. Concrete telephone poles and wooden poles made in Philippines.

b. Exchanges from Siemens, United States and Japan.

c. Cables from Siemens and Japan.

d. Optical fiber cable transmission line from Furukawa, Japan.

(24) The ex-participants feel that new technology like optical fiber cable techniques and maintenance techniques all over in this field are most necessary techniques now and from now on. Concerning with this point, most necessary subject in the training is as follows:

a. Practical study at CTI

b. Practical study in Tsukuba

c. Optical fiber cable design

d. Subscriber underground cable design

e. Outside plant maintenace

f. Design excercise (Junction cable, PCM-Systems, Local Cable)

Moreover, if two topics are added to the course, maintenace over all (fault location, jointing etc.) and new techniques such as optical fiber cable are needed).

(25) At the training, maintenance techniques and new

technical information as to optical fiber cable were most useful subject learned in Japan.

(26) As for the follow-up service, ex-participants want to get the literature about the newest technology in the field of outside plant constantly.

(27) As the suggestions to the course, more participants from their own organization are needed. Duration of practical training such as at CTI or at Tsukuba should be longer. Season in summer is not so problem, but they need 4-5 months for the whole training. Sometimes there is language problem in Japanese instuctors.

(28) In Philippines, to become an engineer (professional level) is not so easy because university graduates need to pass the board examination in engineering. Therefore, engineers can get high status in society. But because of possibility of gaining high salary, many engineers go abroad (ex.: Saudi Arabia) to seek better employment. Drain of brain is the big problem in the field of telecommunications in the Philippines.
(from ex-participants.)

6. Conclusion Remarks

Our meeting with ex-participants and government officials were cordial, and deep enough to find many constructive comments and suggestions.

We are very happy that we could know this course has been appraised by the people in this country.

We hope that these suggestions and comments will be given due consideration by both the Philippines and Japanese authorities so that steps to the better course.

We would like to express our deepest gratitude to the people we met and authorities concerned for the warm welcome and kind cooperation with us during the period of our stay in Philippines.

Philippines

October 26, 1985

Masaru Hirasawa

Mr. MASARU HIRASAWA
Team Leader,
Follow-up Team for Ex-Participants in Telecommunication Outside Plant Engineering

A N N E X :

NAME OF THE PEOPLE AND THE DATE WE MET

Date	Name of the People
October 21	* Visit to the National Economic and Development Authority (NEDA) - Ms. SOLEDAD V. UBALDO Executive Officer, Special Committee on Scholarships and Chief, Scholarship Affairs Secretariat, NEDA - Mr. GUILLERMO MONTANES Senior Scholarship Affairs Assistant, NEDA * Visit to the Philippine Long Distance Telephone Company (PLDT) - Mr. ANTONIO O. DIANGSON Manager, Technical Training Center, PLDT - Mr. VICTOR A. COLUMNA (Ex-participant) Manager, Outside Plant Engineering, PLDT - Mr. ORLEAN H. CORDERO Training Officer, Technical Training Center, PLDT - Mr. CESAR A. VACOBO Technical Training Center, PLDT - Mr. JOSE LAURO G. PELAYO (Ex-participant) Operations Assistant, Cable Engineering Department, PLDT
October 22	* Visit to the Bureau of Telecommunications (BUTEL) - Gen. CEFERINO CARREON Director, BUTEL - Mr. MANUEL CASAS Assistant Director, BUTEL - Mr. MIGUEL O. CORDERO Chief Telecommunication Training Institute (TTI) - Mr. FLORENCIO LUCAS DE LA PAS (Ex-participant) Acting Regional Director, BUTEL

- Mr. RICARDO S. ALALAY (Ex-participant)
  Assistant Regional Director, NCR and
  Chief, Planning Division, BUTEL
- Mr. AURELIO O. PANGUITO (Ex-participant)
  Senior Telecommunications Engineer,
  BUTEL
- Mr. TEODORO E. DACUMOS (Ex-participant)
  Supervising Telecommunications
  Engineer, BUTEL

* Observation of San Paroc Exchange, PLDT

- Mr. ROBERTO LAZAM
  Manager, SPC/COEM, PLDT
- Mr. JOSE LAURO G. PELAYO
  Operations Assistant, Cable Engineer-
  ing Department, PLDT

October 23 * Visit to Telecommunication Training Institute (TTI)

- Mr. MIGUEL O. CORDERO
  Chief, TTI
- Mr. R. EVANGELISTA
  Assistant Chief, TTI
- Mr. GUIDO C. AGON
  Chief, Training Section, TTI
- Mr. FRANCISCO A. DE GUZMAN
  (Ex-participant)
  Training Officer, Head, Outside Plant,
  TTI
- Mr. MARTIN GARABILES (Ex-participant)
  Associate Mechanical Engineer, TTI
- Mr. SHOZO HAYAMI
  Chief Advisor, TTI
- Mr. SHIGETAKA HIGUCHI
  Advisor in Telecommunications, TTI
- Mr. KOYOKAZU KIOKA
  Advisor in Telecommunications, TTI

October 24 * Observation of Radar Site of Tagaytay

- Mr. MARIO R. SAN PEDRO
  Facility in Charge, Tagaytay Facilities
  Bureau of Air Transportation (BAT)
- Mr. ERNESTO V. ABITONG
  NTO / NMTIC, BAT

October 25 * Seminar

- Mr. R. EVANGELISTA
  Assistant Chief, TTI
  and 22 persons

* Party

- Mrs. SOLEDAD V. UBALDO
  Executive Officer, Special
  Committee on Scholarships and
  Chief, Scholarship Affairs Secre-
  tariat, NEDA and 30 persons

別添　　Ⅵ セミナー原稿

REFERENCE PAPER ON THE ROLE OF TELECOMMUNICATIONS

1. Telecommunication is one of the most important infrastructure

Today, telecommunication is a strong measure for the development of productivity & efficiency of agriculture, industry, commerce and social work, and eventually contributing to the enhancement of people's quality of life.

Up to recent time, the telecommunication had been considered to be a luxirious service, and investment to this field should be done after the completion of such fields like agriculture, water, road, medical care, etc. However, according to recent many studies it has been recognized that telecommunication can give the direct and indirect impacts to the development of social & economic development, and pointed out that higher priority should be given to this field.

~~* Dr. Andrew Hardy of Stanford University made a economic model showing how telecommunication contributes to the economic development.~~

* Telecommunication Management Economic Research Institute of France made an economic model in 1984 which tells that in the first stage of development, most communication will be done among big cities of the world, then, in the next development stage, relationship among main well-developing cities within a country will be deepened, and thus much investment to the fields of transportation and communication is required.

Thus telecommunications could be effective priming for economic development.

2. Telecommunication greatly contributes to the development of social & economic development

Other important roles of telecommunication are improvement and efficiency of administration, and the maintenance of the public security.

Namely, telecommunication system is not only able to inform public immediately important information but also plays important role as a mean of education, unification of a country, enhancement of people's conciousness as a inhabitant and reinforcement of political stability, and also telecommunication is widely recognized as one of the indispensable elements in case of emergency contact of a disaster and preservation of health service. Furthermore, telecommunication can be one of the important means in social life for promoting convenient individual life and facilitate interchange among people.

3. We cannot imagine a business without telecommunication

In most cases, the development of telecommunication in developing countries, defferent from developed countries, starts with international service and gradually expanded to the domestic major cities, though it goes without saying the importance of telecommunication in economic activities in both international service and domestic service. We can easily imagine the importance of telecommunication through the social confusion in Japan that we have ever had a disorder of a electronic switching system and fire of outside plant cable.

However, in many developing countries such a case of suspension of telecommunication often happens, therefore there are many cases that the service is out of order when important business arises. Besides it usually takes 2 ~ 3 years to get a telephone set after subscription. Thus an insufficient telecommunication service causes decrease of business efficiency and loss of business chance:

* In Kenya, there is an estimate by hotel owners, travel agents, ~~biscuits-makers~~, goods carriers and export traders of vegetables & flowers which tells that damage caused by poor telecommunication service reaches 110 times of telephone charge in good service, which amounts shares 5% of total income.

* In Kuwait, it is reported that because of improvement of telecommunication service, many enterprises opened their business there and contributed to the improvement of economic activities of the country.

4. Telecommunication contributes to the enhancement of effectiveness of rural development

Many people live in rural areas in developing countries. There is a big gap in telecommunication service between urban area and rural areas, and even at present many people live in the areas where telecommunication is not available. This was because of many difficulties from both technical and economical view points up to recent time. However, thanks to recent technology innovation such as communication satellite, radio communication equipments used solar battery, it has secured to communicate with people who live in jungles, deserts and remote islands. Telecommunication is indispensable, likewise water and road, to the development of rural areas.

* After the establishment of earth station for the communication satellite in the South-Pacific Region, the government could import materials with cheaper price than before because the government offered a tender using telex instead of purchasing from sole trader.
* In Sri Lanka, a small-scale farmer became to get the information of farm products price in Colombo by using newly installed telephone, and he could sell them with 80-90% of the price, about 30% higher than before.
* In India, there is an estimate that the advantage of making long distance call is about 5 times of telephone charge than going there to deliver the message, when taking considered the bus charge and loss of time.

5. Telecommunication is helpful to keep security

One of the important role that telecommunication play is improvement of administration services and to keep security. The role of telecommunication is especially important in the rural area where medical care service and transportation development is insufficient.

* About 5% calls from rural area is for emergency contact of medical care in India, Costa Rica, Egypt and Papua New Gunia.
* In south-Pacific Region, using the satellite communication network there is a system of sending a medical care team to the place where cholera or dengue fever break out and coordinating emergency aid activities of typhoon or earthquake.
* In guyana, health officer in rural area called MEDIX, keeping contact with town using radio telephone, acknowledges delivery of medical materials like medicine, and makes advice on important health problems.
* East African countries such as Kenya, Tanzania, Malawi etc., they send doctor or carry patient by airplane, keeping contact by radio telephone.

6. Telecommunication brings tasteful life

In many developed countries, daily life becomes more and more convinient by the introduction of telecommunication techniques to such fields as reservation of airplane & train, shopping by telephone or a credit card.

Due to recent urbanization and development of transportation network, many people have a chance to leave their home town and also to stay in foreign countries, such situations bring the necessity of expansion of community. For such people telecommunication is very helpful at the time of emergency contact, besides communication with parents and friends by

telephone fill up social life, break off stress and bring them tasteful life.

SUMMARIZATION

As described so far, telecommunication enhances all sorts of efficiency of social & economic activities, improves disaster measures and medical care service, thus plays important role to distribute social, cultural, economic benefit of development to the regional society and all over the country equally.

Fundamental idea of MPT to International Cooperation in tne new era of Advanced Information Society.

As developed countries turn from industrialized societies to advanced information societies technologies rapidly develop in the areas of electro-nics, digital communication, optical fibers, computer and information processing, and satellite communication and the role of telecommunications becomes more and more important.

In the developing countries, however, basic telecommunication services are still far from satisfactory.

The development of telecommunications in the developing countries contributes not only to the economic growth of the country concerned but to both developing and developed countries through the development of telecommunications systems in the developing countries and the expansion of a worldwide network. The development of telecommunications in the developing countries is required also for the ~~orderly~~ harmonious development of the whole world.

We think it necessary to positively promote cooperation with the developing countries in the field of telecommunications. About 70% of the total amount of Japanese Official Development Assistance (ODA) is distributed to the Asia-Pacific region, and we are trying hard to raise the share allocated to telecommunications.

At present, however, telecommunications in the developing countries is still not a prime requisite and investment in agriculture, water and roads are priority ~~ateas~~ areas. The development of telecommunications is conducive not only to the efficiency of the economy but to the spread of education and the improvement of social services which support economic growth.

Therefore we should consider the synergy effect of telecommunications as well as the direct impact and placed higher priority on the expansion

of telecommunications as a basic infrastructure. Another factor that must be considered when we construct a telecommunications network is the need to promote such a network in rural areas as well as in urban areas.

More difficulties will be experienced in the construction of telecommunications networks in rural ~~ateas~~ areas than in urban areas due to the harsh climate, insufficient electricity, shortage of maintenance staff and poor financial status of subscribers.

In spite of these problems we should not ignore the rural ~~ateas~~ areas which play a considerable role in the economy of developing countries.

One of the major aims of Japanese international cooperation is to study the best telecommunications systems for rural areas and put them into effect.

We have organized a "Study Committee for Rural Telecommunications' since April 1984, that group has been studying telecommunications systems which suite the sutuation of rural areas.

And the systems must be simple, economic and easy to operate and maintain. Besides, that group has also been researching economic and social efficiency in case of practical use of the systems. They will present a final report in March 1986.