ネパール国結核対策プロジェクト

計画打合せ調査団報告書

平成 元年4月

国際協力事業団

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序　　文

昭和６２年４月に開始されたネパール結核対策プロジェクトは，無償資金協力によるＮＴＣ（国立結核センター）およびＲＴＣ（地方結核センター）の完成に先立ち，オペレーショナル・リサーチ（ＯＲ）や要員の育成に重点を置き協力を行なっている。当事業団は，昭和63年12月，これまでの協力実績につきレビューし，ＮＴＣ／ＲＴＣが完成，稼働を開始する平成元年度の協力計画を策定するため，本プロジェクト国内委員長の島尾忠男結核予防会常任理事を団長とする，計画打合せ調査団を派遣した。

本書はこの調査の結果をまとめたものである。調査団員各位ならびに調査に際し協力を賜わった関係者各位に御礼申し上げる。

平成元年４月

国際協力事業団

理事　　西　野　世　界

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1. 計画打合せ調査団派遣

1－1 調査団派遣の経緯と目的

昭和６２年４月から開始された本プロジェクトは，同年８月から長期専門家の派遣を開始し，６３年１２月現在５人の専門家チームにより協力を行なっている。無償資金協力によるＮＴＣ・ＲＴＣの完成を平成元年３月に控え，これまでの協力の進捗状況を把握し，専門家チームに適切な助言を行うとともに，詳細な年次協力計画（１９８９）を策定することを目的として，計画打合せ調査団を派遣することとなった。

具体的には，

- ネパール側とのコーディネーティング・コミッティー（合同委員会）において，以下の点につき協議を行なう。
  - プロジェクト進捗状況
  - １９８９年次詳細計画の策定

なお，調査団ネパール訪問時に開催されるワークショップに参加し，関係者（各国援助団体，保健省リージョナルダイレクター）の本プロジェクトに対する理解を深めることも目的の一つであった。

1－2 調査団の構成

団長	島尾　忠男	(財)結核予防会常任理事
	芳賀　敏彦	国立療養所東京病院院長
	山下　武子	結核研究所研修部保健看護学科長
	三浦　和紀	国際協力事業団医療協力部医療協力特別業務室

1－3　調査日程

日順	月日	曜		行程
1	12／ 9	金		成田（17：15）TG741　バンコク（21：55）
2	10	土		バンコク（10：30）TG311　カトマンドウ（12：45）
				日程打合せ。専門家チーム，小野ＪＩＣＡ事務所長，杉本所員。（於：ソルティオベロイホテル）
3	11	日	ＡＭ	専門家チームと打合せ（於：専門家チーム事務所）
			ＰＭ	保健省表敬訪問。次官Mr. Basu Dev Pradahn。藤森リーダー，岩尾専門家，Dr. N. L. MaskeyＮＴＣ所長，小野ＪＩＣＡ所長同席。
				予備打合せ。専門家チーム，Dr. N. L. Maskey，小野所長。（於：ヒマラヤホテル）
				ＪＩＣＡ事務所打合せ。専門家チーム，小野所長，鮎川次長，杉本所員，田中在ネパール大使館書記官。
4	12	月	ＡＭ	大使館表敬訪問。有地大使，田中書記官。藤森リーダー，石井調整員，杉本所員同席。
				芳賀・山下・三浦各団員はＣＣＣ，ＮＡＴＡを視察。小笠原・清水専門家同行。
				レギュラーミーティング。専門家チーム，ＮＴＣメンバー。（於：ヒマラヤホテル）。
				島尾団長，ＷＨＯ駐在員を表敬訪問。藤森リーダー同行。
5	13	火	ＡＭ	コーディネーティングコミッティ。専門家チーム，小野所長，田中書記官。保健省次官，次官補，国際研修課長，ＮＴＣメンバー。（於：保健省次官室）
			ＰＭ	保健大臣Mrs. Sushila Thapaを表敬訪問。専門家チーム，Dr. N. L. Maskey, Dr. N. G. Amatya，小野所長同席。
6	14	水	ＡＭ	レギュラーミーティング。専門家チーム，ＮＴＣメンバー。（於：ヒマラヤホテル）。
			ＰＭ	ＮＴＣ建設現場視察。藤森リーダー，小笠原・清水専門家，石井調整員同行。
				トリブバン大学医学教育プロジェクト視察。藤森リーダー，清水専門家同行。

日順	月 日	曜		行　　程
7	15	木	（憲法制定記念日で休日）	
			AM	ワークショップ。（於：アンナプルナホテル）
				民間援助団体との意見交換。INT，BNMT，UMN。（於：アンナプルナホテル）
8	16	金		NATA表敬訪問。総裁Mrs.Kumar Rana。
				大使館報告。
				最終討議。ミニッツ署名。（於：専門家チーム事務所）
9	17	土		カトマンドウ（13：45）TG312　バンコク（18：00）
10	18	日		バンコク（10：30）TG750　成田（18：00）

(注)　NTC　National Tuberculosis Centre
　　CCC　Central Chest Clinic
　　NATA　Nepal Anti-Tuberculosis Association
　　BNMT　British Nepal Medical Trust
　　INF　International Nepal Fellowship
　　UMN　United Mission to Nepal

1－4　主要面会者一覧

ネパール側関係者

保健省

Mrs. Sushila Thapa	Minister for Health
Mr. Basu Dev Pradhan	Secretary, Ministry of Health
Dr. D. N. Regmi	Additional Secretary, Ministry of Health
Dr. Shyam Prasad Bhattarai	Chief, International Training Division, Ministry of Health

（ＮＴＣメンバー）

Dr. N. L. Maskey	Director, National Tuberculosis Centre
Dr. N. G. Amatya	Medical Superintendent, Central Chest Clinic
Dr. T. M. Shakya	Consultant Chest Physician, Central Chest Clinic
Dr. P. P. Rijal	Deputy Medical Superintendent, Central Chest Clinic
Dr. D. S. Bam	Chest Physician, Tuberculosis Control Division, Ministry of Health
Dr. D. M. Bhattarai	Medical Officer, Central Chest Clinic
Dr. L. R. Upadhayaya	Section Chief, Tuberculosis Control Section, Ministry of Health

ＮＡＴＡ

Mrs. Kamal Rana	President, Nepal Anti-Tuberculosis Association
Mr. D. B. Pradhan	General Secretary, Nepal Anti-Tuberculosis Association

日本側関係者

専門家チーム

藤森　岳夫	結核対策プロジェクトチームリーダー
岩尾　昌子	専門家
小笠原京子	専門家
清水　直美	専門家
石井　正克	調整員

大使館

有地　一昭	ネパール国駐箚特命全権大使
田中　俊昭	在ネパール日本国大使館々員

ＪＩＣＡ事務所

小野　英男	所長
鮎川　　達	次長
杉本　充邦	所員

トリブバン大学医学教育プロジェクト

澤村　献児	リーダー
佐藤　芳邦	専門家
冨吉ユリエ	専門家
中西　　守	専門家
荒井　六郎	専門家
寺崎　義則	調整員

2. 総 括 報 告

今回の調査団の任務は，現地で専門家チーム及びネパール側の関係者と会談し，プロジェクトの進行状況を把握し，１９８９年度の実施計画を策定することにあった。

2－1 プロジェクトの進行状況と今後の課題

本プロジェクトの中心となっているのは，結核患者の発見と管理の方法の改善を目的として行なわれている結核対策の運営面についての研究（ＯＲ）であり，これを支援するために研修活動や衛生教育活動が行なわれている。

ＯＲは１９８８年５月に開始され，現在までに３３８例が治療を開始しており，１年間の目標である７２０例の４７％に達しており，この期間にネパールの長期の祝祭日が入っていることを考えると，１年間に目標例数の達成は可能と思われる。治療からの脱落は現状では１０％以下であり，菌の陰性化率も９０％を超えているので，将来の国の結核対策（ＮＴＰ）を策定する上で，貴重な参考資料となる成績が得られるものと思われる。

中西部の丘陵地域でオランダのチームが行っている患者の発見から治療，管理の成績でも，治療からの脱落は２０％内外であること，先に西部地域で日本の協力中に得られた成績，今回の日本の協力の実績を考えると，努力すればネパールでもかなりの治療完了率が得られることは明らかである。ただしこれらの試みでは，日常のネパール国内の医療体制に比べればかなり濃厚な人員と努力が注ぎ込まれているので，成績を落とすことなく注ぎ込める最小の限度を解明することが，今後の課題となるものと思われる。

中西部や東部地域では短期化学療法（ＳＣＣ）は用いられていないが，日本の関与したＯＲではＲＦＰを含むＳＣＣが導入されており，今後ＳＣＣを如何に取扱うかが大きな問題になるものと思われる。ＳＣＣには次のような利点がある。

① より良い治療成績が，より短い治療期間で得られる。
② 菌の陰性化が早く，抗結核薬に対する耐性発現の恐れが少ない。
③ 副作用が少ない。今回見聞した範囲では，オランダ及び英国のチームとも，かなり高率にチビオンによる発しん，ＳＭによるめまいを経験しており，治療実施上の大きな障害となっている。
④ 薬剤の投与回数が少なく，治療の監視が容易である。
⑤ 再発例の大半は最初の治療に使用した抗結核薬に感受性であり，同じ処方で治すことができる。

薬剤の価格が高いことがＳＣＣを導入する際の最大の問題であるが，開業医制度のある国では，そこで診療された患者にはＲＦＰが処方されており，しかも有料で使用が不規則なた

め，耐性発現の恐れが高い。患者の知識もかなり向上し，ＲＦＰの優秀性を知っている者も多いので，政府の診療機関でＲＦＰが用いられないことは，政府の提供する診療に対する不信感につながる恐れもある。短期的に見るならば，ＳＣＣの導入は予算の増加を招くが，長期的に見るならば，経費・効果の分析からみても，効率は悪くないものと思われる。

ＳＣＣの導入には，患者管理の改善が必須条件であり，治療完了率が５０％以下の地域では，まずその改善を先行させなければならない。

この条件の満たされている地域では，ＳＣＣの導入を真剣に考慮するべきであると思われる。

今後ＯＲの研究課題として検討を要するのは，山岳地域で通院に極めて不便な患者に対する，初期の短期間の入院の問題であろう。ネパール結核予防会（ＮＡＴＡ）の保有する病床と諸外国からの支援金を利用して，短期の入院制度を導入することを検討する必要がある。

ＯＲの項目として，今回ネパール側から提案されたのは，細菌検査技術の精度管理と衛生教育方法の検討であった。いずれも重要なことであり，前者については結核菌検査技術の専門家の到着を待って，後者については衛生教育に対する協力の中で，実施するべきであると考える。

結核実態調査の準備も明年の課題となる。できればＩＴＳＣ（国際結核サーベイランスセンター）からツベルクリン反応判定の標準判定者を招聘し，判定の訓練ができれば，最も望ましく，その入手について，ＷＨＯに協力を要請する必要がある。毎戸訪問による有症状者の発見と，検痰に要する手間と経費については，かつてＴＢＣＰが行なった活動の経験が参考になると思われる。エックス線検査は，車の行ける地域で，小規模に検痰による検査の妥当性を確認する程度に行なえばよいであろう。調査を実際に行なう際には，ＢＮＭＴやＩＮＦなどの協力を得る必要があろう。

２－２　ＮＴＣ，ＲＴＣ完成後の課題

ＮＴＣの建物が完成し，一本化した組織の下に結核対策が始められることになるが，従来ＴＢＣＰ，ＢＮＭＴ，ＩＮＦ等が使用するカードや統計の様式などを含めてばらばらに行なっていた対策の実施方法の統一が必要になる。治療からの脱落を含めた患者管理に用いられる用語や，対応の仕方の統一も急いで実施する必要がある。今回ワークショップ・セミナーの後で非公式に実施したＢＮＭＴ，ＩＮＦ，ＵＭＮ等との会合は，情報の交換だけでなく，国の統一した結核対策に対する協力の雰囲気を生み出した上でも極めて有用であった。今後はＮＴＣの建物の維持費が今後の課題になりそうである。できるだけ電力の使用を節約することが必要であろう。

研修部門と研修生の宿舎は，結核対策に使わない時には，保健省の他の部門の研修活動に

積極的に供与することを考えるべきであろう。

ポカラには今回は行く時間的な余裕がなかった。ここに作られる予定のＲＴＣの活用法は今後の研究課題となるが，単に西部地域だけでなく，中西部，極西部地域に対するセンターとして機能させることも考えたほうが良いかもしれない。今後人員の配置を含め，西部地域の地域医務局長を含め，ネパールの関係者と十分な話し合いが必要と思われる。

2－3　結核対策についてのワークショップ・セミナー

ＷＨＯの南東アジア地域事務局長ココ博士のネパール訪問が重なって，日程が二転，三転したが，最終的には保健大臣の開式により，１５日午前中に開くことができ，約５０名の参加があった。結核対策に対する日本の関与，新しいＮＴＣの存在と一本化した国の結核対策の実施を広く関係者に知らせた点では，有意義な催しであった。また講演に対する質疑も活発であった。

新しいＮＴＣ建物の完成後に，その披露を兼ねて，なんらかの催しを開催することも有意義と思われる。

注）　ＲＦＰ　リファンピシン
　　ＳＭ　ストレプトマイシン　いずれも抗結核薬

3. 協力の進捗状況

3－1 活動状況概略

プロジェクト開始から６３年１２月までのプロジェクト投入実績の概要は表３－１のとおりである。

プロジェクト活動の状況は，資料①ミニッツ中のAnnex I Activity Japanees Advisory Team1988 のとおりである。

3－2 専門家派遣

長期専門家　６２年８月より藤森リーダー，小笠原・清水専門家（公衆衛生看護），９月から石井調整員，６３年４月から岩尾専門家（結核対策医師・公衆衛生）を派遣，計５名のチームにより協力を行っている。

短期専門家　協力計画立案を目的として，岩尾専門家を６２年１１月に，廣田専門家を６３年１月に派遣した。また喀痰検査技術の向上のため，藤木専門家を63年４月から１カ月派遣した。

3－3 研修員受入

６２，６３年度とも３名の研修員受入を行なっている。

Delman Gurung	62. 5.17～62. 7. 6	統計学
K. C. Rambahadur	62. 9.28～63. 2.15	臨床検査技術
Niranjan Pradhan	62.11.16～63. 7. 4	放射線技術
Narayan Kumar	63. 6.13～63.10.17	結核対策
Bhola Prasad Chaudhary	63.10.18～元. 2.13	臨床検査技術
Shree Ram Bhattarai	元. 1.26～元. 8.13	放射線技術

3－4 機材供与

６２年度は総額１８,７６３千円（内抗結核薬等の現地調達5,６４１千円）の機材を供与した。

主要な機材は，抗結核薬，X線ロールフィルム，車両２台等である。

６３年度の機材は調達中である。

3－5 ローカルコスト負担事業

６３年度に，技術普及広報費により，住民啓蒙用のカレンダー，マニュアルとして使用で

きる結核対策ブックレットを作成，配布した。また，技術交換費により，藤森リーダーとネパール側カウンターパート３名がイエメン結核対策プロジェクトを訪問し，結核国際セミナーに参加した。このほか，技術普及広報費により，来年向けのカレンダーを作成する予定である（ネパール暦は４月から新年）。

表３－１　ネパール国結核対策プロジェクト　８７，８８年度協力実績

項目	項目２	87 4 5 6 7 8 9 10 11 1288 1 2 3 4 5 6 7 8 9 10 11 1289 1 2 3 4 5 6 7 8 9 10 11 1290 1 2 3
専門家の派遣	リーダー	藤森 8/26←→8/25
	調整員	石井 9/1 →8/31
	公衆衛生	岩尾 4/20←→4/19
	公衆衛生看護	小笠原8/26←→8/25
	〃	清水 8/26←→8/25
	臨床検査技師	藤木4/22←→5/22
	放射線技師	
	医師	岩尾 11/22←→12/1 廣田1/26←→2/4
調査団		4/12←→4/19 実施協議 12/9←→12/18 計画打合せ
機材供与	８７ 18,763 千円 (内 5,641千円現地調達) (８８ 25,000 千円)	A4接到　納品 ——→ 到着 A4接到　納品 ……→ 到着
各種事業		技術普及広報費 614 千円 カレンダー 技術交換費 1,693 千円 イエメン訪問 技術普及広報費 2,190 千円 ブックレット 技術普及広報費 1,383 千円 カレンダー
カウンターパート研修	統計学者	DELMAN GURUNG 5/17←→7/6
	臨床検査技師	RAMBAHADUR 9/28←→2/15 B.P.CHAUDHARY 10/18←→2/13
	放射線技師	NIRANJAN PRADHAN 11/16←→7/4 S.R.BHATTARAI 1/26 ←→8/13
	結核対策	NARAYAN KUMAR 6/13←→10/17
	５ケ年計画 有	国内委員会等開催日　2/17　2/6

4. 年次計画

平成元年（１９８９年）の実行計画は，資料①ミニッツ中のAnnex Ⅲ. Tentative Plan of Japanese Advisory Teamに示したとおりである。

日本側の投入としては，長期専門家として新たに放射線技術，臨床検査の専門家を派遣するほか，チームリーダー，公衆衛生看護専門家，調整員の交代者を派遣する予定である。短期専門家として，平成２年度以降実施予定の結核実態調査の計画立案のため，疫学，統計学等の専門家派遣を予定している。

研修員の受入は，５名（結核対策１，臨床検査・放射線２，病院管理・公衆衛生看護婦(士)２）。

ローカルコスト負担事業として，技術普及広報費，中堅技術者養成対策費等の活用を検討する。

機材供与は，オペレーショナル・リサーチのための抗結核薬を中心として供与することを予定しているが，ネパール側から提出されるＡ４フォームの内容を検討して決定することとする。

5. 実施運営上の所見

5－1 ＮＴＣ・ＲＴＣについて

Ⅰ はじめに

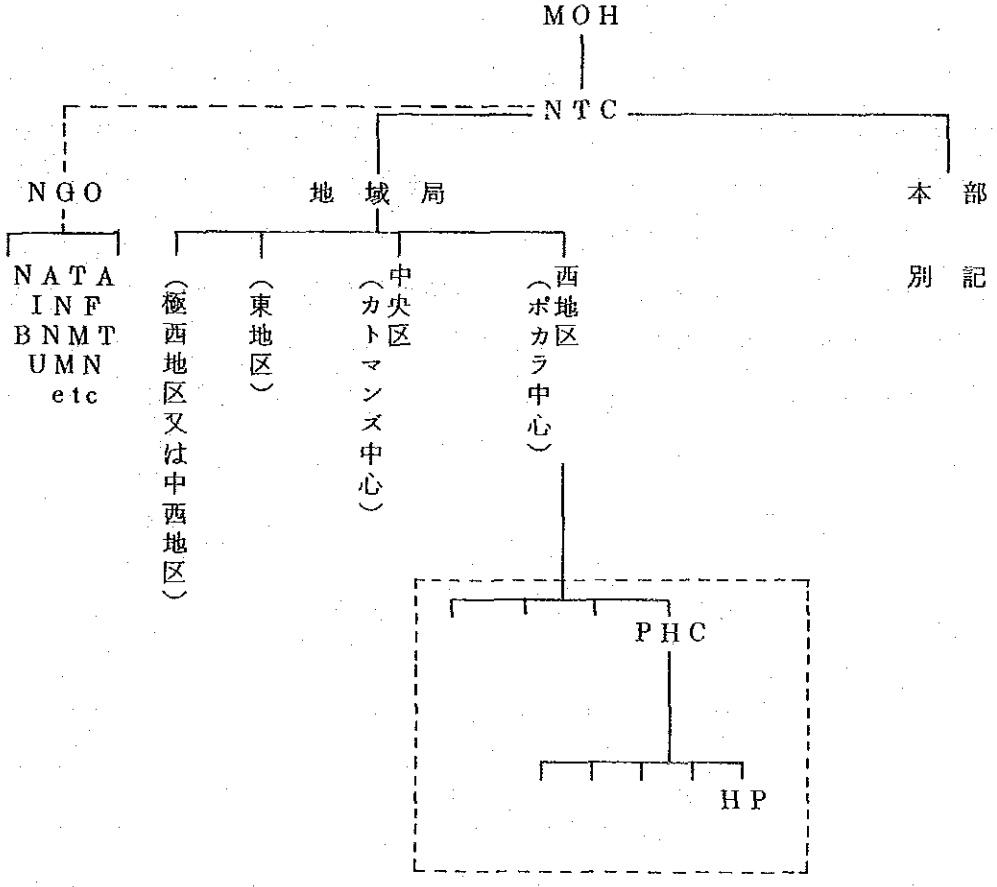
ＮＴＣ（National Tuberculosis Center）の位置が保健省（ＭＯＨ）内で確立されたということなのでこれを中心に，またこれに使用される建物も３月末には完成されるというのでこの２つの事実から報告書を作る。

Ⅱ ＮＴＣの組織

国（ネパール）の結核対策の中心ともなるべきＮＴＣは，一つにはネパール国内の問題処理に当たる一方，最近のネパール国の外交よりＳＡＡＲＣ（南アジア地域協力連合）の結核対策の責任をネパールが受け持っているということもあり，かなり協力な組織が必要となる。

すなわちＮＴＣはネパール国を主とし，南東アジア地区の結核にも責任を持つ。

ＮＴＣの正式の設立により従来よりあったＣＣＣ及びＴＢＣＰは一応吸収されると理解した。すなわちその組織は図の如くとなろう。



この中で問題となる事項

1）特に公衆衛生面（ＰＨＣ，ＨＰ）との関係

ネパールの最前線で結核に対応するのはこれらの保健衛生チームであるので，患者発見，登録，時に治療を行なうこともここが中心となろう。そのため，これら公衆衛生または地域医療の部門との協調が必要である。

2）ＮＡＴＡとの関係

ＮＡＴＡはネパールの結核対策の民間団体の中心であるのでこれとの協調も必要である。特にカトマンズにおける結核病床及びドイツが責任を持つ検査部門，外来部門との協力は必要であろう。幸い今のところDr. N. L. MaskeyがＮＴＣのChiefでありまたＮＡＴＡのVice Presidentであるのでこの間の調整はスムーズに行くものと思われる。

3）ＮＧＯとの関係

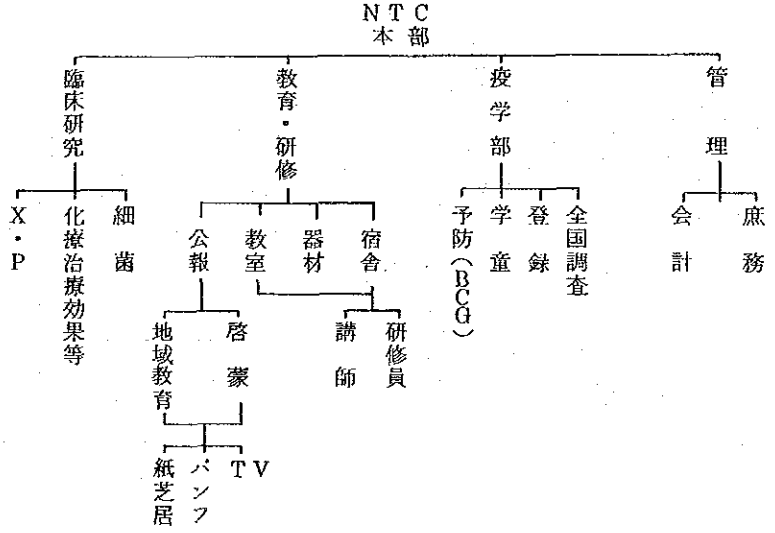
東地区におけるＢＮＭＴ，西地区におけるＩＮＦ，パタン他地区におけるＵＭＮはそれぞれの立場から結核問題に手を付けている。特に患者発見及び治療，これらＮＧＯとＭＯＨとの直接の関係はないと思うが，強力な協力，例えばこれらの団体が責任を持つ地域における結核の現状，治療の効果等の報告依頼はかなり強くお願いすべきではないか。

こうして政府（ＭＯＨ），ＮＡＴＡ，ＮＧＯ，それにＪＩＣＡ（直接タッチというよりＭＯＨの下のＮＴＣの要望に沿って参加）を加えた全国的レベルでの結核対策を進めていくべきである。

Ⅲ　新建築ＮＴＣとその組織

ＮＴＣはＭＯＨの組織上の一部であると同時に現実としてティミサイトに建物ができるので，この２つを併せて考慮すべきである。

ＮＴＣの本部としては，下記機能部門があるべきではないかと思う。



1）疫　学　部：　O／Rの整理または新しい実行，及び全国実態調査のプランニング，試験的実行等々。また学童検診，ＢＣＧ当の施行。

2）教育・研修部：a）国内レベルの教育・研修

b）ＳＡＡＲＣの結核対策の教育・研修

c）ネパール国内の他部門（医療・衛生等）の教育・研修

施設利用率の向上が肝要であり，また一方この部分では公報的機能も持ち（この機能をここに入れるか管理部に入れるかはネパール側の意見，ただし，機材が教育研修とダブる可能性が多い。例えばビデオカメラ等で一応ここへ入れた）結核啓蒙的な小冊子，ポスター，カレンダー，スライド，ビデオの作成等に当たる。

3）臨床検査部：　全国レベルの結核対策に必要な臨床研究を行なう。菌検索向上の手段，培養，耐性検査，蛍光法の確立，また特別な臨床試験の立案，化学療法剤の効果比較，ＮＡＴＡの病床の利用入院外来比較等。

これと今までＣＣＣで行なっていたカトマンズ及びその周辺（中央地区）の結核対策は本部と別の組織とし，これはポカラに建てているものの業務と等しくする。全国レベルの仕事と，地域レベルの仕事の混合を避ける。しかし，今回の建物の中には本部とRegional TB Center（Central地区）が同居していることは，認識すべきである。

Ⅳ　Regional TB Center

今回カトマンズとともにポカラにRegional TB Centerができるが，これは西部地区全体の結核対策に責任を持つと同時に，その内容はＮＴＣの本部へ逐次報告され，ＮＴＣ本部はそれを踏まえ，全国レベルの統計を出したり，対策を立てる。

全ネパールをカバーするにはこの２つのＲＴＣではやや無理で，東地区及び極西地区（西の方でポカラで管理できない地域）に小規模のＲＴＣが将来的には是非必要となろう。

Ⅴ　新建築ＮＴＣ開館後の問題

1）これだけの建物と組織を持つのに必要な人材の確保とその適正配置がネパール側の問題として浮かびあがる。

2）維持費　　光熱水道料も膨大にかかると思われるが，これらの年間予算等，建物の維持費（含む修理）等の財源措置。

3）中央区でもかなりの距離と時間をかけてＮＴＣへ来る患者のためには宿舎が必要ではないか，いわゆる外来患者用宿舎を近くに保証すべきではないか。

Ⅵ　ＪＩＣＡの活動

ＪＩＣＡの基本姿勢であるTechrdogy Transferを中心にＭＯＨからＮＴＣを通しての依頼とＮＡＴＡからの依頼に協力することが基本となる。

具体的なものとしては１９８８年度に行ったＯ／Ｒの地域拡大と将来国レベルで行なわれる実態調査の予備調査であろう。過去ＪＩＣＡが西部公衆衛生プロジェクトでポカラ中心に行った結核対策の資料は大切なので（かなりの部分に強化短期療法が行なわれている）参考にすべきであろう。

また広報活動としてのパンフ，カレンダーは大変有益と思われるので協力を継続し，かつ紙芝居やビデオによる物語作成も必要となろう。また研修についてはMicroscopistとともに，どう培養が行い得るか，試験管（培地）を現地に運び，種の処理（酵又は塩酸による）を現地で行ない，ＲＴＣ及びＮＴＣへ運び培養する等が可能なら培養器へどう度々処理してうえるかの教育も必要となろう。

Ⅶ　病院，開業医での結核診療

大中都市における病院や開業医レベルでの結核診療がかなり行われているようであるので，これ等医療施設からの情報をどう集めるのか，調査して一定の部分が分かればそれを上積みして統計処理するのか検討が必要である。

Ⅷ　医療技術的問題

抗結核薬の副作用

ＳＭによるDizziness Tinnitus（めまい，耳鳴り）の頻度が高い。一回の注射量量１ｇか0.７５ｇ，平均体重は？

ＴＢ１による消化器症状及び皮膚症状も高い。これはインド人に少し何か民族差がないか。ＩＮＨの代謝に民族差があるように何かＴＢ１の代謝にもあるのか？ネパールはアリアン系（南部）とモンゴリアン系（山岳部）がいるのでこの間の民族差は今後抗結核薬の副作用を踏まえて調査の必要もあろう。

5－2　公衆衛生看護について

今回，公衆衛生看護者という立場で調査団の一員としてネパール国を訪問した。全体の報告は団長の報告に述べられているのでここでは，今後ネパール国結核対策プロジェクトチームにおける公衆衛生看護者（保健婦）の派遣にあたって，国内でどのような研修が必要かという視点で意見を述べてみた。

現在の専門家の活動状況は，１９８８年５月のＯ／Ｒ開始に持っていくまでに大変な活躍と苦労が見られる。彼女たちは常にネパール国のDr.とミーティングの機会を持ち，Ｏ／Ｒ対象地区の実態を知るために，自らの足で歩き調査をして，Ｏ／Ｒのガイドラインを作成した。その他マニュアルの作成（ネパールのDr.が主体となってネパール語で作られている）助言。ヘルスポストのスタッフを集めて記録の書き方の教育，記録用紙の作成，ポスター，カレンダーの作成，薬，ラボの薬液，ボールペン，ノート等を二人で配布し，２週間毎に手分けし

て観察指導にまわりO／R開始に近ずけた。

二人の専門家は「地域を回っていると，その国の人々のことが少しずつ見えてきたようだ。」と述べてくれた。たとえば，地域住民に一番近い所にいるヘルスボランティアについて，今までは男性が担当していたが，「母親が中心がいい」という発想から村の婦人からヘルスボランティアを育てたいという動きが見られてきている，と。そして「保健婦の目を持っていたらもっと多くの地域住民の要求を発見できているのではないかと思うので，次回にネパール国に派遣される専門家にはぜひ保健婦で地域の経験のある人に」と期待を持っていた。

今回地域住民との接触の機会はなかったが，ネパール国のDr.の皆さんが二人の専門家を頼りにして，なにかと相談している姿を見ることができた。

これまでの彼女たちの努力と活躍はネパール国でも高く評価されている。

現在，ネパール国で活動されている二人の専門家（看護婦）との討議をふまえ，また，１９８９年次協力計画の内容から次の事項について次回派遣する保健婦に対して研修が必要と思われる。

1. 本プロジェクトの目的および目標についてのオリエンテーション
2. ネパール国における本プロジェクトの２年間の経過の説明
3. 健康教育（衛生教育）教材作成のための研修

   ビデオなどのオーディオ技術（スライドを含む）→一部専門の業者で，紙芝居作成の技術

   健康教育劇のシナリオ作成

   その他
4. ツベルクリン反応検査とＢＣＧ接種の実習
5. 細菌検査の実習
6. 開発途上国における結核対策の考え方・実態などについての研修
7. 保健指導の技術の習得
8. その他

１９８９年次協力計画ではサーベイランス事業と平行して公衆衛生看護婦による健康教育指導のための助言がネパール国関係者に期待されていくと思われる。

なかでも，ビデオの普及はめざましく，（テレビ放映の時間が短いので）国民の一部とは言えその効果は期待できるものである。機械操作の技術を習得していけば（内容についてはネパールの人々と検討していくことなので）よい。

紙芝居，健康教育劇などは地域の隅々まで活用出来るので，大変有効な方法である。シナリオ作成の研修の場としては，アジア保健研究所なども利用できる。

４，５，６については，結核研究所で特別に短期間で研修をうけることは可能である。

7.の保健指導の技術の習得については，現在の二人の専門家の希望が強く（結核研究所で看護理論3時間，家庭訪問3時間を実習したことが任地で考え方の基礎になっている），公衆衛生看護の基本であり，保健婦活動の原点でもあるので，その理論と実践のできる所で研修を受ける必要がある。これについては，結核研究所保健看護学科で可能である。これらの基礎を持ったうえで，任地で住民とともに考え，住民に主体性を持たせ，助言していくことが大切である。

2年間の活動がすばらしい効果を上げているだけに，次の計画への期待が大きい。十分な研修を終えて任地へ送り出すことへの責任を感じた。

ＮＴＣとＲＴＣの新しい建物ができて，ネパール側の人々が「どうなるのか」と不安と期待のふくらんだ時期に，島尾先生を団長とする本調査団がネパール国を訪れたことは，とても良いタイミングであったと思う。

特に日本の専門家からは「日本側から暖かく見守られていることを実感した。」との感想を聞くことができた。そして，多くの問題をかかえ，「調査団が来たら　……　」と，待たれていた事は，カトマンドウ着の午後に打合せ会議をもたれたことでも理解できた。今後も医師，保健婦，検査技師，放射線技師とそれぞれの立場の専門家が任地の専門家のフォローをし，相談助言，指導していくことは重要である。

また，ネパール側のＯ／Ｒに参加している医師のほとんどが結核研究所の国際研修コースの卒業生であり，彼らがネパール国と日本のパイプ役として大きな責任を果たしている姿を見ることができた。

ワークショップは保健大臣をはじめ，Ｏ／Ｒに参加していない医師にも結核対策（ＮＴＣ，ＲＴＣ）のＰＲと教育の良い機会になったと思う。ネパール国のテレビニュースで大きく放映されたことは，それだけ日本にたいする期待が大きいことを意味していると思う。

6. 合同委員会の協議結果

１２月１３日午前，保健省次官室においてプロジェクトコーディネーティングコミッティーを開催した。

出席者　ネパール側

Mr. Basu Dev Pradhan	保健省次官（議長）
Dr. D. N. Regmi	保健省次官補
Dr. Shyam Prasad Battarai	保健省国際研修課長
Dr. N. L. Maskey	ＮＴＣ所長
Dr. N. G. Amatya	（ＣＣＣ）
Dr. T. M. Shakya	（ＣＣＣ）
Dr. P. P. Rijal	（ＣＣＣ）
Dr. D. S. Bam	（結核対策部）
Dr. D. M. Battarai	（ＣＣＣ）

日　本　側

島　尾　忠　男	計画打合せ調査団団長
芳　賀　敏　彦	団　員
山　下　武　子	団　員
三　浦　和　紀	団　員
藤　森　岳　夫	結核対策プロジェクトチームリーダー
岩　尾　昌　子	専門家
小笠原　京　子	専門家
清　水　直　美	専門家
石　井　正　克	専門家

（オブザーバー）

小　野　英　男	ＪＩＣＡネパール事務所長
田　中　俊　昭	在ネパール日本国大使館書記官

議事次第

1　開会宣言	議　長
2　総合報告	Dr. Maskey プロジェクトの発足の経緯，現在までの進捗状況の概観
3　所　　見	島尾団長

4　８８年活動報告　　藤森リーダー

８８年の活動実績の詳細につき，資料を配布したうえ説明

5　所　　見　　Dr. Regmi　Dr. Maskey　小野所長

6　総　　括　　議長

本会議およびこれより前に行われた協議の結果を踏まえて，１２月１６日島尾団長とMaskey所長との間でミニッツ（資料①）に署名した。

ミニッツの内容は，１９８８年中の活動を総括し（Annex Ⅰ），ネパール側から提出されたＮＴＣ全体の１９８９年間計画（Annex Ⅱ）を検討し，日本側がインプットする１９８９活動計画（Annex Ⅲ）を提示した。

そのほか，記録・報告システムの標準化（記録様式の統一，用語の定義の統一）を図ることに合意した旨記述した。

資　　料

① ミニッツ

② ネパール側より提出された国家結核対策（案）

③ ワークショップの概要

④ 専門家報告書

資料① ミニッツ

MINUTES OF MEETINGS
BETWEEN THE JAPANESE PLANNING AND CONSULTATION SURVEY TEAM AND THE AUTHORITIES CONCERNED OF HIS MAJESTY'S GOVERNMENT OF NEPAL ON THE NEPAL-JAPAN TECHNICAL COOPERATION PROJECT FOR THE NATIONAL TUBERCULOSIS PROGRAMME

The Japanese Planning and Consultation Survey Team (hereinafter refered to as "the Team") organized by the Japan International Cooperation Agency and headed by Dr. Tadao Shimao, Medical Director, the Japan Anti-Tuberculosis Association, visited the Kingdom of Nepal from December 10 to 17, 1988, for the purpose of reviewing the activities concerning the technical cooperation project for the National Tuberculosis Programme (hereinafter refered to as "the Project"), evaluating them and working out the Annual Work Plan for the Project in keeping with the Master Plan in Annex I. of the Record of Discussions signed on April 17, 1987.

During its stay in the Kingdom of Nepal, the Team observed the over-all progress and exchanged views and had a series of discussions with the Nepalese authorities concerned about evaluation and more desirable implementation of the Project.

The result of the discussions is attached hereto.

Kathmandu, December 16, 1988

Dr. Tadao Shimao
Leader,
Planning and Consultation
Survey Team,
Japan International
Cooperation Agency,
Japan

Dr. N. L. Maskey
Chief,
National Tuberculosis
Centre,
Ministry of Health,
His Majesty's Government of
Nepal

ATTACHMENT

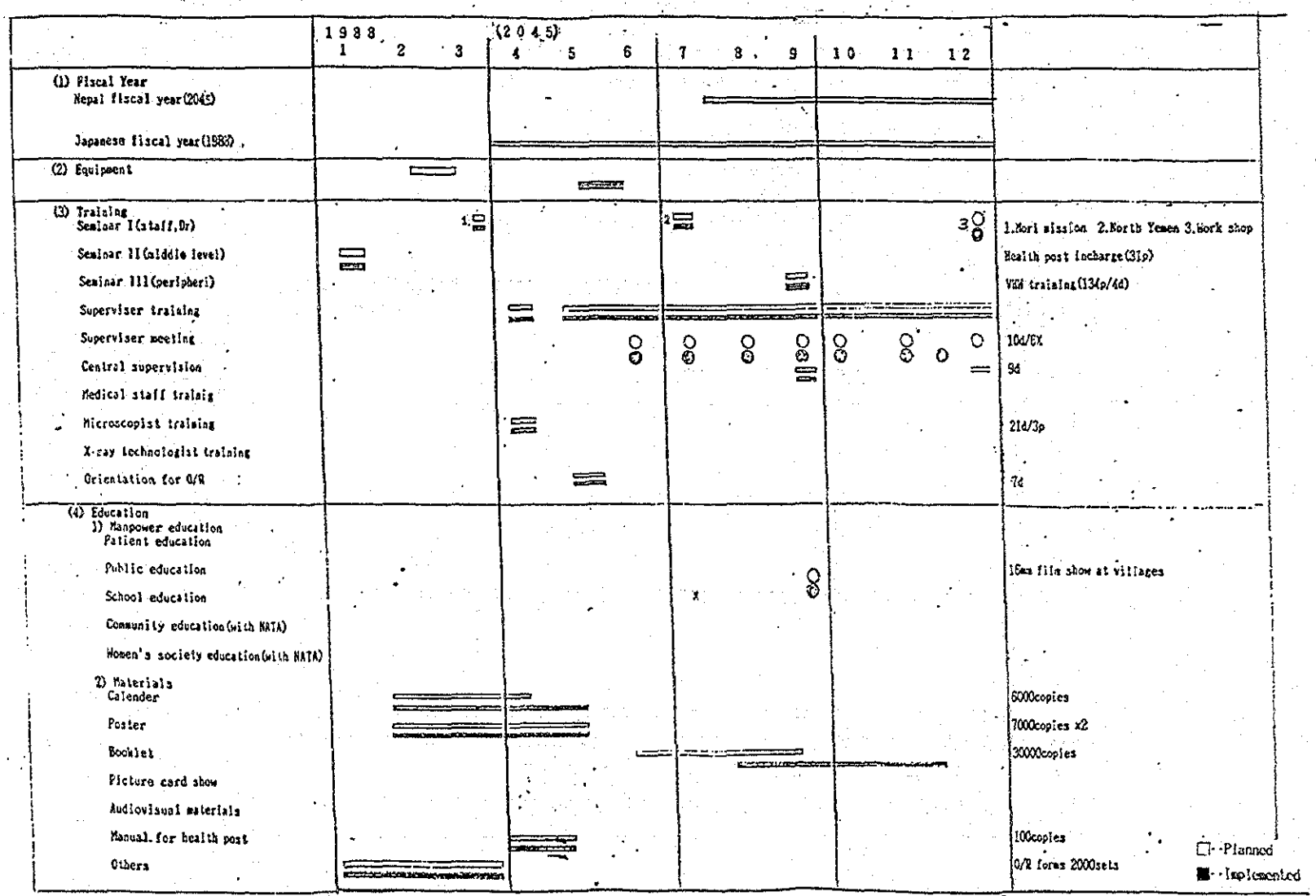
1. The technical cooperation activities under the Project in 1988 have been carried out as shown in Annex I.

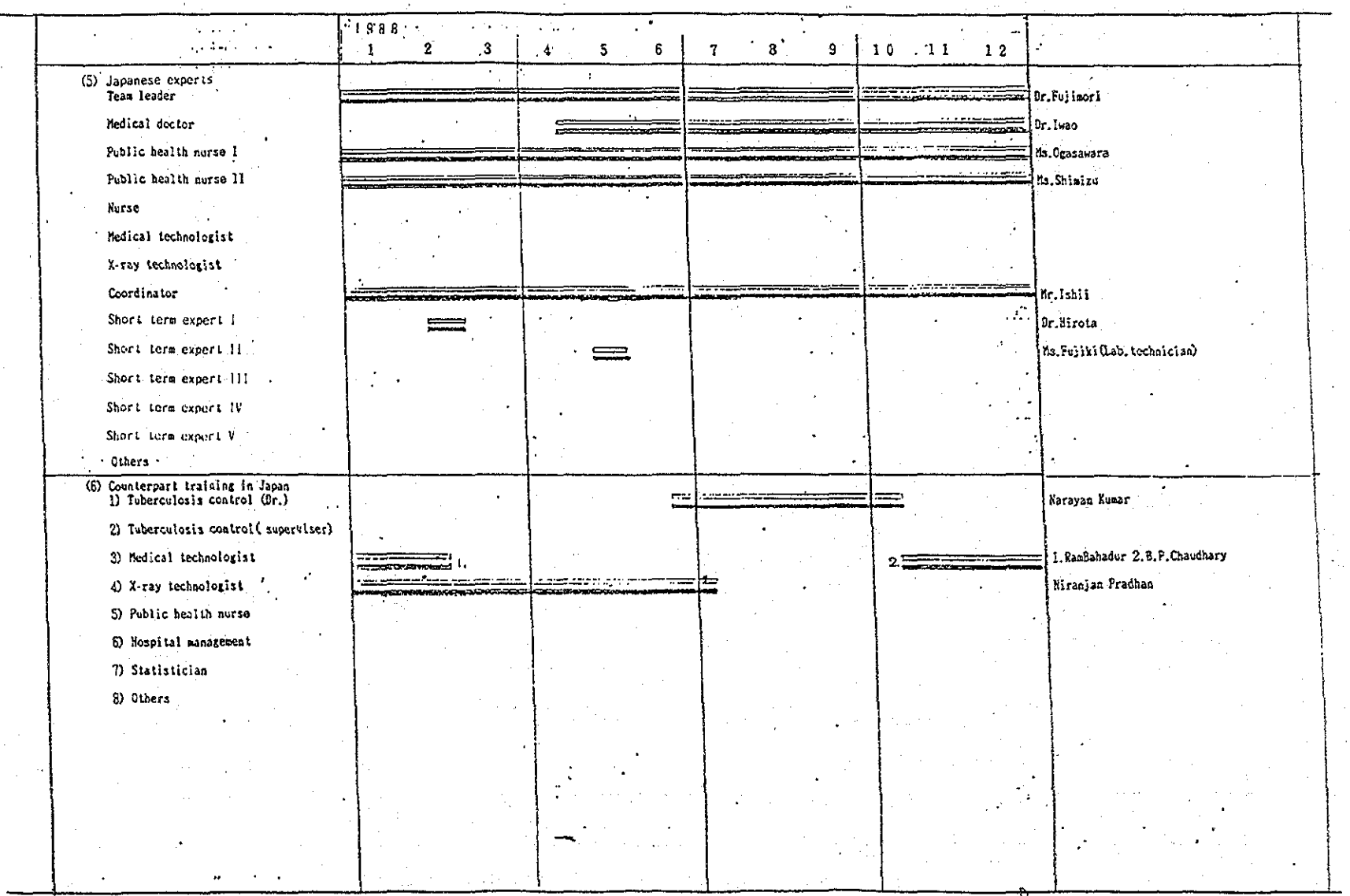
2. The Nepalese side proposed the Annual Plan for 1989/1990-2046/2047 of the National Tuberculosis Programme as shown in Annex II.

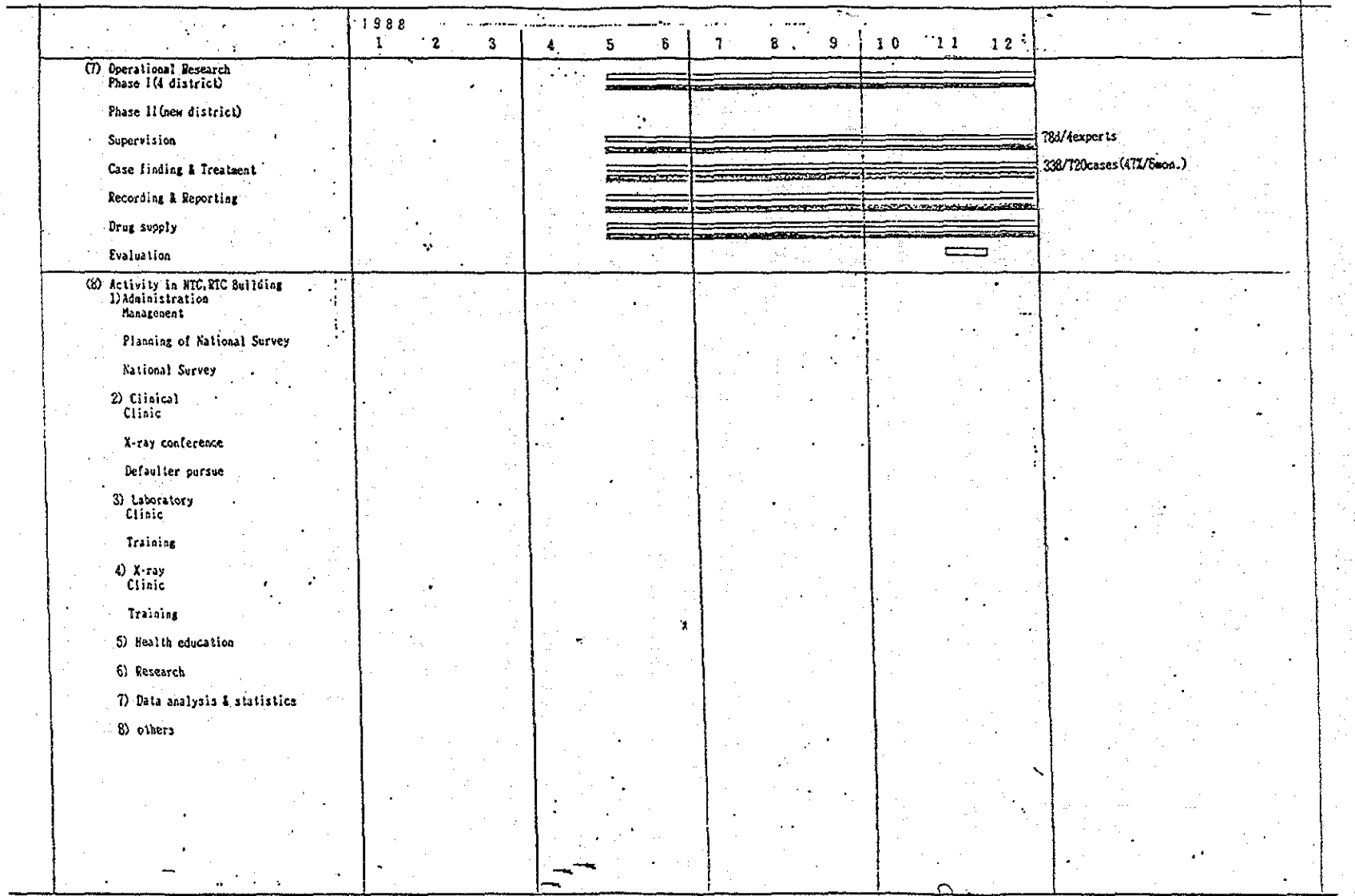
3. Both sides agreed to take necessary measures to carry out the Project activities in line with the Annual Work Plan for 1989 as shown in Annex III.

4. Both sides agreed to make efforts to achieve the standardization of the recording-reporting system, through consultations and discussions with other concerned agencies.

ACTIVITY OF JAPANESE ADVISORY TEAM 1988.




1988
1 2 3 4 5 6 7 8 9 10 11 12
(5) Japanese experts
Team leader
Medical doctor
Public health nurse I
Public health nurse II
Nurse
Medical technologist
X-ray technologist
Coordinator
Short term expert I
Short term expert II
Short term expert III
Short term expert IV
Short term expert V
Others
Dr.Fujimori
Dr.Iwao
Ms.Ogasawara
Ms.Shimizu
Mr.Ishii
Dr.Hirota
Ms.Fujiki(Lab.technician)
(6) Counterpart training in Japan
1) Tuberculosis control (Dr.)
2) Tuberculosis control(supervisor)
3) Medical technologist
4) X-ray technologist
5) Public health nurse
6) Hospital management
7) Statistician
8) Others
Narayan Kumar
1.RamBahadur 2.B.P.Chaudhary
Niranjan Pradhan


1988
1 2 3 4 5 6 7 8 9 10 11 12
(7) Operational Research
Phase I(4 district)
Phase II(new district)
Supervision
Case finding & Treatment
Recording & Reporting
Drug supply
Evaluation
78d/4experts
338/720cases(47%/6mon.)
(8) Activity in NTC,RTC Building
1)Administration
Management
Planning of National Survey
National Survey
2) Clinical
Clinic
X-ray conference
Defaulter pursue
3) Laboratory
Clinic
Training
4) X-ray
Clinic
Training
5) Health education
6) Research
7) Data analysis & statistics
8) others

Proposed Annual Plan (1989/1990 - 2046/2047)

1. Case finding and treatment:

At present 47 districts are being covered by Tuberculosis Control Programme. The following agencies have been conducting TB programme and the number of districts covered by them are as follows:

His Majesty's Government	-	33 districts.
HMG/Britain Nepal Medical Trusts	-	9 districts.
HMG/International Nepal Fellowship	-	4 districts.
HMG/Medical and Sanitory Aid(France)		1 district .
	Total	47 districts.

In this fiscal year 10 more districts will be covered.

Target set is to detect 7000 new sputum positive cases and in all 15000 patients (Old and New) will be treated. Out of them, 10 percent is expected to be resistant to standard drugs and they have to be treated also by reserve drugs (Rifampicin, Pyrazinamide, Ethambutol). 34 districts out of 57 will be covered with the resources of His Majesty's Government and the rest will be covered in collaboration with the above mentioned agencies.

2. Training:

i). General Orientation for NTC staffs:

It will be given on all aspects of NTP and to all levels of staffs involved in NTP.

Purpose:

To acquaint the staffs of NTC about the policy and activiti of NTP.

Duration: 5 days.

Detailed work instructions for all catagories of staffs will be prepared.

Contd/..2

ii). District Supervisor training:z

The training will be given to the district tuberculosis supervisors who will be stationed in the districts(one in each district). There will be 60 supervisors. They will be divided into two groups for training in this fiscal year.

Purpose:

To acquaint them about their responsibilities and make them work efficiently in the district tuberculosis control programme.

Duration : 6 days.

Comprehensive curriculum will be prepared for that purpose.

iii). Training to mobile team:

This training is meant for the mobile team of trainers to the health post staffs. There will be teams of such trainers consisting of 3 members in each team viz Team Leader, microscopist and district TB supervisor. At the moment there will be twelve such teams in the centre who will visit the districts to train the health posts staffs.

Target: Health Post staffs of 20 districts will be imparted training in the fiscal year.

Purpose . To impart programme oriented training to the health post staffs eg. Symptomatic screening, case finding by sputum microscopy, treatment of tuberculosis, recording and reporting system, sputum microscopy, referring the patient to other health institute etc.

Duration of training : 5 days.

Participants: 12 teams X 3 member = 36.

iv). District planning and supervision (Operational Research):

The training will be given to District Public Health Officer Health Post Incharges, Statistical Assistant, District Tuberculosis Supervisor, Planning Officer of District Panchayat, Local Development Officer, District Medical Officer.

Contd/...3

Purpose: To make them familiar with the NTP and its policy, planning, programme and implementation.

Target: This fiscal year, 6 districts including 4 Operational Research conducted districts will be taken.

v). Training to Health Post staffs:

The health post staffs involved in tuberculosis control activities will be imparted programme oriented training by the mobile teams.

Purpose: To carry out the tuberculosis services in the district through the health posts effectively and efficiently.

Target: 20 districts.

3. Seminars:

i). National Level Seminar on modern approaches to Tuberculosis Control Programme will be conducted.

Purpose: To acquaint the medical practioners, planners, policy makers, public health officers with the National Tuberculosis Control Programme.

ii). Regional Level Seminar:

Purpose: To acquaint the medical practioners, planners, policy makers, public health officer with the National Tuberculosis Control Programme.

4. National Counterparts Training in Japan:

Purpose: For development of skilled manpower required for Tuberculosis Control Programmme.

1. Doctors working in tuberculosis.
2. X-ray technicians.
3. Laboratory technicians.
4. Tuberculosis control supervisors.
5. Statistician.

5. Survey and Researches:

1. National

. National prevalence survey.
. Annual risk of infection.

Contd/..4

Purpose: To have reliable information on the magnitude of the problem of tuberculosis in the country.

Help of the experts in this field will be made available for the purpose for planning and research.

2). Operational Research:

i). Integration of tuberculosis services into general health services - in 4 districts (on going).

ii). Efficiency of sputum microscopy at different levels.

iii). Method of health education.

Purpose: Toassess the efficiency and effectiveness of the tuberculosis control measures in different field conditions which is important for making practical programme tuberculosis control in the country.

6. Health Education:

i). Manpower Training:

- For effective programming and implementation of the health education programme, manpowers specially trained will be required.
- One health educationist and two paramedical staffs will be trained for the purpose. They will be responsible for planning/programming of health education for the publics and volunteers.

ii). Materials for health education will be prepared:

- Posters.
- Pamphlets.
- Flash Cards.
- Booklets.
- Audiovisual Aids.
- Mannuals etc.

Contd/..5

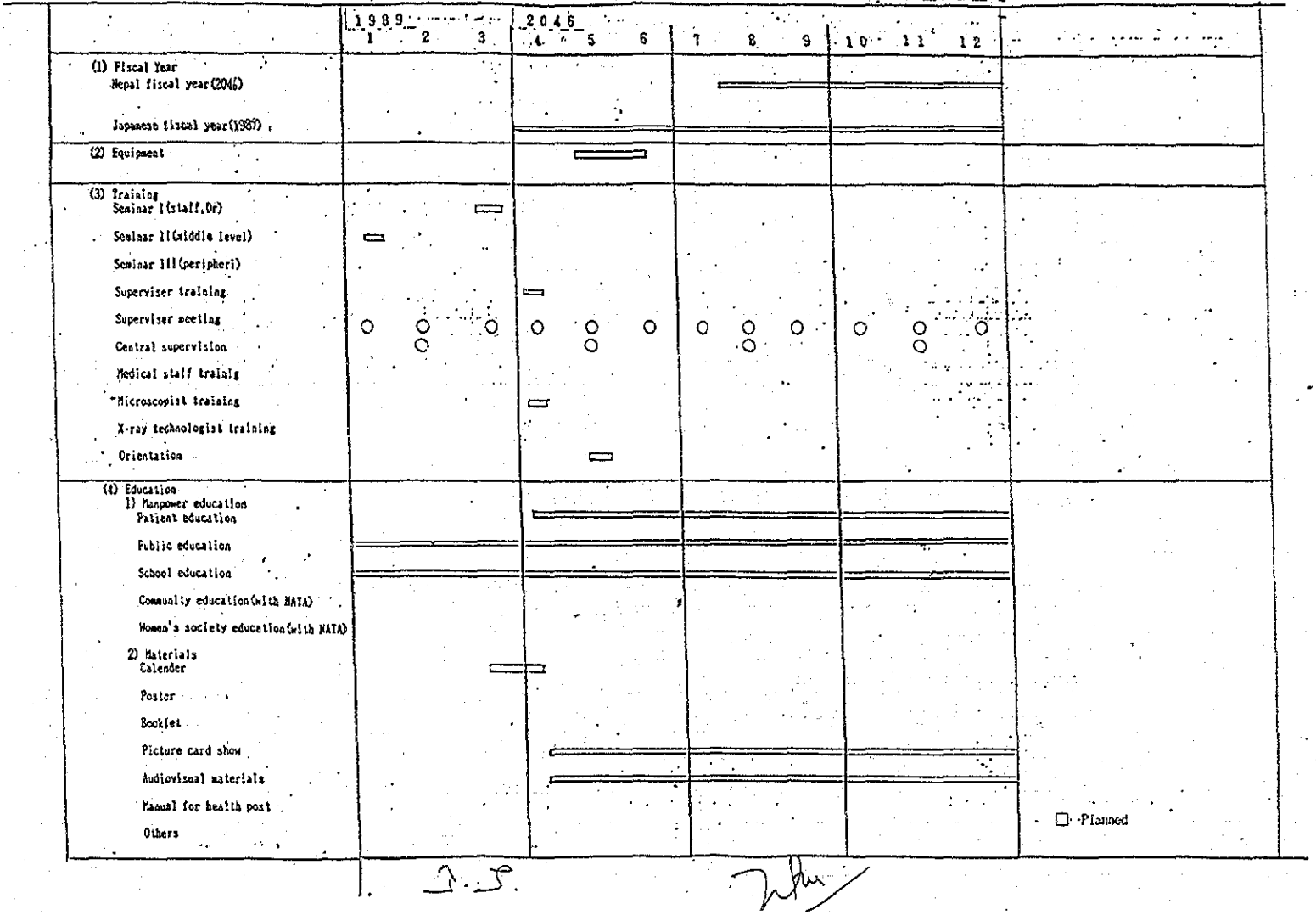
7. Experts:

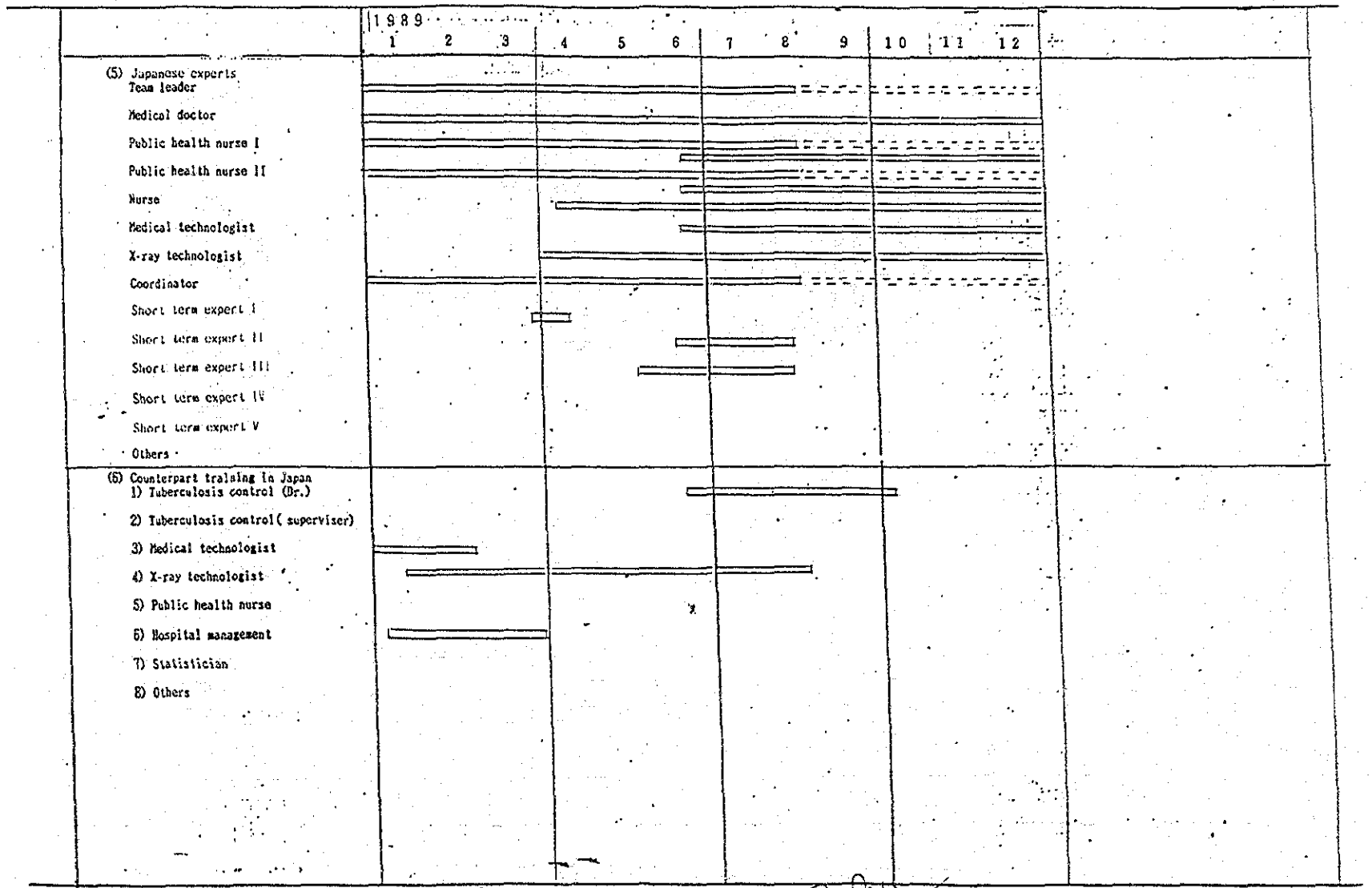
Help of the experts are needed for the effective and efficient management of the programme, survey and research in different fields:- eg.

. Bacteriology, radiology, Epidemology, Statistics, TB experts, Public health etc.

TENTATIVE PLAN OF JAPANESE ADVISORY TEAM.

1989 -1-




1989
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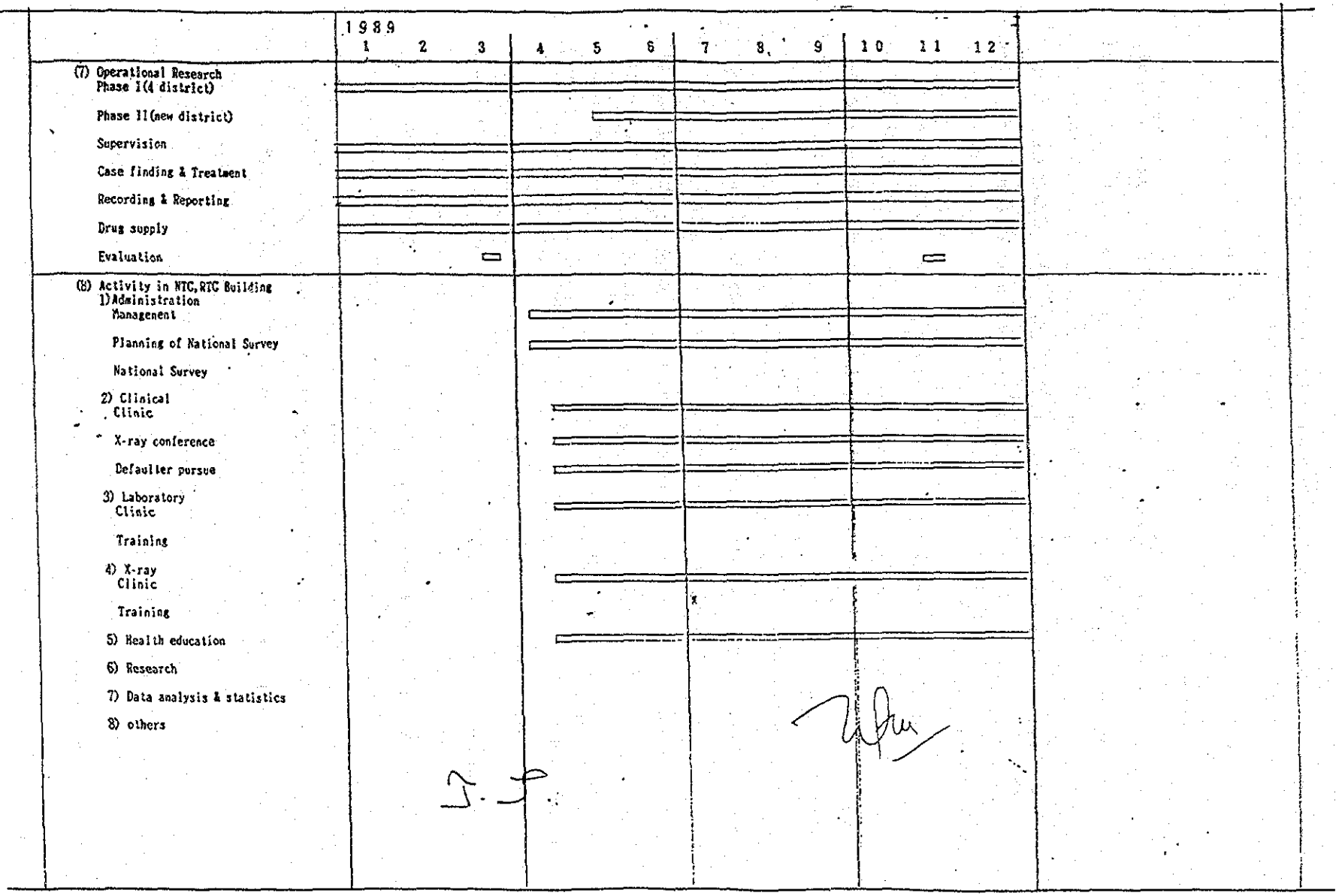
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Clinic
Training
5) Health education
6) Research
7) Data analysis & statistics
8) others

資料② ネパール側より提出された国家結核対策(案)

The National Tuberculosis Control Programme
(Draft Proposal)

1. Introduction:

Tuberculosis is one of the major public health problems in Nepal. Considering the huge problems of tuberculosis in the country, shortage of resources in terms of finance, skilled manpower needed to control the disease, the first thing is to be realistic and approciate the method of control of tuberculosis that can be applied in the country on nation-wide scale.

An effective national tuberculosis programme can be delivered under any situation provided planning and application are guided by a clear understanding of different aspects related to the subject eg. epidemiological, technical economic, social aspects etc. (WHO expert committee 9th Report).

In formulating this National Tuberculosis Control Programme (NTP), the long term plan of His Majesty's Government, recommendations made by the first and second National Tuberculosis Control Seminar and assign-ment report on Tuberculosis Control in Nepal made by the WHO consultant Dr. Tadao Shimao (Director Emeritus Research Institute of Tuberculosis, Japan) were also consulted as they deal with the National Tuberculosis Control Programme.

Management is the very important aspect that has to be skillfully done for which well organised institution, definite and clear cut policies and co-ordination among the participating organizations and agencies are very essential. The present day health infrastructures and policies of His Majesty's Government in delivering the basic minimum needs of Health Services to the people by the year 2000 A.D. have also to be taken into account in planning and programming the health services

The present out-line of the National Tuberculosis Programme foresees the establishment of the National Tuberculosis Centre which will be the main organization under the Ministry of Health to deal with the National Tuberculosis Control Programme in accordance with the policy of his Majesty's Government.

Policy making, planning, supervision and evaluation are another important aspect of the health programme to be successful which will be done at the central, reginal and districts levels. The actual delivery of the services will be carried out through the district level (District Public Health Offices) where the basic institutions of the health services are the health posts.

Co-operation of voluntary non-governmental organizations and bilateral and multilateral agencies are also imperative in the delivery of services in the country. Provisions in the plan has been made where by co-ordination and co-operation among such organizations at various levels can take place.

2. Problems of Tuberculosis in the Country:

2.1 Epidemiological situation:

Due to lack of epidemological base line data, exact situation can not be said at present but whatever small surveys have been carried out and from the report of the active case finding programme conducted by the tuberculosis control project in the mountains, hills and terai, following assumptions have been made;-

(i). Prevalance of infective cases of tuberculosis is 0.5 %.

(ii). The no. of non infective and extrapulmonary cases would for exceed the percentage mentioned above.

(iii). The annual risk of infection is roughly 3 %.
(according to small scale tuberculine survey in the western region - 3 %, while International Tuberculosis Surveillance Centre report 1 % by doing tuberculosis survey in school children in Jajarkot in 1979).

(iv). Incidence of smear positive cases 3 X 60 = 180/100000

(v). Mortality rate is 0.5 X 180 per 100000 = 90/100000

(vi). Incidence of TB Miningitis in children 0 = 4 yrs.
3 X 5 = 15/100000.

The above figures suggest that Nepal is one of the highest prevalent countries.

2.2

In order to have a reliable informations on the magnitude of the problem of tuberuclosis in the country, a comprehensive national survey

has to be conducted for which a considirable resources and skilled manpower are required which would be possible only if the help of the bilateral or multilateral agencies could be made available and provision has been made to do the National Survey in the programme.

2.3.

Two major problems confronting at present in providing tuberculosis services are:-

(i). Lack of national level organization responsible for planning, implementation, co-ordination of services, supervision, evaluation, research in TB etc.

(ii). Lack of trained manpower, necessary supplies and physical facilities.

3. Present Tuberculosis Control Programme in Nepal:

Opening of tuberculosis sanatorium at Tokha in 1937 was the begining of the tuberculosis service in Nepal. Chest Clinic was established in Bir Hospital in 1951 which was separated from Bir Hospital as an independent institution in 1961.

Tuberculosis Control Project (TBCP) was established with the assistance of WHO and UNICEF. To start with the project commenced BCG vaccination programme in the Kathmandu Valley and then expanded to other areas of the country as a mass direct vaccination programme to children below 15 years of age by house to house visits since 1975. BCG vaccination programme was taken over by the expanded immunization programme which is continuing the BCG programme as maintainance phase and active case finding programme being carried out by TBCP during mass vaccination to children by house to house visit was terminated in 1983. Passive case finding programme was introduced in 1983 and is being conducted in 47 districts at present. Total number of new patients including smear negative case per year is reported to be approximately 6000 and total case load including new and chronic cases are about 12000 per year.

Central Chest Clinic, the only specialized clinic with its branch clinics at Patan and Bhaktapur is providing diagnosis and treatment services. Because of lack of Tuberculosi services in periphery, patients from far away distance come to the Central Chest Clinic. That is one of the reasons why the defaulter rate among the patients of Central Chest

Clinic are very high. Patients who complete 12 months treatment are less than 25 % at present.

In 1953, voluntary organization Nepal Anti Tuberculosis Association was opened which ran clinics in Kathmandu (for sometime) Biratnagar, Birgunj, Palpa, Dharan. A 25 beded Tuberculosis hospital was started in 1967 and it is the only TB hospital for civilians in Nepal after the handing over of the Tokha Sanitorium to Royal Army in 1973.

4. Co - operation of foreign organizations in TB control programme in Nepal:

Many foreign organizations are co-operating in TB control programme in Nepal, such as:

Britain Nepal Medical Trust (BNMT) has been running TB services in Estern region of Nepal since 1968 and is covering 13 districts in that region.

United Mission to Nepal (UMN) has been running hospitals with TB clinics in three districts.

International Neapla Fellowship (INF) is running TB clinics in the three districts of Mid Western region including one in Far Western region.

Japan Medical Co-operation Team (JMCT) has been co-operating in the Western region in laboratory works. Till 1985 JMCT has been rendering services in Western region by doing case finding, case holding. At present His Majesty's Government of Nepal and the Government of Japan has signed to start National Tuberculosis Centre in Kathmandu and Regional Tuberculosis Centre in Pokhara with the technical and grant aid of the Government of Japan. The Co-operation of The Government of Japan in the various fields of development of Nepal has been greatly appreciated. Similarly in the field of tuberculosis the co-operation has helped to formulate and implement the National Tuberculosis Central Programme in the country which is very much essential to cope with problem of this dreaded disease prevalent throughout the country in better ways.

5. Aim of the National Tuberculosis Central Programme:

The aim of NTP is to reduce the problem of tuberculosis progressively

through defined

(a) OBJECTIVES

(b) ACTIVITIES

and (c) RESOURCES

6. Basic principles of National Tuberculosis Control Programme:

A planned NTP should fulfill the following basic principles according to WHO expert committee:

(i). NTP should be integrated in to general health services.

(ii). NTP should be a continuous programme.

(iii). NTP should be country wide and

(iv). NTP should be felt need oriented.

7. Objectives of National Tuberculosis Control Programme:

7.1 Case finding:

To detect maximum possible TB patients from among the symptomatics attending the general health institutions by direct sputum microscopy (passive case finding).

7.2 Treatment:

To treat TB patients detected sufficiently from nearer the patient's home.

7.3 Integration:

To integrate the above activities of case finding and treatment into general health services throughout the country if not all at once but as early as possible.

7.4 Health Education:

To create awareness on tuberculosis by means of extensive health education to the people.

8. Strategics for implementation of NTP:

Following activities required to give effect to the national policies of tuberculosis control programme have to be channalised through the health posts which is the most peripheral infrastructure in order to satisfy the felt need problems of the people in the country. Tuberculosis being a major public health problem and chronic infections disease, it is included in primary health case. The national poicy of His Majesty's

Government calls for establishment of one health post in each 675 Ilaka of 75 districts in the country. This health posts would provide all components of the primary health care.

8.1 Activities of NTP:

(i). Case finding.
(ii). Treatment.
(iii). Health education.
(iv). Management.
(v). Recording & reporting.
(vi). Training & researches.

8.1.1 Case finding:

The case finding activities will be carried out by all health institutions implemented to under take thetuberculosis services. The method of case finding will be the direct sputum microscopy of the patients who present themselves with symptoms to the general health institutions. The medical practioner, paramedical worker and other staffs who are to take part in the programme must know the importance of cardinal symptoms suspicious of tuberculosis, such as persistant cough of more than 3 weeks duration, prolonged fever chest pain, blood in sputum etc. Examination of contact specially if they have symptoms will produce significant yield of cases. Whereever possible or indicated X ray diagnosis will be resorted as supplimentory method at present.

8.1.2 Treatment:

All the infectious patients who excrete tubercle bacilli in their sputum should be adequatly treated in order to cut down the transmission of infection. Such patients present themselves to their nearest health institutions in sick conditions with revelant symptom. The discovery of such patients and treating them adequatly as a matter of fact, is of great importance from the individual and also from the community health point of view. Every cure reduce the number of people to be infected and chances of developing disease and thus further saving ofmoney and human misery. Treatment will be offered on the out patient basics unless otherwise indicated for hospital treatment.

A few beds should be made available for the TB patients in general hospitals wherever possible in case of emergencies occuring on the disease. Default in treatment may ensue serious consequences in this disease and the rate of defaulters are higher in the treatin institutions at present for which timely action have to be made by the treatment organizations by all means possible to retrieve such defaulters.

8.1.3 Chemotherapy policy (It has to be discussed and finalized)

R1 - Present stand chemotherapy being followed up is INH + Tb1 for 12 months with initial streptomycin injection daily for 2 months. This will be continued. For cases who cannot tolerate Tb1, Ethambutol will be substituted.

R2 - Biweekly fully supervised regimen.

. Injection streptomycin 0.75 gm IM daily for 1 yr.
. Tab INH 600 mg biweekly for 1 year.
. Pyridoxin (Vit B6) 10 mg biweekly.

R3 - . Tab INH 300 mg daily for 1 year.
. Tab Thicatazone 150 mg daily for 1 year.

Treatment of resistant cases:

Reserve drugs should be made available to specialized centre only. They should be used by qualified physicians only in cases indicated.

9. Reference laboratory:

A referance laboratory with facilities of sputum cultur for AFB, drug sensitivity test and training is very essential to be established in the centre also. The western regional health laboratory Pokhara also is serving the above mentioned purposes.

10. Health Education:

Tuberculosis is an immediate concern to the community, hence community awareness and participation is very essential for the effective tuberculosis control programme. Health education through various possible means will be resorted. Non government institutions ie NATA can not only help propagating education but also can provide important suppliment to government service.

11. Management:

11. Management:

It includes:

(i). Planning
(ii). Implementation
(iii). Superivision
(iv). Maintenance

11.1 Planning:

Planning is needed at all levels - central, intermediate and peripheral (district) levels for the effectiveness of NTP. For levels of NTP. See items 18, 18.1., 18.2., and 18.3.

11.2 Implementation:

It comprises of:

. Providing necessary supplies, equipments and drugs.
. Training of staffs for case detection & treatment.
. Delivery of services for patients through health institution.

11.3 Supervision:

Regular and persistant efforts are necessary to maintain the efficacy and efficiency of the programme at desired level. Operational changes will have to introduced through regular supervision and assesment for which definite patterns will be developed and applied. At least one supervisor will be deputed at each district.

11.4 Mainteinance:

For the functioning of programme efficiently on continuous basis, equipment, supplies and technique must be kept at optimum levels for which also supervision from time to time is essential. Buffer stocks of anti TB drugs, stains, reagents etc should be made available to all health institutions. Training programme should be conducted at regular intervals to maintain the NTP at desired level.

12. Recording and Reporting System:

The above mentioned activities under the NTP will be to co-ordinate through a system of recording and reporting from district levels to the regional levels and from the latter to the National Tuberculosis Centre at the centre level. This will also assist in making necessary

modification in the programme because such data will help to find out the efficiency and deficiencies.

13. Registration:

It include:

. District level Tuberculosis case Index.

. Central registration.

13.1 District Tuberculosis case Index number:

It is the record containing information about all TB patients diagnosed in a district. The number will be alloted by the district health office. It provides data for reporting, assessment and any special studies.

13.2 Central registration:

The NTC will receive all the reports from the districts. The centre will allote the central registration number to them and compile.

14. Training:

Training is the important component of NTP. Organization of National Tuberculosis programme require a large number of trained manpower. This is very important for the effective delivery of anti - tuberculosis services as well as for the planning, programming recording, supervision, assessment and other administrative purposes. There will be a separate department of training in the NTC to impart the job oriented training. Medical doctors, Medical students, paramedical staffs and social workers will have to be fully oriented about the national tuberculosis programme.

15. Researches:

Important operational informations should be gathered in order to be realistic and practical for programme implementation for which operational researches will be carried out. Epidemological researches also will be carried out in order to gatter the reliable informations an the epidemological situation of the country.

16. Manuals for workers in NTP:

Detail manuals for each and every worker in NTP will be prepared

by the NTC. These manuals are necessary for carrying out the programme uniformly through out the country. They also help in supervision the works being done as envisaged in the programme.

17. Co-ordination with NATA:

NTC will co-ordinate with NATA for education of public and motivating symptomatic to visit the health institutions for diagnosis and treatment. NTC will prepare different education materials for public and patients for distribution and for which help of NATA will be saught.

18. Co-ordination with bilateral and multilateral agencies:

Help of bilateral and multilateral agencies are needed for the NTC in various fields of activities for which NTC will co-ordinate with different international agencies for their co-operation.

19.

There will be three levels of NTP, the function of which will be as follows:

19.1 Central level and its functions:

. Planning.
. Administration.
. Communications.
. Technical guidence.
. Referral services.
. Budgeting.
. Co-ordination including liason with international agencies.
. Equipment and supplies.
. Training and research.
. Collection and analysis of data.
. Publication of programme report.
. Health education.

19.2 Regional (Intermediate) level and its functions:

. Planning.
. Administration.
. Technical guidence.
. Supplies.

. Referral services.

. Record keeping.

. Supervision.

. Health education.

. Training.

19.3 District (Peripheral) level (DPHO):

. Planning.

. Supplies.

. Service delivery through health institutions.

. Supervision.

. Record keeping and reporting.

. Health education and training.

20.

The basic aim of the programme is to provide tuberculosis services to all by 2000 AD. The specific aim of the plan include:

- To reduce the prevalance and incidence rate gradually as to make tuberculosis a less problem from public health point of view as it exists at present.

20.1

In order to fulfill the above objectives following will be the *specific aims of the programme:*

- 70% of the infections cases will be detected.
- The detected cases will be provided treatment to make them non-infections.
- At least 80% of the susceptibles will be vaccinated with the close co-operation of the expanded Immunization programme.

20.2

The plan and policy to meet the above targets by 2000 AD will be:

- To lunch the tuberculosis control programme progressively country wide on five years plan basis.

20.2.1 Seventh 5 years plan 1985 ~ 1990:

. Establishment of National Tuberculosis Centre.

. Establishment of Regional Tuberculosis Centre in Pokhara.

. To expand tuberculosis control programme from 38 districts to another 12 districts.

20.2.2 Eights 5 year plan 1990 - 1995:

. Establishment of Regional Tuberculosis Centre in Surkhet (Mid Western Region).

. To expand tubrculosiscontrol programme to another 20 district

20.2.3 Nineth five year plans 1995-2000:

. Establishment of Regional Tuberculosis Centre in two remaining development regions.

. To cover all the 75 districts by the National Tuberculosis Control Programme.

National Tuberculosis Control Programme on 5 years basis:

Introduction:

His Majesty's Government is fully determined to provide "Health for All" by 2000 AD and accordingly, strategies of health services have been planned to channalize the Primary Health Care through health posts scattered all over the country. Tuberculosis control programme must be developed as a component of country health programme and this programme must be integrated into the general health services. Accordingly, the plan has been made to cover the whole country by tuberculosis control programme is phase-wise manner by 2000 AD. The aim is to reduce the problem of tuberculosis in the country progressively by detecting and curing tuberculosis patients more and more. For the uniformity & effectiveness of the TB control programme, the National Tuberculosis Centre under the Ministry of Health will be responsible. With the bilateral agreement signed on 10th September 1987 between His Majesty's Government of Nepal and The Government of Japan, the National Tuberculosis Centre in Kathmandu and the Regional Tuberculosis Centre for Western Development Region in Pokhara are under construction.

1985 - 1990 AD. (Seventh 5 year plan):

1. Establishment of National Tuberculosis Centre (NTC) in KTM.
2. Establishment of Regional Tuberculosis Centre (RTC) for Western Development Region in Pokhara.
3. To expand the TB control programme to 57 districts.

1990 - 1995 a.d. (Eighth 5 year plan):

1. Establishment of R. T. C. in Mid Western Development Region.
2. To expand the TB control programme to 70 districts.

1995 - 2000 A.D. (Ninth 5 year plan):

1. Establishment of RTC in Eastern and Far Western Development Regions.
2. To cover all the 75 districts by TB control programme.

Structure of National Tuberculosis Programme (NTP):

There will be three levels of NTC

1. National Tuberculosis Centre (NTC)

2. Regional Tuberculosis Centre (TCT)
3. District Tuberculosis Central Programme (DTCP)

A. National Tuberculosis Centre (NTC):

1. National Tuberculosis Centre situated in Thimi, Kathmandu will be responsible for

i. Planning and implementation of the TB control programme through out the country.
ii. Supervision, monitoring, assessment and evaluation of the TB control activities being carried out in the country.
iii. Supply and maintenance.
iv. Co-operation and co-ordination with NATA/BNMT/INF/AMS/UMN and other agencies for the uniform policy & implementation of TB control programme throughout the country.
v. Health education.
vi. Provision of Tb control manuals to the health workers.
vii. Training, seminar & workshops.
viii. National surveys.
ix. Operational and other research programmes.
x. Well equipped clinics with well quipped laboratory & X-ray department etc.

2. Organagram:

There will be different divisions and section with different responsibility for smooth running at the NTC as shown in Annex I.

3. National Tubrculosis Programme (NTP):

To implement the TB control programme in a effective manner in the country, NTC will make plan & policy, provide logistic supplies, supervise, monitore, assess & evaluate the various TB control activities. For that propose NTC will co-operate & co-ordinate with various other agencies working in the field of TB control eg. NATA/BNMT/INF/AMS/UMN etc. for uniform policy & implementation. In a phase wise manner, NTC will carry out the TB control activities throughout the country.

4. Health Education:

For effective health education, NTC will use pamplets, posters, audio-visuals, radio/TV, workshops, seminars etc. Health education

programme will be implemented with close co-operation of NATA and other voluntary agencies. Impact evaluation of the programme will be done from time to time.

5. Training programme:

Training will be one of the most important activities of NTC. Training will be imported to the various levels of health workers eg.

i. NTC staffs.
ii. District TB supervisor.
iii. D.P.H.O. staffs.
iv. Health post stafs.
v. Microscopists.
vi. Medical & paramedical students in co-operation with institute of medicine.

NTC will conduct training programme as necessary in close co-operation with SAARC Regional TB Centre also corriculum of training programme for different levels of health workers will have to be prepared. Refresher training programme will also be held regularly for different levels of health workers.

6. Seminars and workshops:

To make the people familiar with the NTP, to ensure co-operation of different agencies, seminars and to workout various problems & workshops will be held frequently for different levels of the health worker & agencies concerned e.g.

i. Planners & policy makers.
ii. Doctors
iii. Statisticians.
iv. District public health officers.
v. N.G.O.'s/ International agencies.

7. Surveys:

To know the magnitude of problem of tuberculosis in Nepal to make plan & policy accordingly to judge the impact of TB control programme in the community various National Surveys in the field of tuberculosis will be done by NTC. Accordingly, necessary training will be given to the NTC staffs. If necessary for planning & implementation of

surveys the help of international experts will also be taken. Various important surveys are:

i). Prevalence of sputum positive cases.
ii). Annual risk of infection & its trend.
iii). Prevalence of Primary drug resistance.
iv). Incidence of sputum positive cases.
v). Sociological & field studies. etc.

8. Operational Research:

Operational research to improve the various aspects of TB control activities will be continued. As per necessity the present operational research programme may be expanded and different other operational research programmes may also be done. The important areas of the operational research are:

i). Decentalization of TB control activities and their integration into general health services.
ii). Efficiency of diagnosis by sputum microscopy at different levels
iii). Effectiveness of case finding and case holding under different field conditions and at different levels.
iv). Methods of health education and community participation etc.

9. Clinic with laboratory & X-rays:

In the centre, NTC will run a well equipped clinic with laboratory & X-rays for day to day patient care & for training of health workers. This will help in the management of difficult cases referred from all over the country. The laboratory will be well-equipped for bacteriology of ingiobacteria and will be the National Reference Laboratory for tuberculosis.

B. Regional Tuberculosis Centre:

The regional tuberculosis centre will be responsible for effective TB control activities in the region. The various responsibilities of RTC will be as followings:

i). Planning & implementation.
ii). Supervision & monitoring.
iii). Supply & maintainance.
iv). Assessment & evaluation.

v). Co-operation & co-ordination with other health agencies of the region.

vi). Report of NTC.

vii). Health education.

viii). Training, seminar & workshops for the region.

ix). To run clinics for day to day patient care, management of difficult cases of the region & training of health workers.

C. District Tuberculosis Control Programme:

To maintain the efficiency of the programme, regular supervision is necessary for which one district TB supervisor under the NTC will be attached to each district public health office. He will help and guide the health posts workers in the field of TB control activities eg. case finding, case holding, recording and reporting, logistic, supplies etc. He will be the key worker under NTC and will be the link between NTC/RTC and the health posts. He will work in close co-operation with DPHP, Doctors, health workers and volunteers of the district. He will send periodic reports regularly to the NTC/RTC. Regular supervisors meeting will be held at RTC/NTC every four to six months. To maintain the programme at aptimum level, supervision from NTC/RTC will also be done frequently at leat twice a year. Thus, the ultimate structure of the National Tuberculosis Programme (NTP) will be as following:

National TB Centre (NTC)

Regional TB Centre (RTC)

District TB Supervisor District Public Health Office

Health Post

Operational Policy Guide:

The components to be considered for fixing technical policies on the basis of priorities and depending upon the epidemological situation and resources available are following:

1. Case finding:

Sputum positive patients detected by direct sputum examination are

given priority. There must be facilities for sputum examination of the patients in the district, for which microscopic centres must be established in the district. Sputum smears will be prepared by the health post staffs and sent for examination to the microscopic centres, for which provisions have to be made for regular transport, courrior movement 4-5 times per month avoiding unnecessary delay in diagnosis.

2. Treatment:

Priority of treatment will be given to the sputum positive patients, which the health post staffs themselves con geve treatment, to those patients who are sputum negative but still suspected of suffering from tuberculosis will be referred to the doctors for diagnosis suptum negative & X-ray positive patients are referred as "TB SUSPECTS", such TB suspects and etra pulmonary TB will be given treatment from health posts after doctor's advise only. The present policy of drug regimen will be continued. For resistant cases, provisions have to be made.

3. Follow-up and defaulter tracing:

Treated cases will be followed up at regular intervals eg. at 2,4, 6,9,12 months. If the patients default, defaulter actions will be taken by various means available et. letters to the patients, panchayat with the help of village health workers and volunteers.

4. Recording & reporting:

Recording and reporting system will be developed in scientific manner. Health Post will report regularly to the district office and the district office will report regularly to the RTC/NTC. District case indes system will be developed in phase-wise manner in all the districts. NTC will maintain country wide registration & recording of all patients.

5. Health education & community participation:

Health workers in close co-operation with voluntary organization will give health education to the community eg. various possible means to strengthen case-finding, case-holding, defaulter thus increasing active community participation which will be very much useful to the Tb control programme.

Annual plan (1989/1990 - 2046/2047)

1. Case finding and treatment:

At present 47 districts are being covered by Tuberculosis Control Programm. The following agencies have been conducting TB programme and the number of districts covered by them are as follows:

Tuberculosis control section -	27 districts
Britain Nepal Medical Trusts -	9 districts
International Nepal Fellowship-	4 districts
Public Health Office -	6 districts
Medical and Sanitory Aid (France)	1 districts
Total	47 districts.

In this fiscal year 10 more districts will be covered. The distri covered and proposed for the fiscal (See Annes).

Target set is to detect 7000 new sputum positive case and in all 15000 patients (old and new) will be treated. Out of them, 10 percent is expected to be resistent to standard drugs and they have to be treate also by reserve drugs (Rifampicin. Pyrazinamide, Ethambutol). we district out of 57 will be covered with the resources of the His Majesty's Government and the rest will be covered in collaboration with the above mentioned agencies.

2. Training:

i). General orientation for NTC staffs:

. it will be given on all aspects of this NTP and to all levels of staffs involved in NTP.

Purpose:-

To acquaint the staffs of NTC above the pokicy and activities of NTP.

Duration:- 5 Days.

Detailed work instructions for all categories of stafs will be prepared.

ii). District Supervisor training:-

The training will be given to the district tuberculosis supervisor who will be statined in the districts (one is each district). There will 60 supervisors. They will be divides into two groups for training in this fiscal year.

Purpose:- To acquaint them about their responsibilities and make them work efficiently in the district tuberculosis control programme.

Duration:- 6 Days.

Comprehensive curriculum will be prepared for that purpose.

iii). Training to trainers:-

This training is meant for the trainers to the health post staffs. There will be teams of such trainers consisting of 3 members in each team viz Team Leader, microscopist and district TB supervisor. At the moment there will be twelve such teams in the centre who will wisit the districts to train the health posts staffs. There are six such team in TB section at present.

Targe:- Health post staffs of 20 districts 180 health posts will be imparted training in the fiscal year.

Purpose: To impart programme oriented training to the health post staffs eg Symptomatic screening, case finding by sputum microscopy treatment of tuberculosis recording and reporting system, sputum microscopy, referring the patient to other health institute etc. through the mobile team.

Duration of training:- 5 Days.

Participants: - 12 teams X 3 member - 36.

iv). District planning and Supervision (Operational Research):

The training will be given to District Public Health Officer, health post incharges, statistical assistant, district tubercuolosis supervisor, planning officer of district panchayat, local development officer, district medical officer.

Purpose:- To need them familiar with the NTP and its policy, about planning, programming and implementation aspects of NTP.

Target:- This fiscal year, 6 districts including the 4 operational research conducted districts will be taken

v). Training to Health post staffs:-

The health post staffs involved in tuberculosis centre activities will be imparted programme oriented training by the mobile teams.

Purpose:- To carry out the tuberculosis services in the district through the health posts effectively and efficiently.

Targe:- 20 district (180 health posts)

3. Seminars:

i). National Level Seminar on modern approaches to Tuberculosis Control will be conducted.

Purpose:- To acquaint the medical practioners. planners, policy makers, public health officers with the National Tubrculosis Centre Programme.

ii). Regional Level Seminar:-

Purpose: To acquaint the medical practioners, planners, policy makers, public health officers with the National Tuberculosis Control Programme.

4. National Counterparts training in Japan:-

Purpose: For development of skilled manpower required for tuberculosis control programme.

1. Doctors working in tuberculosis.
2. Bacteriologist
3. X-ray technicians.
4. Laboratory technician.
5. Tuberculosis control supervisors.
6. Public health nurce.
7. Statisticians.

5. Survey and Researches:

1. National

. National prevalence survey.

. Annual risk of infection.

Purpose: To have reliable information on the magnitude of the problem of tuberculosis in the country.

Help of the experts in this field will be made available for the purpose for planning.

11). Operational Research:

i). Decentralization of tuberculosis services into general health services - in 4 districts (on going)

ii). Efficiency of sputum microscopy at different levels.

iii). Method of health education.

Purpose: To assess the efficiency and effectiveness of the tuberculosis control measures in different field conditions which is important for making practical programme of tubrculosis control in the country.

6. Health education:

i). Manpower training:

. In effective programming and implementation the programme, manpowers specially trained for the purpose will be required.

. One health educationist and two paramedical staffs will be trained for the the purpose. They will be responsible for planning/programming of health education for the publics and vounteers.

. There will be separate section of health education under one health educationist (officer level)

ii). Materials for health education will be prepared:

. Posters
. Pamphlets
. Flash Cards
. Booklets
. Audiovisual Aids
. Mannuals

7. Experts:

Help of the experts are needed for the effective and efficient management of the programme and survey/research in different fields:-

. Bacteriology, Radiology, Epidemology, Statistics, TB experts, public health etc.

資料③ワークショップの概要

調査団滞在中の１２月１５日開催された，結核対策にかかるワークショップの概要を以下に記す。

1）テーマ　ネパール王国における結核対策

2）日　時　１２月１５日　午前８時３０分から１２時３０分まで

3）場　所　ホテル　アンナプルナ

4）出席者　ネパール国保健省関係者，ＮＧＯ等（６８名の出席）

5）次　第

開会式	進行	保健省副大臣	Mr. Bimal Man Singh
	挨拶	ＮＴＣ所長	Dr. N. L. Maskey
	開会宣言	保健大臣	Mrs. Sushila Thapa
	挨拶	ＪＩＣＡ事務所長	小野英男
	挨拶	調査団長	島尾忠男
	開会挨拶	保健大臣	Mrs. Sushila Thapa
ティーブレーク			
講　演	「結核とその対策」		島尾忠男
質疑応答			

6）備考　当日はネパール国の憲法記念日に当たり，政府の役人は午前１１時からの式典に参列する義務があったが，保健大臣の指示により，本ワークショップ参加者には式典参加免除の特別許可が下りた。このため，多数の参加者が，最後まで残り，活発な質疑応答（質問者約２０名）が行なわれた。

島尾団長講演レジュメ

TUBERCULOSIS AND ITS CONTROL

Dr. T. Shimao, Japan Anti-Tuberculosis Association

1. Trend of TB and Factors Attributable to Its Decline.

1.1. Epidemiologic model to explain increase and decrease of TB.

How many new infectious cases are reproduced from one source of infection?

1.2. Factors contributed to decline of TB.

Non-specific factors.

Improvement of living standard.
Isolation of infectious cases to sanatorium.
Selection of susceptible persons.
Selection by influenza pandemic in 1918.

Specific factors.

TB control programme.

1.3. Aim and role of TB control measures in reducing TB.

Aim : To break the chain of transmission of tubercle bacilli in a community.

Role

BCG vaccination : Its immediate impact is not so significant as BCG is vaccinated mainly for children, and most childhood TB is non-infectious.

Chemoprophylaxis : Similar to BCG vaccination.

Case-finding and treatment : Most significant to break the chain of transmission.

Isolation of infectious cases : Its role has been reduced as infectiousness disappears within a few weeks of effective treatment.

1.4. Impact of national TB programme (NTP).

Taking case of Japan as an example.

1.5. Reasons of success of eradicating smallpox.

Biomedical factors.

No communication with animals : Smallpox is confined to humans.

No subclinical infection : Virus can not persist long in human body.

Rather long incubation period (2 weeks) : Enables to vaccinate contacts after break-down of index case.

Clear clinical picture : Easy to diagnose.

Efficacy of vaccination : Heat-stable smallpox vaccine with exceelent efficancy was available.

Social factors.

Consensus for the eradication programme : Technically adanced countries cooperated with eradication programme.

Nature of disease : Clinically severe and highly infectious disease requiring urgent counter measures when a case breaks down.

Good role of WHO as a coordinator.

1.6. Difficulty of eradicating TB.

Communication of the disease between humans and animals.

Presence of subclinical infection : Break-down of TB by endogenous reactivation even several decades after primary infection.

Efficacy of TB control measures : Less effective than smallpox vaccination.

Low concern on TB problem.

1.7. Eradication of TB.

Definition of TB eradication.

Incidence of smear positive pulmonary TB : Less than 1 per 1 million. or

Prevalence of TB infection in total population : Less than 1%.

Estimated time reaching this goal.

Netherland : 2025

Japan : 2055?

Most developing countries : ?

2. Present Situation of TB in the World.

2.1. Epidemiological indices to assess magnitude of TB problems.

Unreliability of routinely available epidemiological indices.
Concept of annual risk of TB infection (ARTI) developed by TSRU.
Correlation with other epidemiological indices.

2.2. Present situation of TB observed by ARTI.

The whole world has been divided into 3 groups.

Group 1 (Technically advanced countries) : ARTI is less than 0.1% and continues to decline with the annual rate of decrease 10% or higher.

Group 2 (NIES, some petroleum producing countries and some others) : ARTI is between 0.1 and 1% and has been declining with annual rate of decrease 4% of faster.

Group 3 (Most developing countries) : ARTI is above 1% and shows no or only slow decline.

2.3. Estimation of new smear positve pulmonary TB in a year in the world.

Estimates in 1982.

3.74 million based on world population in 1977 (4.1 billion).

Estimates in 1988.

3.5 to 4.4 million based on world population 5 billion.
97% are from developing countries.
Total number of new TB cases : 9 million.
Number of death from TB : nearly 3 million.

3. Reasons of Failure of Controlling TB in Most Developing Countries.

3.1. Slow economical development.

Decline by improving living standard : Rather difficult.
Poor allocation of budget to health : Minimum 50 US cents per capita is needed to reduce TB.

3.2. Difficulties in integrating TB programme into PHC (Primary health care).

Slow development of PHC

4. Countermeasures

4.1. BCG vaccination.

Results of controlled trial in South India.

Cross immunity by atypical mycobacterial infection.

Different natural history of TB due to low virulent M. tbc.

Case-control studies.

Out of 10, 7 showed significant efficacy.

Protective efficacy for TB meningitis in children : 50 to 100%.

Contacts studies.

Efficacy : 60 to 72% effective.

BCG is included in EPI.

4.2. Case-finding and treatment complex.

Total impact of case-finding and treatment complex.

Products of 1 Attendance rate of smear (+) symptomatics to H.P. (health post), 2 Proportion of sputum examined, 3 Quality of sputum examination, 4 Proportion of treatment started, 5 Treatment completion rate, and 6 Efficacy of treatment.

TB case-finding.

Priority : Sputum smear (+) cases.

Method : Passive case-finding for symptomatics with sputum smear examination.

Problems : Delay in case-finding.

Chemotherapy.

Clinical efficacy of short-course chemotherapy (SCC).

Bacteriological basis of SCC.

Advantages of SCC.

Importance of case-holding activities.

5. Future TB Problems.

5.1. Forecast of magnitude of TB problem.

TB will remain serious health problem for at least several decades in developing countries.

New threat by AIDS epidemic.

Increase of incidence of TB.

Difficulty in diagnsoing TB complicated with AIDS.

Caution for BCG vaccination for AIDS baby.

5.2. Necessity of intensification of global fight against TB.

Necessity to maintain research and training facilities for TB.

Actual situation of research and training facilities for TB.